

NICOLAS TERRY
P R E S E N T S

ORNAMENTAL GOLDFISH

in Origami



An Anthology of
Ronald Koh's Works
Volume 1



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Ronald Koh's Works

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Folder & Photographer:
Guy Binyamin



Blackmoor Ver. 1
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Folder & Photographer:
Guy Binyamin



Ranchu Ver. 1
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Folder & Photographer:
Guy Binyamin



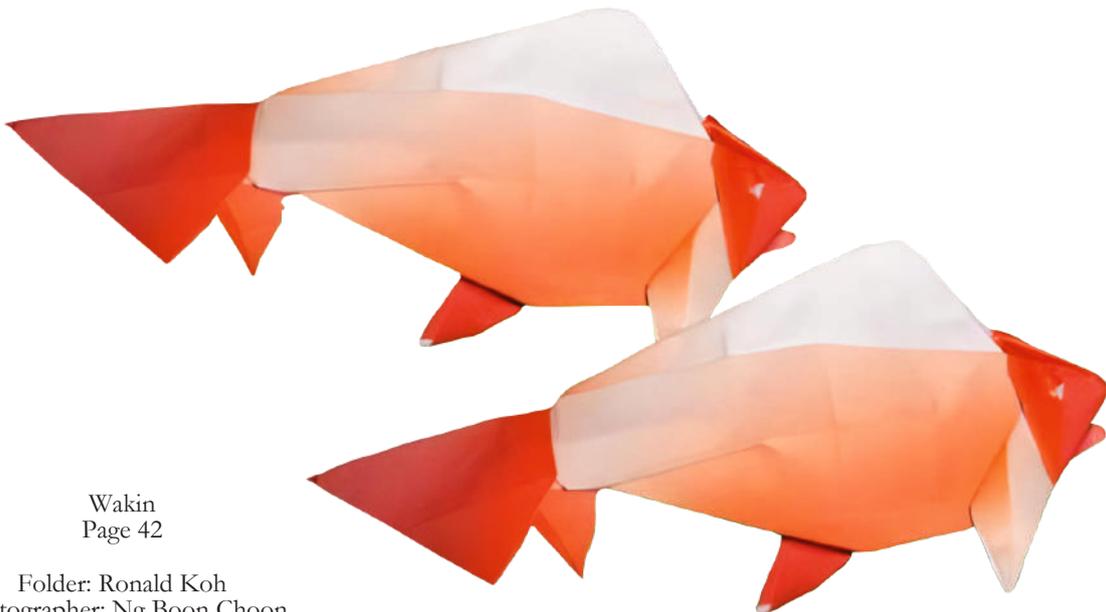
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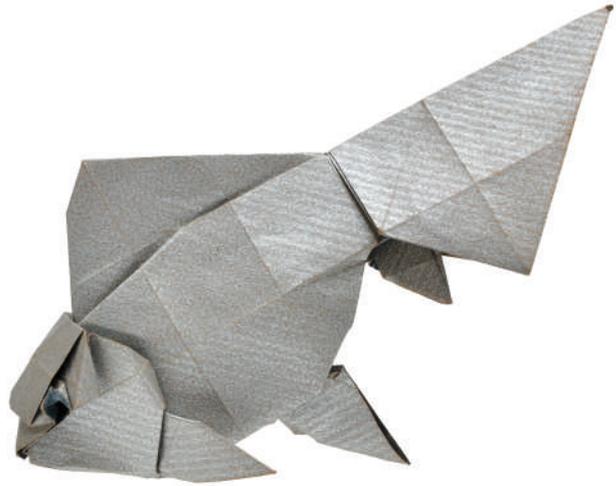


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Bubble Eyed
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Ryukin Ver. 3
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Jikin
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Introduction

Goldfish are mutants. Period. They do not occur in the wild.

Originating from deformed Chinese carp, generations of selective breeding have resulted in a range of goldfish varieties with distinctive body shapes, colours, plumes, and fins - or the lack thereof.

The Ryukin is characterized by its hunched back, chunky body and obscene pot-belly. Imagine a sweet young thing in all her bridal glory, spending her days swimming to and fro in an aquarium. That's the Veiltail Goldfish for you. Then there is just about the closest thing to a swimming tennis ball - the Ranchu.

To some people in Asian societies that shall not be named, the goldfish is a symbol of longevity, prosperity, and good luck. These beliefs have been known to inspire some intrepid merchants to over-price their inventory during the New Year festive season.

Never mind if some of the goldfish varieties swim as elegantly as a grossly obese person waddling after a departing train, with several suitcases in tow. Never mind if a few look as if they were in a high-speed collision with the glass pane of an aquarium. Goldfish - particularly the common varieties of dubious parentage - are popular as pets and companions to people of all ages the world over.

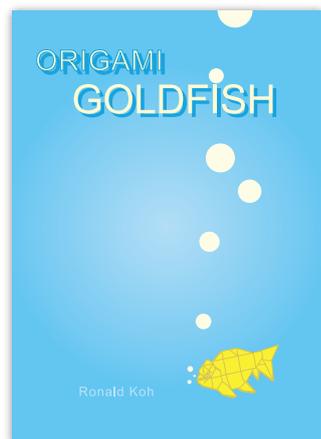
Why a book on origami goldfish? Well, for one, goldfish have been my friends and companions for as long as I can remember. Goldfish have given me much joy, though not much else by way of prosperity or good luck. Longevity? That's left to be seen.

The second reason: although ornamental goldfish have been around for a long time, most people, it seems, do not know much about them. And as a subject in origami, goldfish in its myriad varieties seem to be under-represented.

So. A book on origami goldfish. Through it, I hope that origami enthusiasts the world over, besides enjoying the folding challenge, can get to know a little more about these fascinating aquatic creatures.

Ronald Koh

Acknowledgements



These models were originally published in a first booklet, published by OrigamiUSA in 1994.

This booklet would not have been possible without the support, assistance and encouragement of many in the international origami community.

My special thanks go to:

- Carlos Alberto Furuti, (Brazil) & Didier Piguel, (France), For test-folding and proof-reading the material. (Now you know who to blame for undetected errors).
- Evi Binzinger, for providing the artwork of the cover
- Members of the Origami-L & Origami Group, Singapore, for their encouragement and moral support.
- My wife Rose and son Glenn, for their patience with the indulgence of this geezer.

The new edition you are holding in your hands is an updated and coloured version of this first booklet.

Moreover, it presents 6 additional models, including early versions of creations such as the Ryukin Ver.1, the Blackmoor Ver.1, and the Ranchu which are interesting to study the evolution of the designs, and 3 new models designed after the publication of the booklet: the Tancho Oranda Ver.2, the Ryukin Ver.3 and finally the Jikin.

- Thanks to the Origami USA team and in particularly Marc Kirshenbaum for finding the original diagrams of the booklet.
- Thanks to the team of testfolders of this updated edition (Jino Bettinelli, Philippe Landrein, Pere Olivella, Guillermo "Willie" García, Mehdi Zarrad) and the team of proofreaders (Peter Whitehouse & Ariel Achtman).
- Thanks to Ng Boon Choon (a.k.a Caveman Boon a.k.a. Ah Boon) for the photography and unstinting assistance to and collaboration with me, without which this book would not be possible.



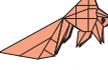
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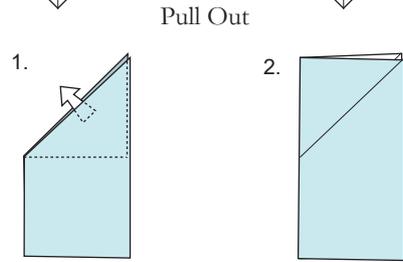
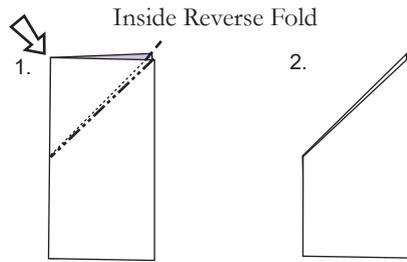
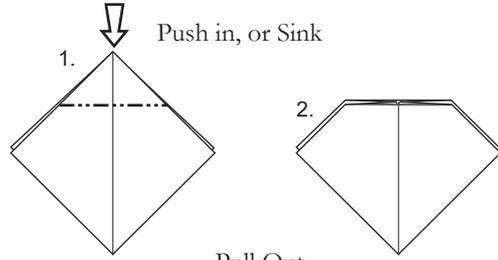
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Push in, Sink,
Inside Reverse
Fold, or Pull Out



The next diagram will show a view
from the direction of the arrow



Fold to divide this angle
equally in two



Fold 90 degrees to the
edge of the paper

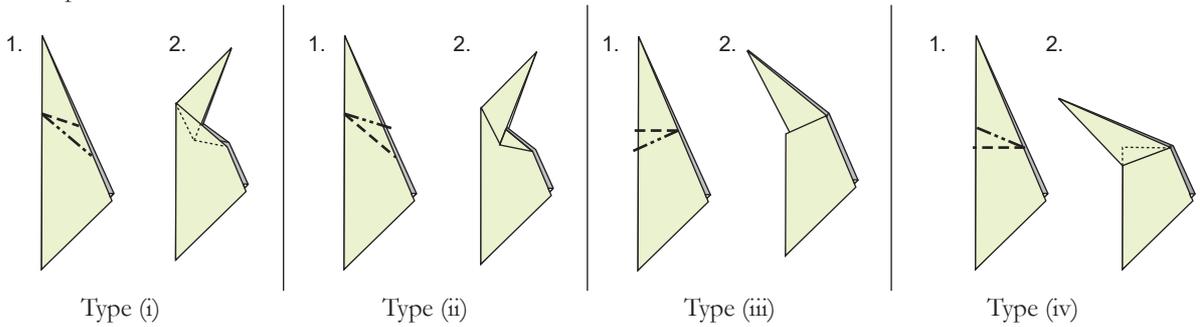


Repeat
behind

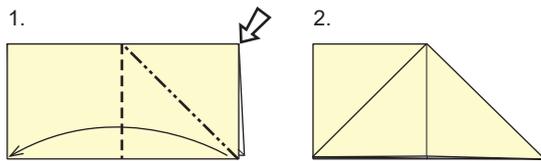


Named Folds:

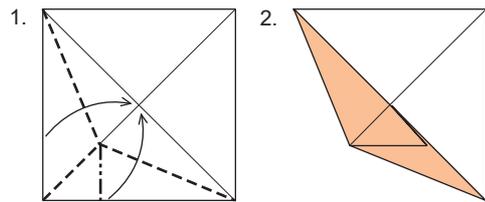
Crimp folds:



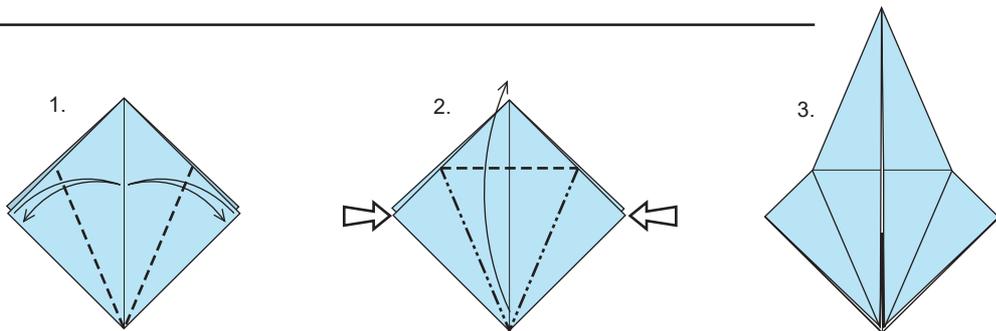
Squash fold:



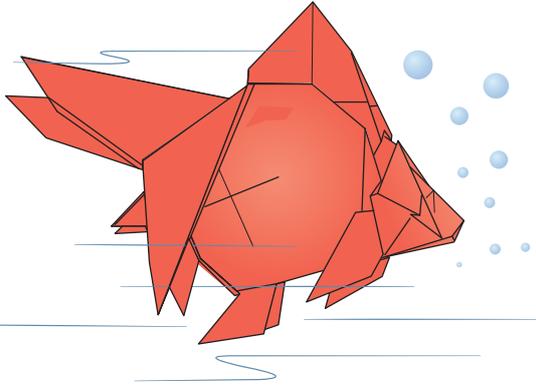
Rabbit-ear:



Petal fold:



Inside & Outside Reverse Folds : See examples under 'Arrows'

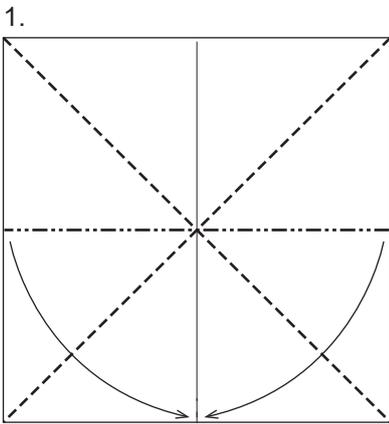


Paper:

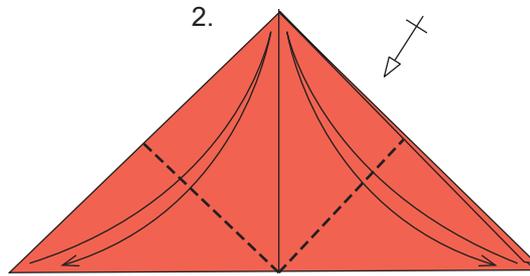
- Duo Kami 30x30 cm
- Sandwich 23x23 cm
- Tissue-foil 30x30 cm
- Biotope 35x35 cm

Ratio: 0.42

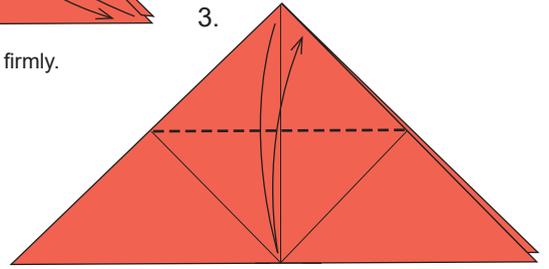
For best effects, use a square of tissue foil of 20 to 25 cm.



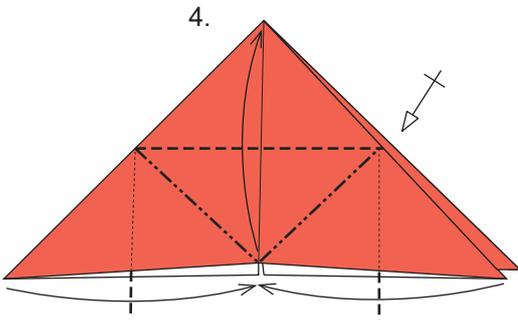
Fold a waterbomb base.



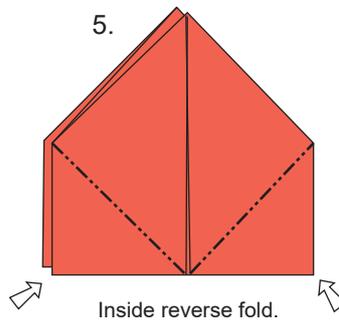
Fold and unfold, creasing firmly. Repeat behind.



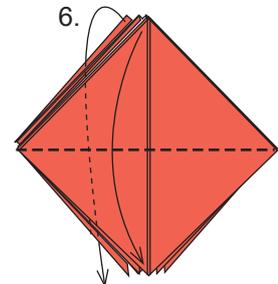
Fold and unfold again.



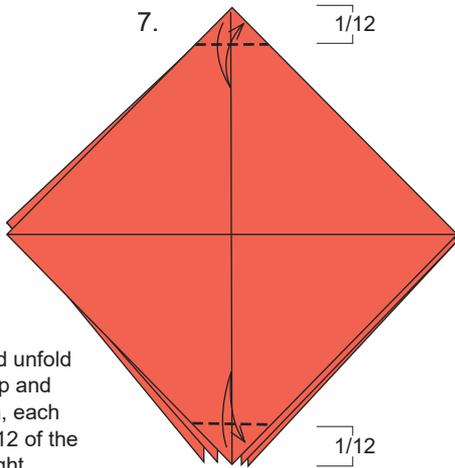
Collapse as shown along creases made previously. Turn paper over and repeat on the back.



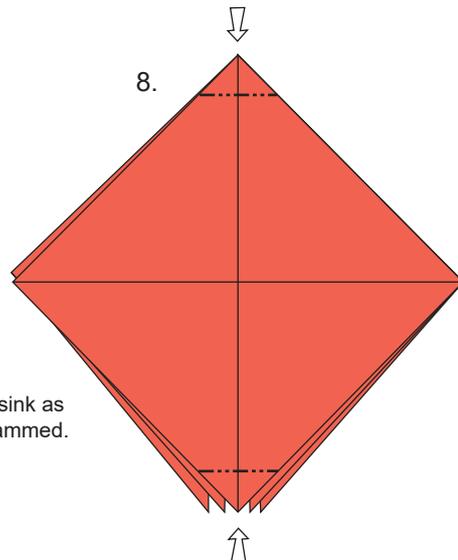
Inside reverse fold.



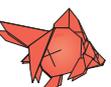
Fold the front and back layers down.

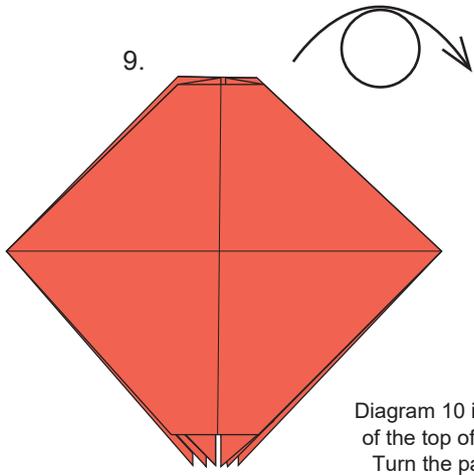


Fold and unfold the top and bottom, each about 1/12 of the height.

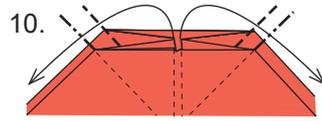


Now sink as diagrammed.



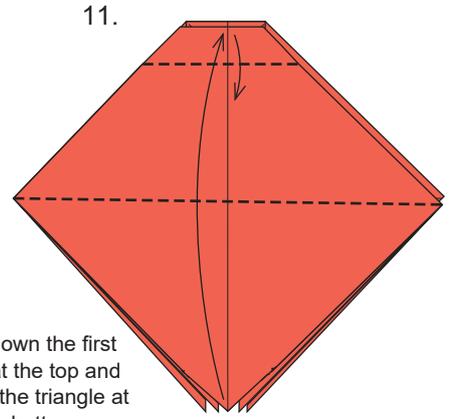


9.



10.

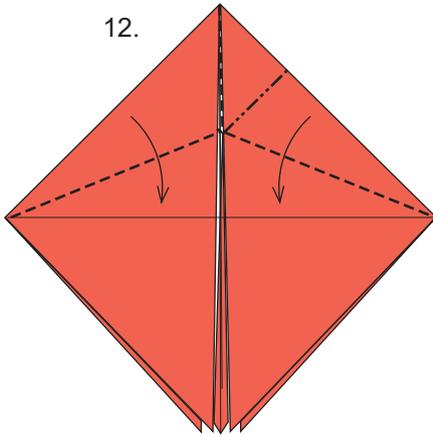
Reverse fold the hidden layers as illustrated...



11.

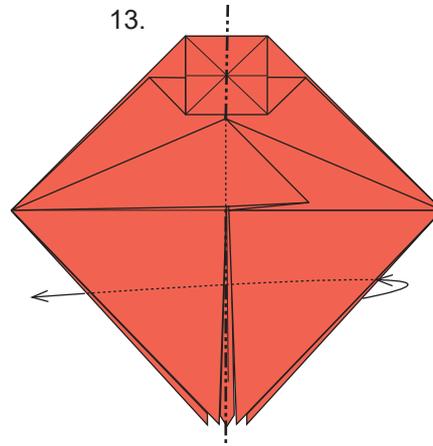
Fold down the first layer at the top and fold up the triangle at the bottom.

Diagram 10 is a closeup of the top of the paper. Turn the paper over.



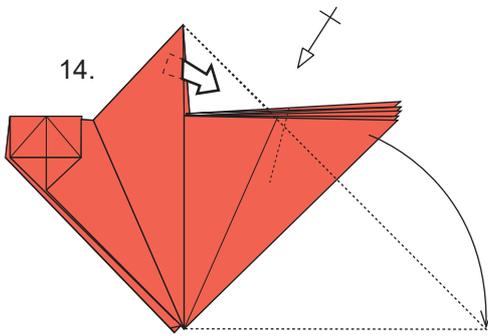
12.

Rabbit-ear fold at the top.



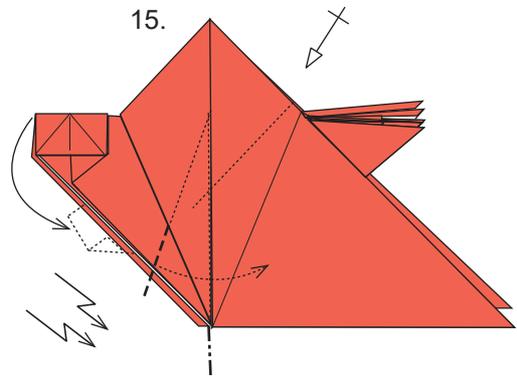
13.

Mountain fold vertically in half



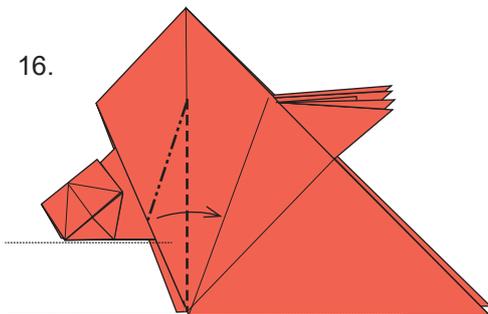
14.

Pull the top flap on the left to the position shown by the dotted outline, freeing the trapped layer. Repeat at the back.



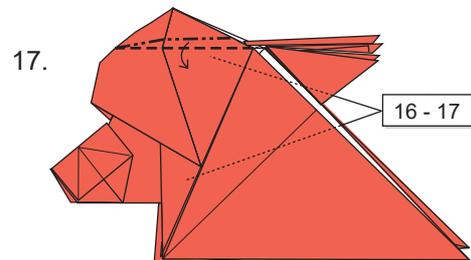
15.

Bring down the head by crimp folding together the two inner layers on both sides of the head (see reference with the next step).



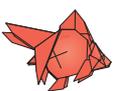
16.

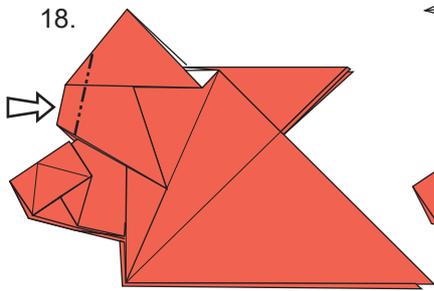
Now crimp fold the top layer ...



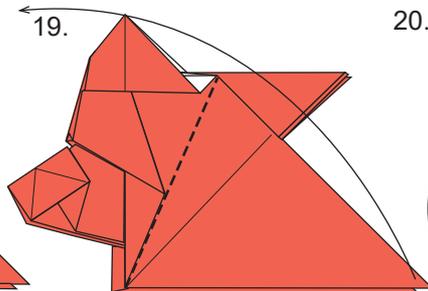
17.

... then crimp fold the layer of the dorsal fin.

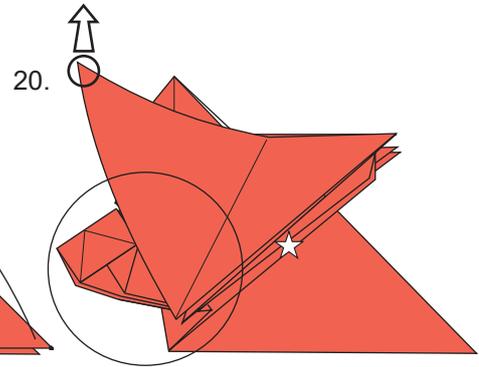




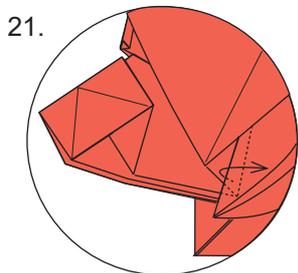
18. Mixed sink the front (Closed but open at the lower part) of the dorsal fin.



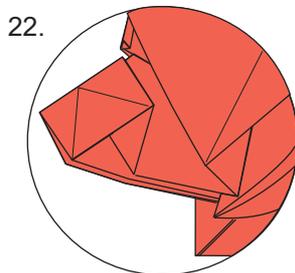
19. Valley fold one flap to the left at the illustrated angle.



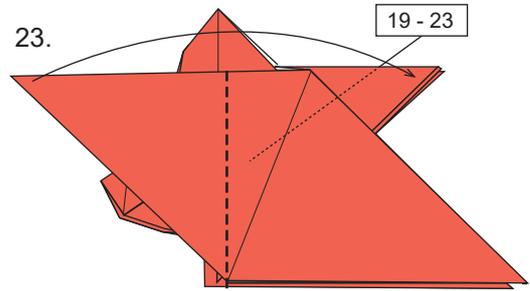
20. Hold down the layers at the location indicated by the star. Next, separate the layers by pulling the flap at the circled area upwards, ...



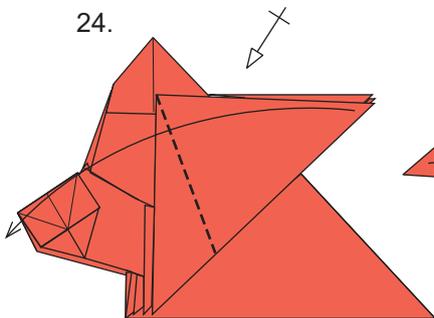
21. ... like this. The dotted line shows the rest of the layer that extends under the neck of the ryukin. Bring this layer on top of the layer, ...



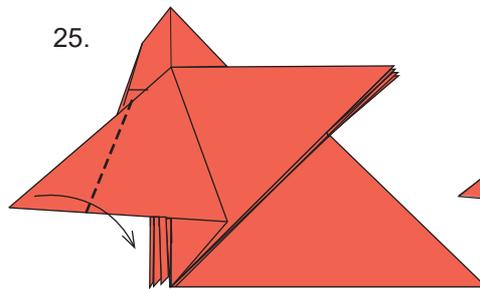
22. ... like this. Restore the other layers to the respective positions before Step 20.



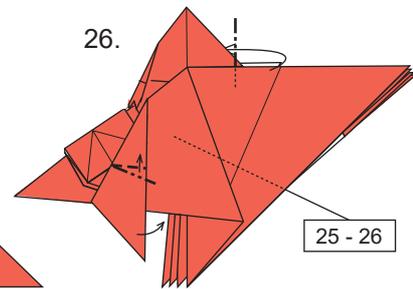
23. Valley fold.



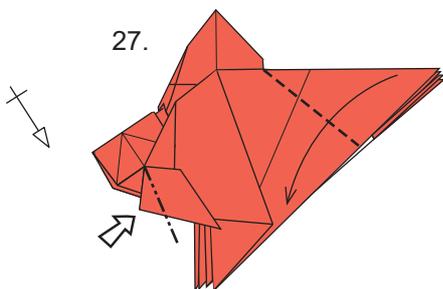
24. Valley fold again, bringing the top of the paper in line with the top of the head.



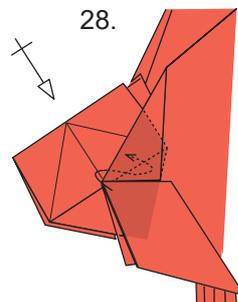
25. Valley fold yet again, as illustrated.



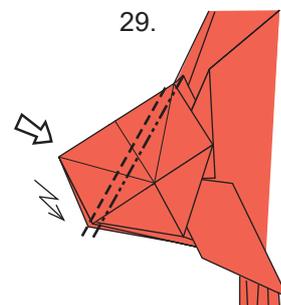
26. Crimp fold to form a fin. Mountain fold the hidden paper edge at the base of the dorsal fin into the fin. Repeat from step 25 at the back.



27. From here on, fold both the left and right sides of the fish in unison.

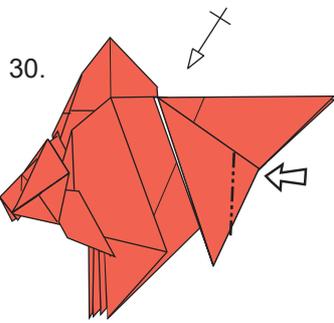


28. Tuck the fin into the underlying pocket ...

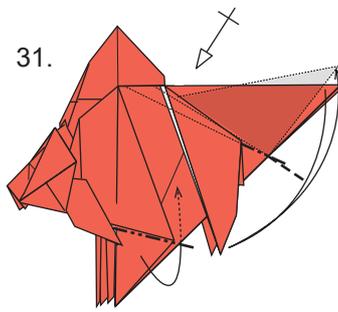


29. ... like this. Crimp fold the head.

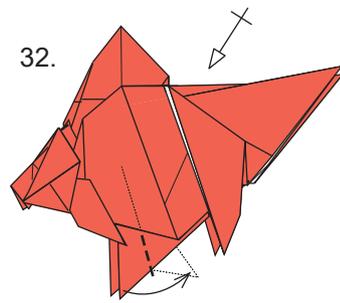




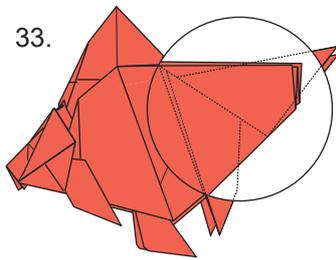
Reverse fold.



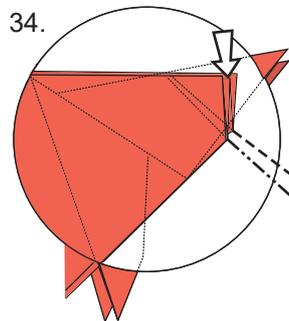
Mountain fold the first point on either side within the body. Crimp fold the tail to bring it to the position indicated by dotted outline.



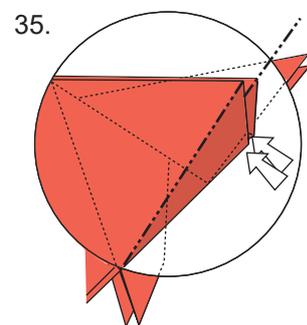
Valley fold the two remaining points at the bottom towards the tail.



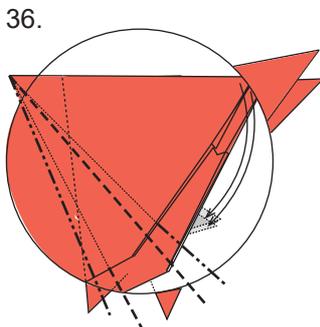
This is an X-ray view of the paper between the tail pieces. Steps 34 to 36 will deal with this part of the goldfish.



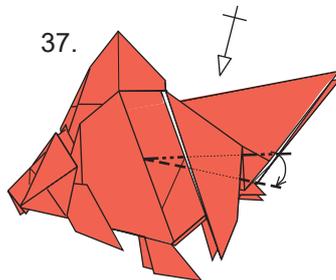
Reverse fold the little flap in between the two main halves of this piece.



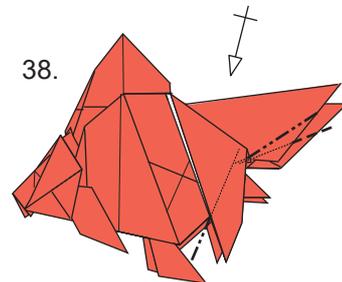
Sink both sides...



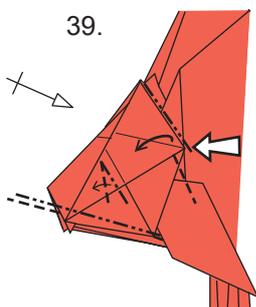
... then crimp fold to bring the tips to the illustrated position. The outline of the tail has been omitted for clarity.



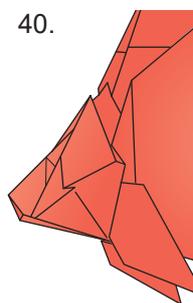
Crimp both sides of the body. The model will become 3D.



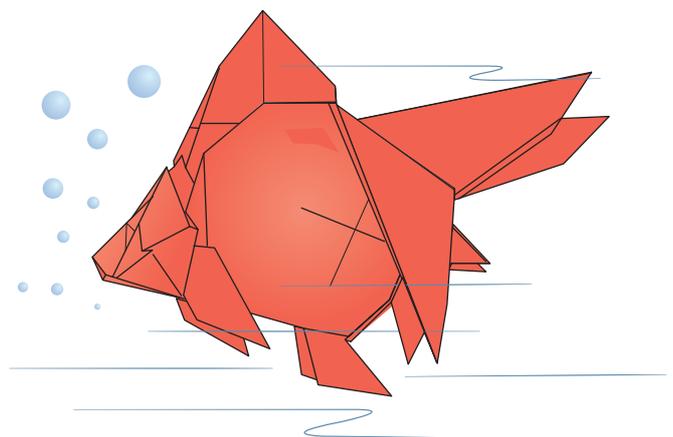
Mountain fold to narrow the base of the body and upper tail fin.

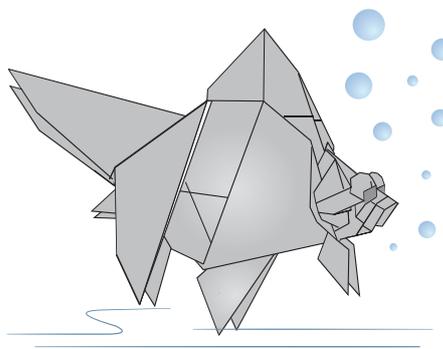


Finish the head as shown ...



... like this.

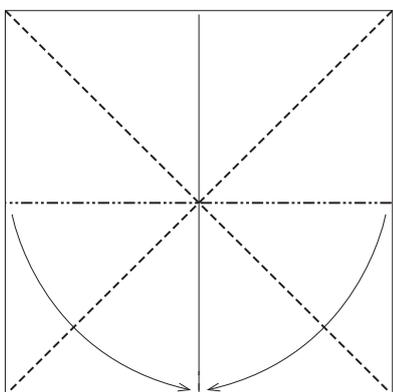




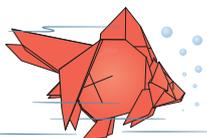
Paper:
 - Duo Kami 30x30 cm
 - Sandwich 23x23 cm
 - Tissue-foil 30x30 cm
 - Biotope 35x35 cm

Ratio: 0.43

1.

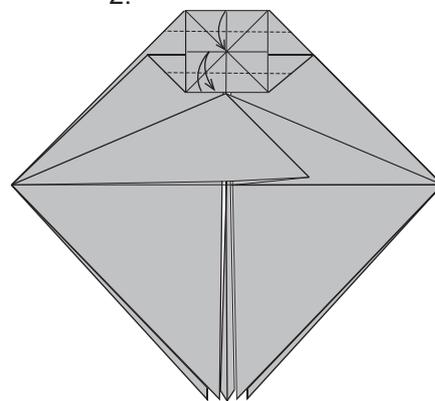


Start with the white side up and fold a waterbomb base.



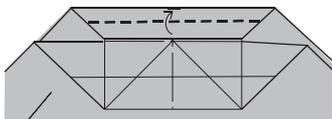
Continue with the folding sequence of the Ryukin Version 1 from step 1 to step 13 page 13.

2.



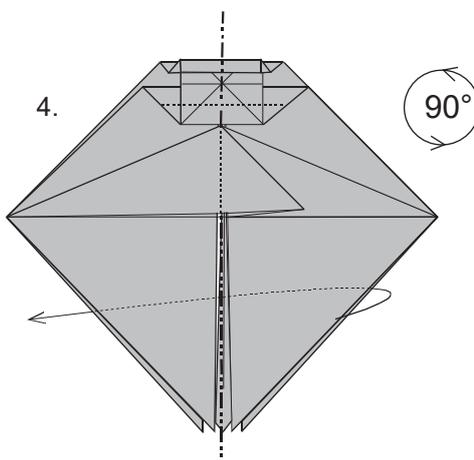
Fold down the top. Fold and unfold the lower section. Next figure is close-up of the top.

3.



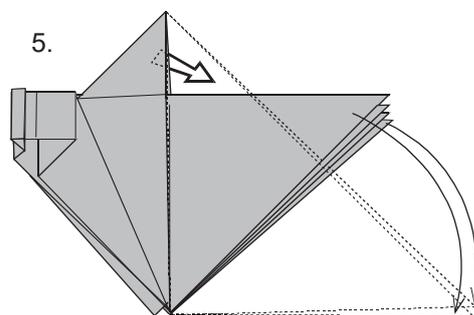
Fold in half again at the top. Back to normal view.

4.



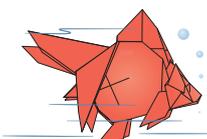
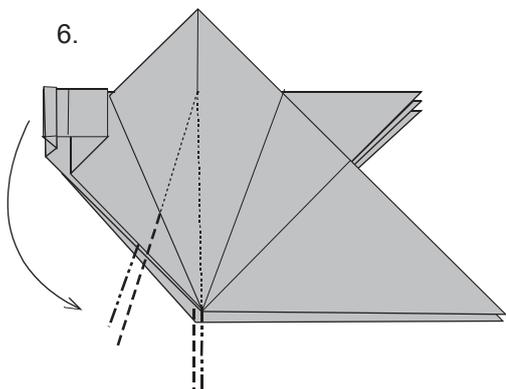
Fold vertically in half.

5.



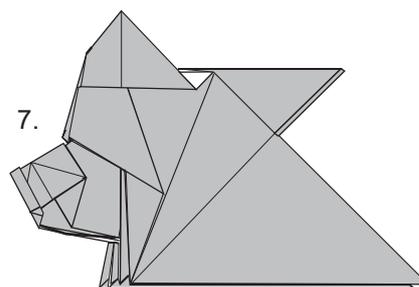
Pull down the top and bottom pieces on the right to free the paper within the rabbit-ear.

6.

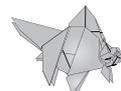


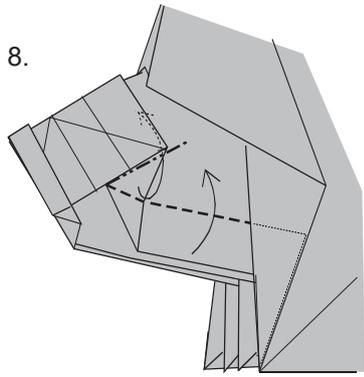
Crimp fold as shown to bring the head down (fold through steps 15 to 18 of the Ryukin to the position shown above page 14).

7.

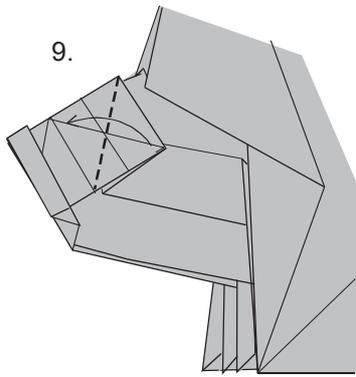


Zoom in.

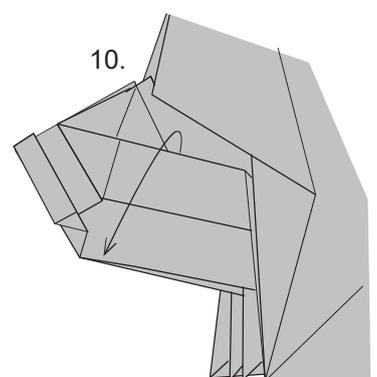




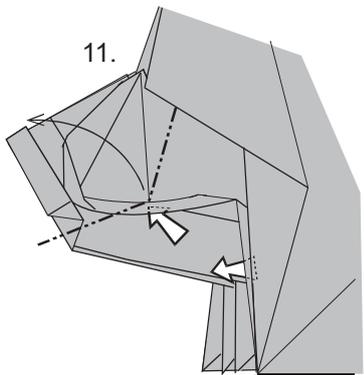
8. Fold up the top layer as shown, tucking the triangular piece under.



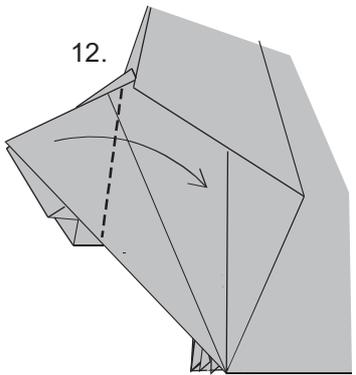
9. Now fold the resulting tab to the left.



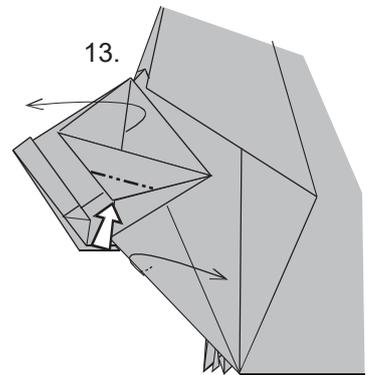
10. Open out the overlapping layer a little ...



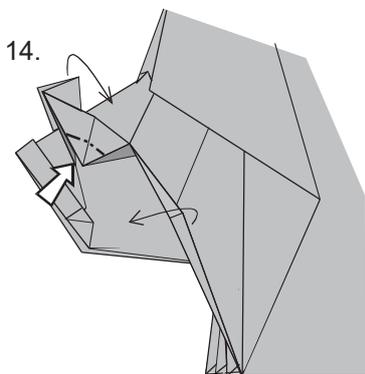
11. ... then gently lift out the paper from underneath like so ...



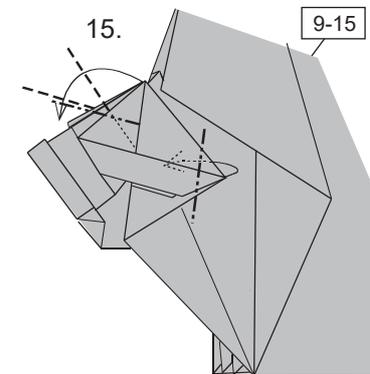
12. ... and fold down, rearranging the paper beneath.



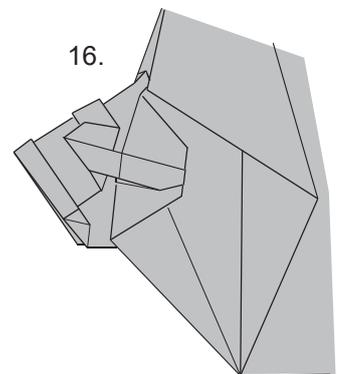
13. Repeat from step 8 on the other side, then open out the head assembly and sink the little triangle ...



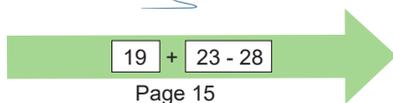
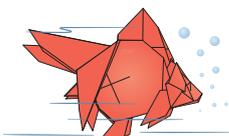
14. ... like this. Return the rest of the assembly to the head to the position at the start of step 13.



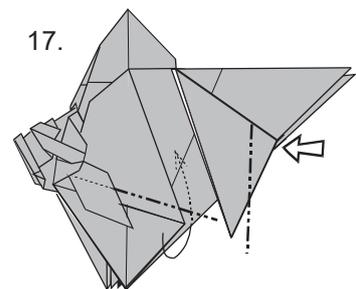
15. Open out the upper head assembly a little and inside reverse fold as shown, along the crease line made in step 3. From here on, repeat the folding sequence on the other side.



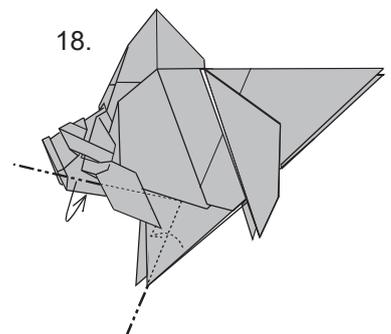
16. Your model should now look like this. We will come back to the head later on.



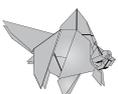
Continue with the folding sequence of the Ryukin Version 1 with the step 19 then from step 23 to 28 page 15.

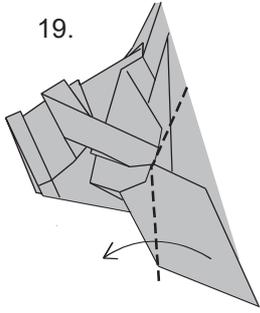


17. Reverse fold the tail, then fold the first layer under to shape the body.

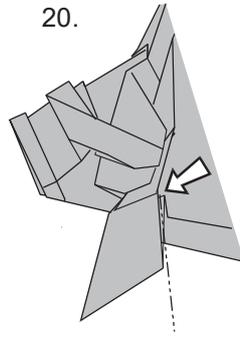


18. Now shape the head with a mountain fold at the base, forming a gusset with the innermost layer of the adjoining bottom assembly.

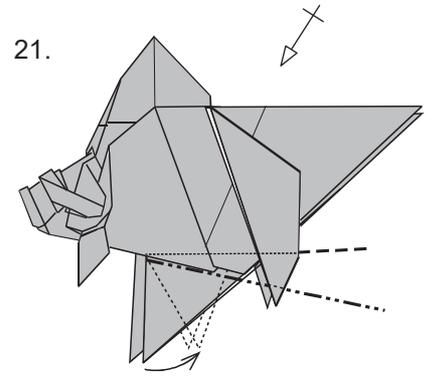




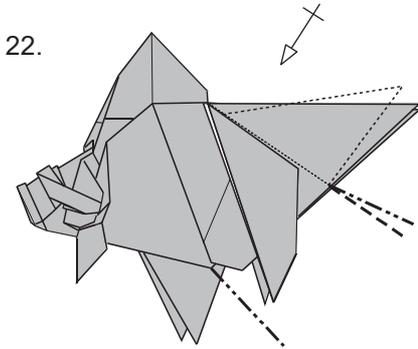
19. Fold the fin to the left ...



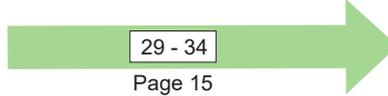
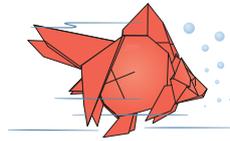
20. ... like so. Tuck the excess paper under.



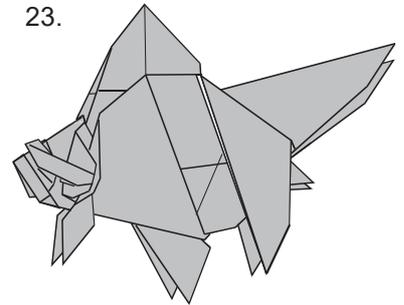
21. Pleat fold the fins.



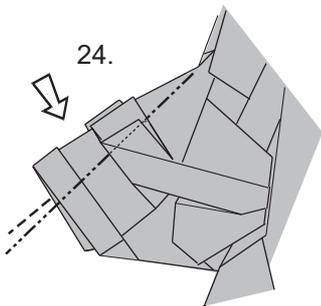
22. Fold the tail.



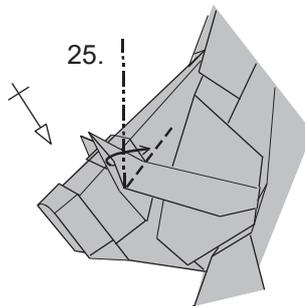
Continue with the folding sequence of the Ryukin Version 1 from step 29 to step 34 page 15.



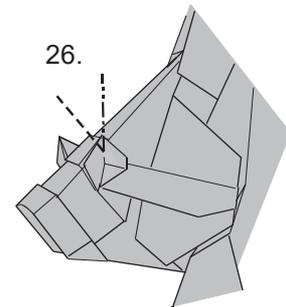
23. Your model should now look rounded like this. Pleat fold the base of the lower fins.



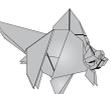
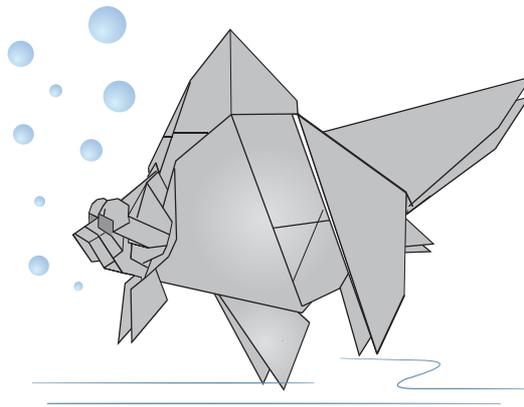
24. Flatten the top of the head, about 90 degrees to the sides. Crimp fold the eye tabs.

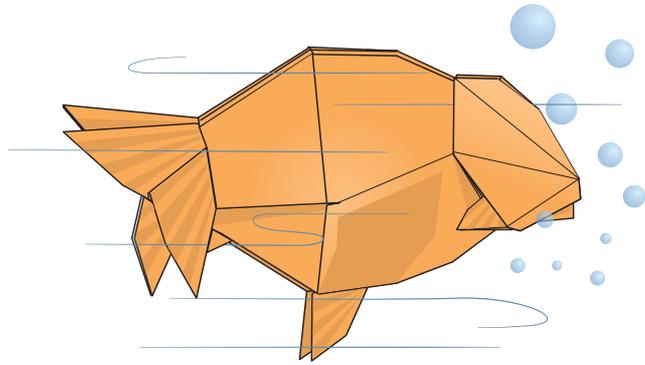


25. Open out the little pocket, extending the opening to take in a little of the paper on the right as well ...



26. ... like this. Crimp the tips, rounding out the hollow in front.





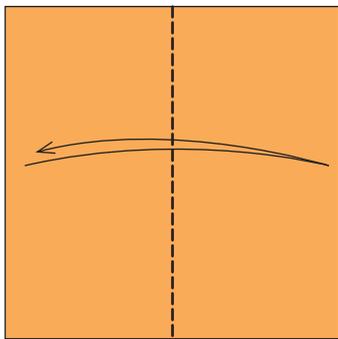
Paper:

- Duo Kami 30x30 cm
- Sandwich 23x23 cm
- Tissue-foil 30x30 cm
- Biotope 35x35 cm

Ratio: 0.5

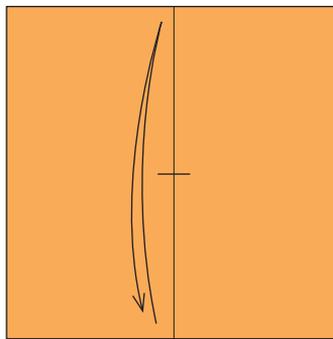
This is one of the first goldfish I designed. I thought it would be good to include it in this booklet to show where the later goldfish progressed from.

1.



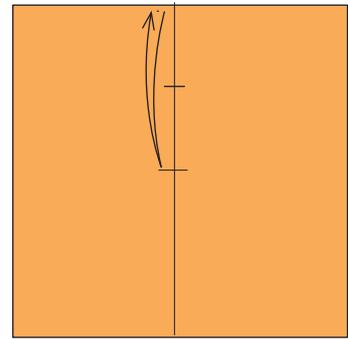
Fold in half and unfold.

2.



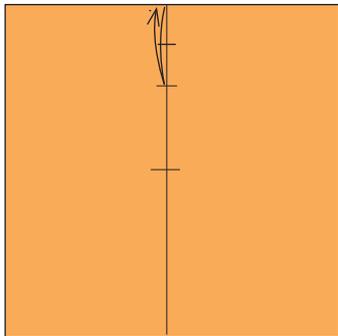
Fold and unfold, creasing the centre only.

3.



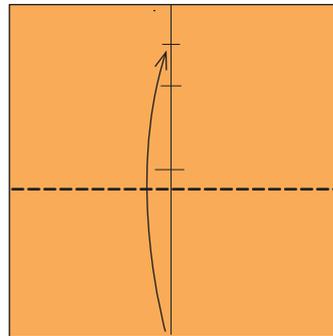
Fold to the mark made in step 2 and unfold, creasing in the centre only.

4.



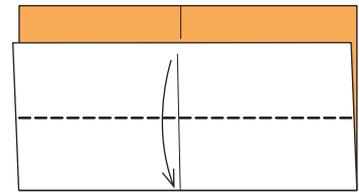
Fold and unfold again as shown. This marks an eighth of the height.

5.



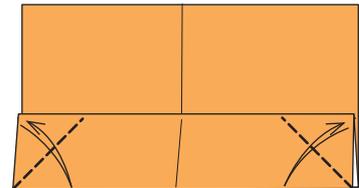
Bring the bottom edge of the paper to the crease made in step 4 ...

6.



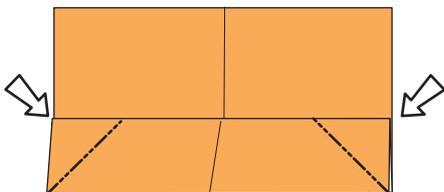
... then fold down again.

7.



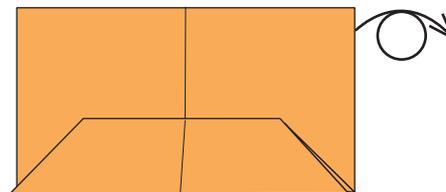
Fold and unfold each corner, creasing well.

8.



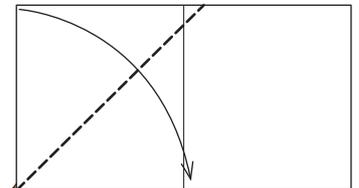
Inside reverse fold along creases made in step 7.

9.

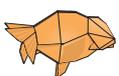


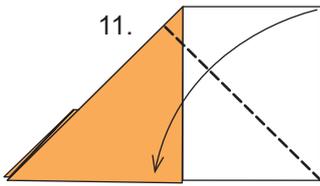
Turn paper over.

10.

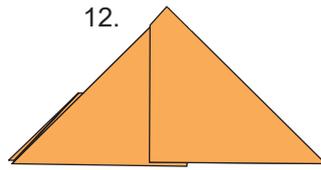


Fold down ...

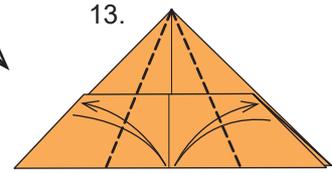




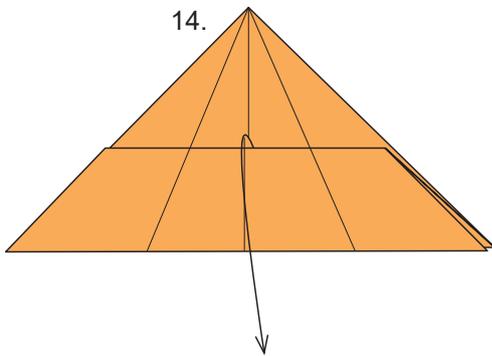
11. ... and again on the right.



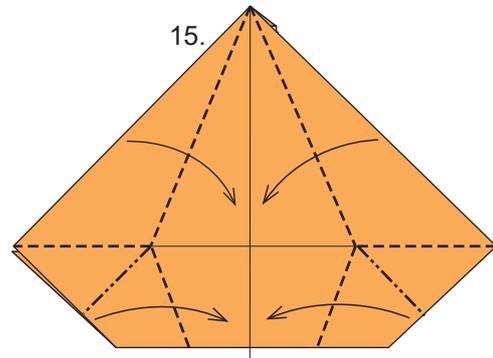
12. Turn over again.



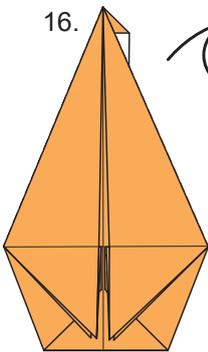
13. Fold the diagonal edges of the paper to the line in the middle, crease firmly, and unfold.



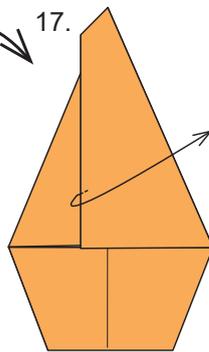
14. Bring this layer down, ...



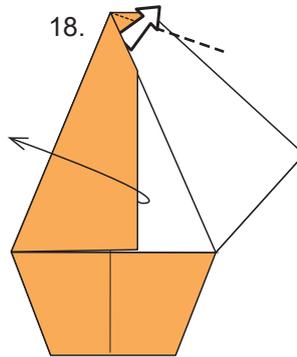
15. ... like this, then rabbit-ear both sides along creases made previously.



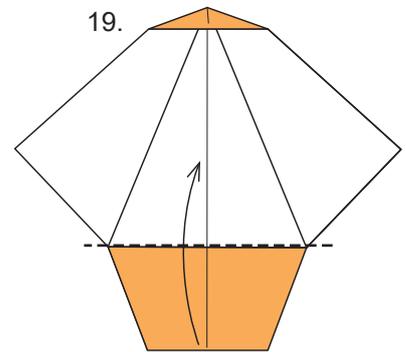
16. Turn over.



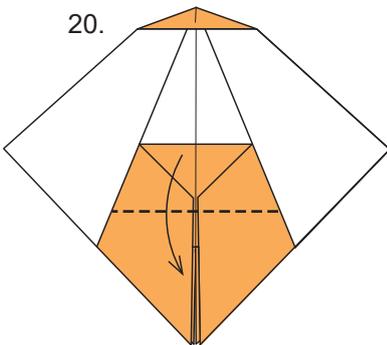
17. Open out to the right.



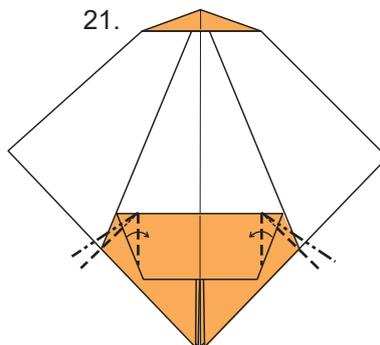
18. Lift out the hidden paper at the top, then open out the layer on the left.



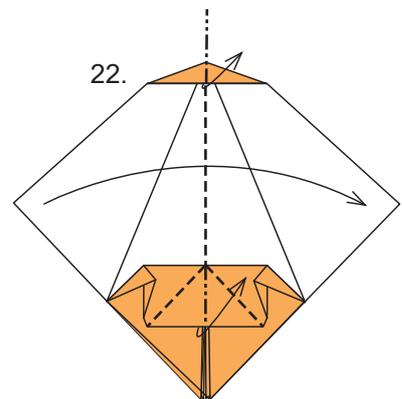
19. Fold the lower portion up.



20. Valley fold down...

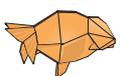
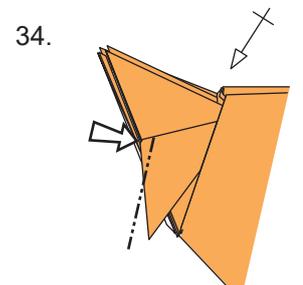
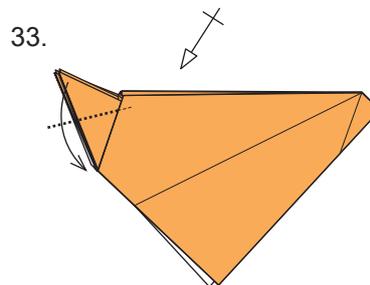
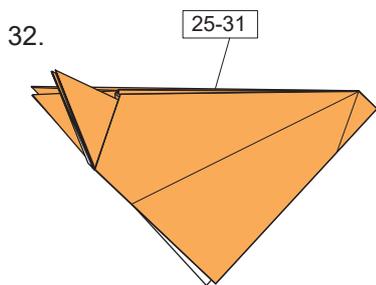
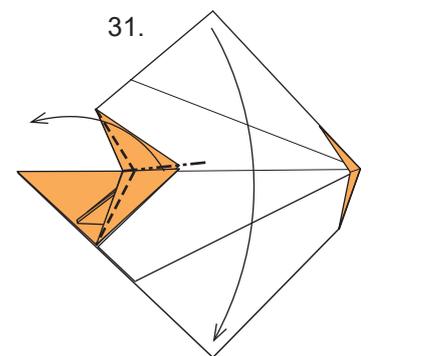
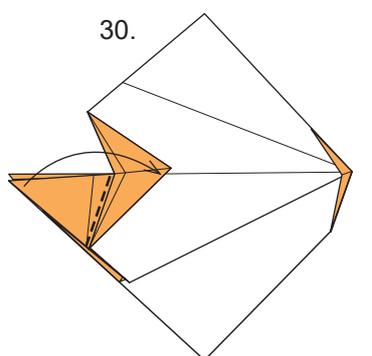
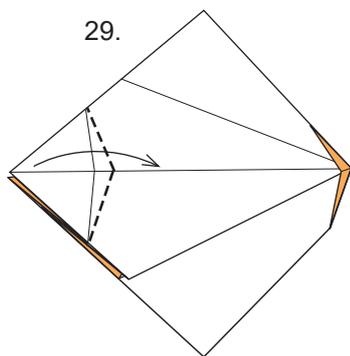
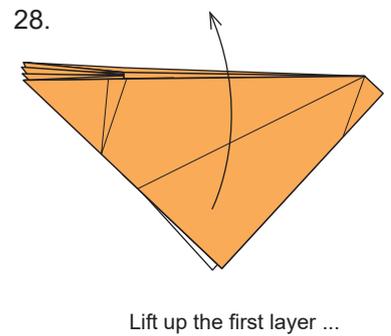
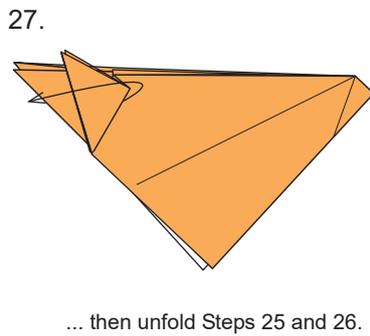
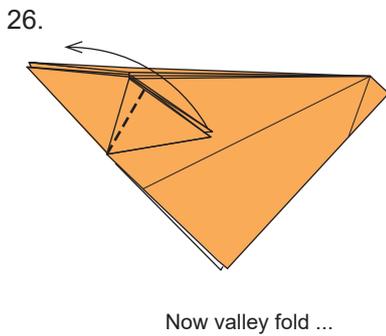
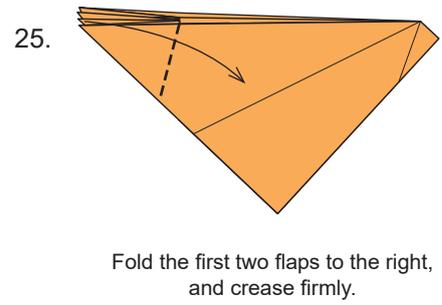
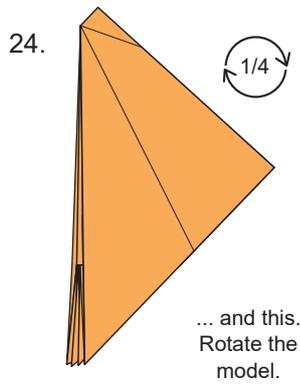
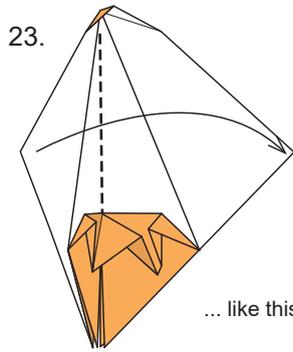


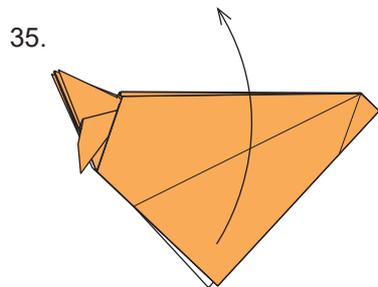
21. ... then crimp fold each side.



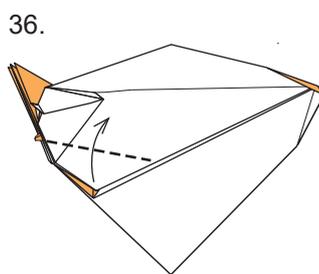
22. Fold vertically in half while lifting out the layer at the top and a triangle at the bottom ...



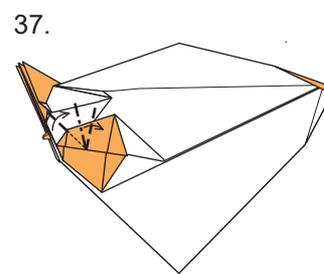




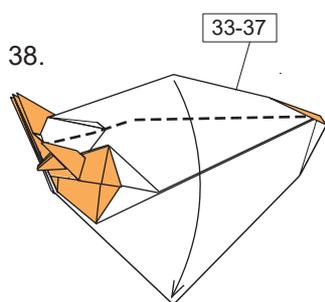
Bring up the top layer again ...



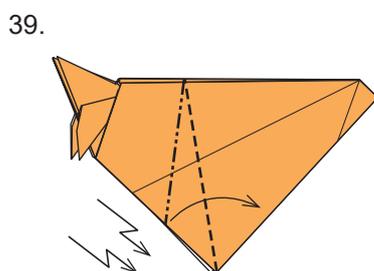
... then valley fold the next layer ...



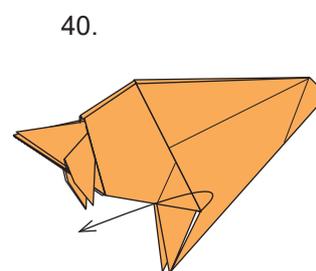
... and then valley fold again and crimp as illustrated.



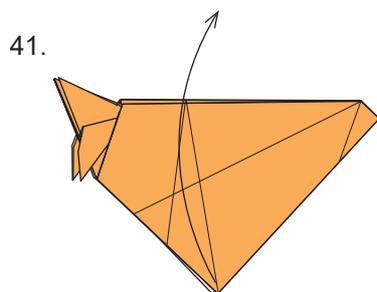
Now bring down the layer at the top again and repeat steps 33 to 37 on the other side.



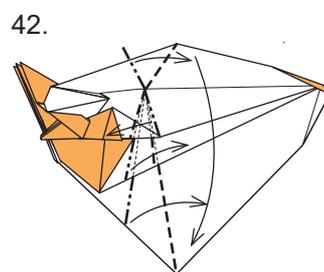
Crimp fold according to diagrammed proportions, crease firmly ...



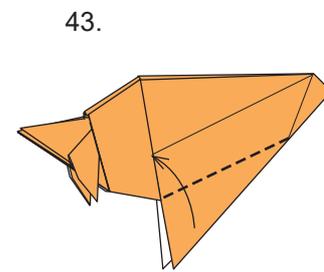
... and unfold.



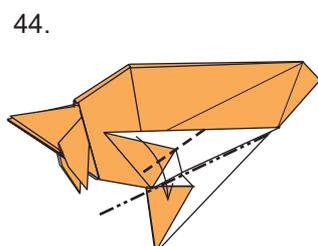
Bring up the top layer again.



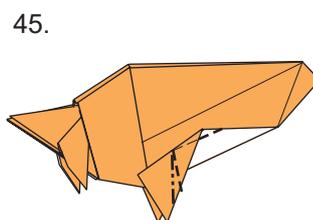
Crimp fold each of the four layers separately as shown, then close the assembly by bring the top layer down again.



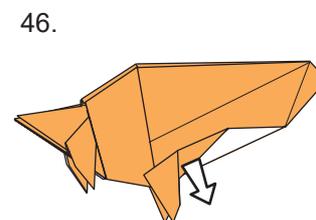
Fold up as shown ...



... then down again. Repeat at the back from here through Step 47 ...



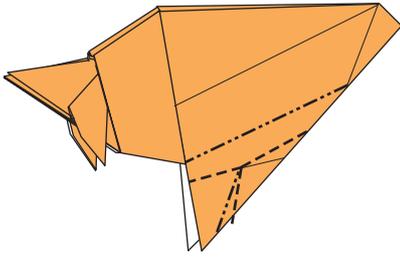
... then crimp fold as illustrated.



Now open out to unfold steps 43 to 45.

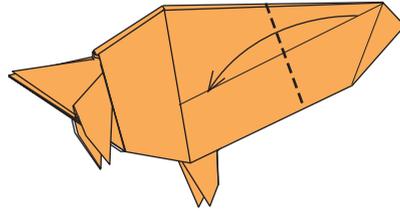


47.



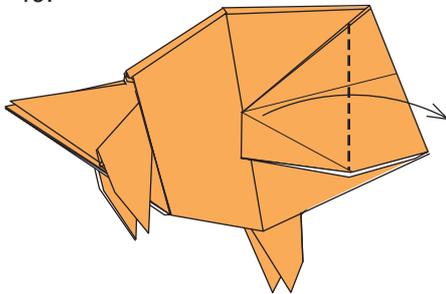
Collapse the assembly under the body as shown, using crease lines made previously.

48.



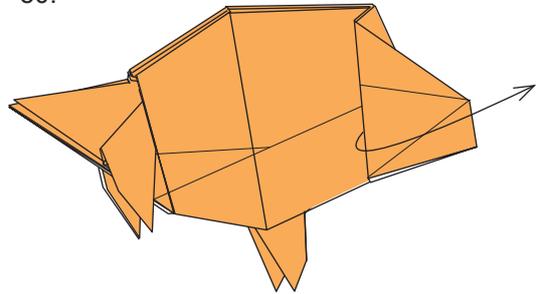
Your model should now look like this. Valley fold, creasing firmly ...

49.



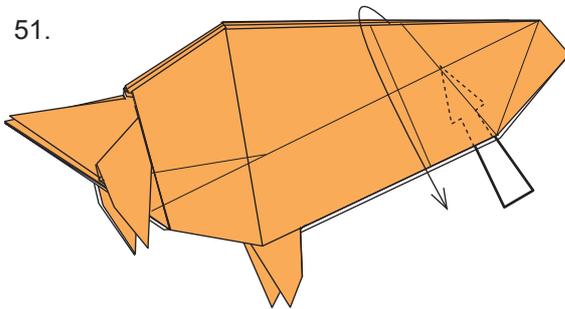
... and yet again. The illustration is slightly enlarged from here on.

50.



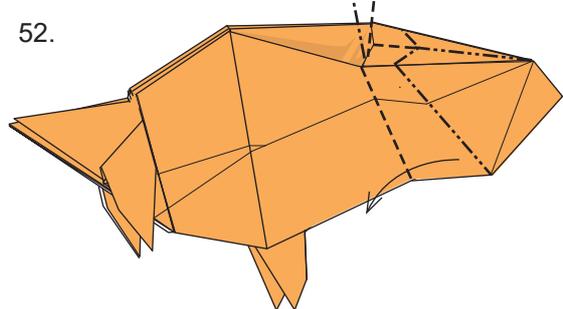
Now unfold Steps 49 and 50.

51.



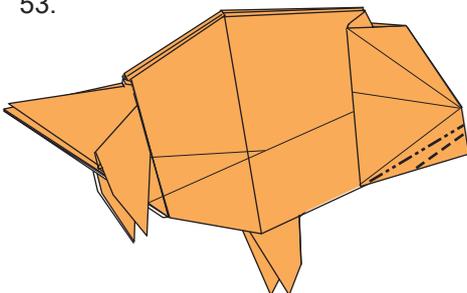
Hidden between the external body layers are two narrower pleated layers. Push up from the bottom to open out the pleat of the hidden layer nearest to you, while simultaneously separating the first and second layers at the top ...

52.



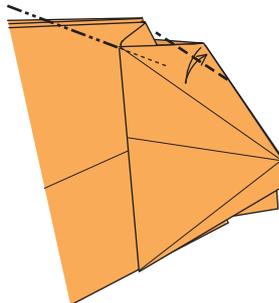
... like this. Now crimp fold both sides of the head along creases made previously while bringing out the top of the head ...

53.



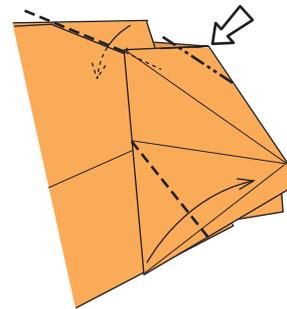
Crimp fold both sides of the model to form the mouth.

54.

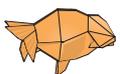


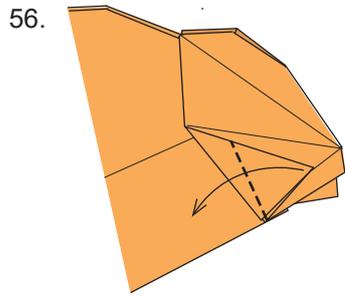
Fold and unfold at the top of the head, creasing firmly. Mountain fold at the base of the neck.

55.

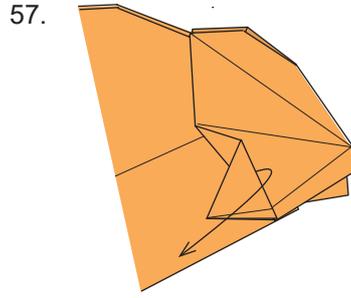


Now sink at the top of the head, then continue folding as illustrated.

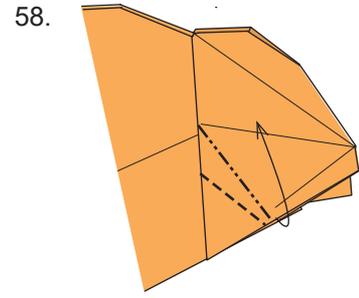




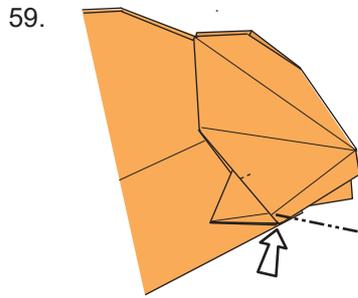
Valley fold to the left again ...



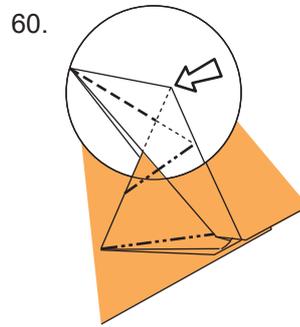
... then unfold Steps 55 and 56.



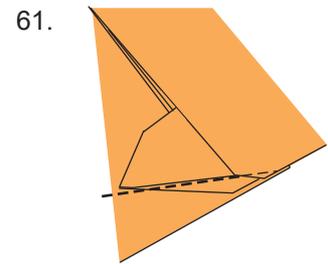
Separate the two layers of this flap and crimp fold along creases made previously.



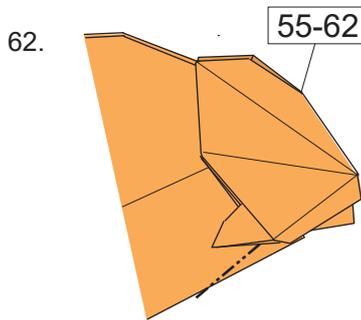
Sink the little corner at the bottom. Diagrams 61 and 62 shows a close up of this part of the model.



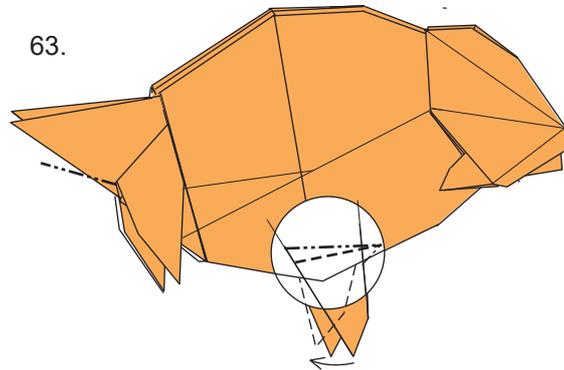
Mountain fold twice as illustrated. The upper fold should automatically form a hidden gusset.



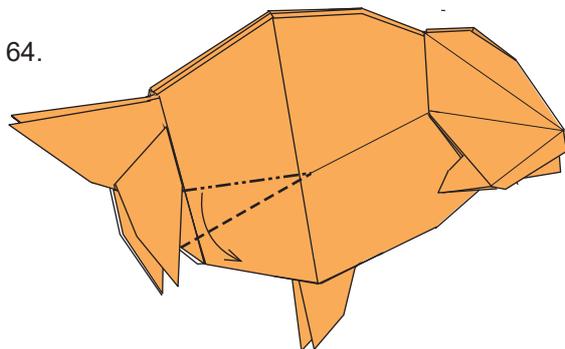
Valley fold the next layer.



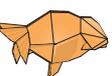
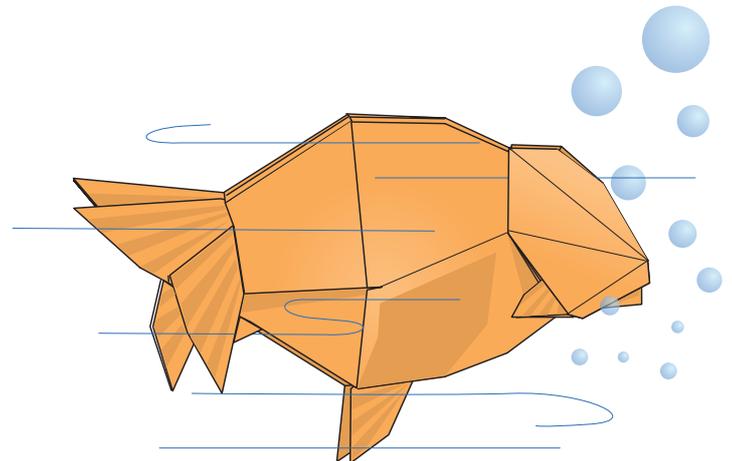
Mountain fold under and repeat from Step 55 on the other side of the head.

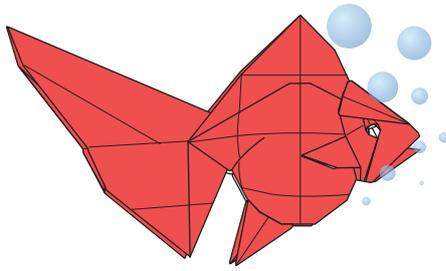


Crimp fold each of the two fins to bring them a little further to the back. Shape the central area of each side of the tail as illustrated.



Finally, crimp fold both sides of the body along creases made previously, making sure that the body convexes outwards.



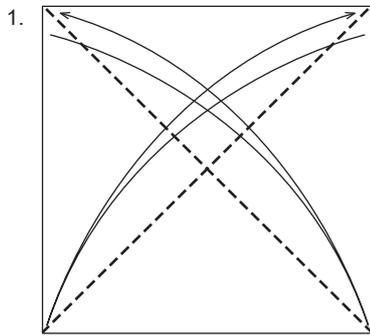


Paper:

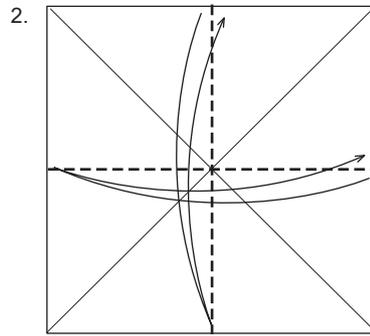
- Duo Kami 24x24 cm
- Sandwich 23x23 cm
- Tissue-foil 24x24 cm

Ratio: 0.6

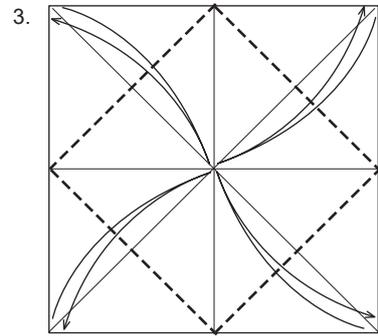
A 15 cm square of regular origami paper will produce a 9 cm goldfish. A sheet of 20 cm to 25 cm square is recommended, preferably duo-coloured as there will be a colour change to the eyes. A fair bit of precreasing is required at the beginning.



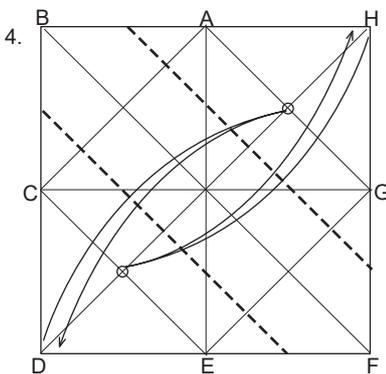
1. Begin with the white or non-dominant coloured side facing you. Fold diagonally in half in both directions, crease well, and unfold.



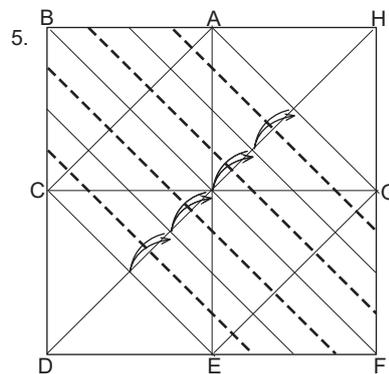
2. Fold vertically and horizontally in half, crease well, and unfold again.



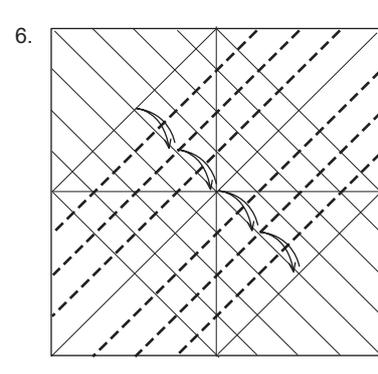
3. Fold each of the four corners to the center, crease well, and unfold again.



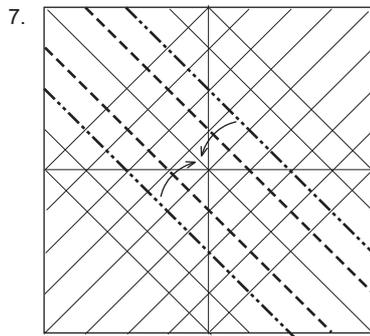
4. Fold Corners D and H to the circled reference points. Crease and unfold.



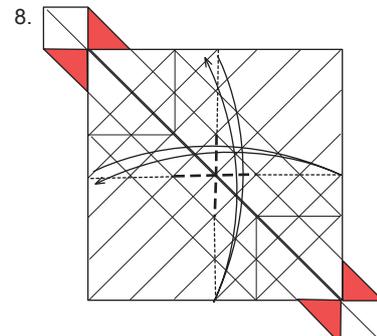
5. Make four more crease lines as illustrated, dividing the area ABCEFG diagonally in eighths, ...



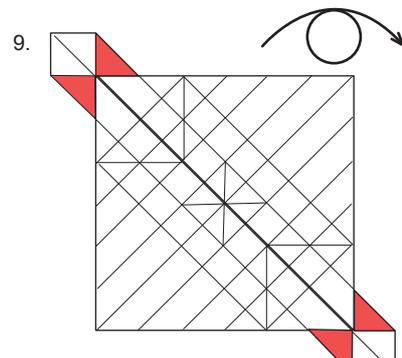
6. ... then repeat Steps 4 and 5 in the opposite direction.



7. Pleat fold as illustrated, ...

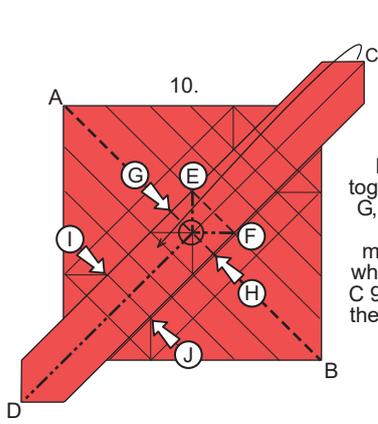


8. ... and make two creases in the center.

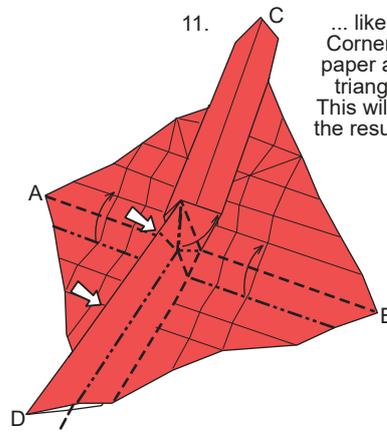


9. Turn paper over.

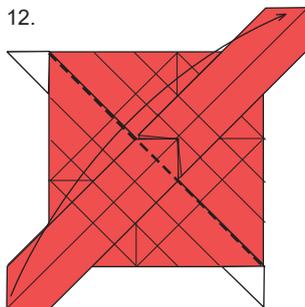




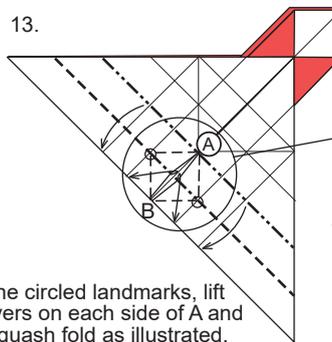
10. Pinch the edges together along arrows G, H, I and J to form the Y-shaped mountain line DEF, while bringing Corner C 90 degrees up from the folding surface, ...



11. ... like this. Now flatten from Corner D to the centre of the paper as illustrated, forming a triangular tab in the centre. This will be the dorsal fin. Note the resulting pleat fold covering diagonal AB.

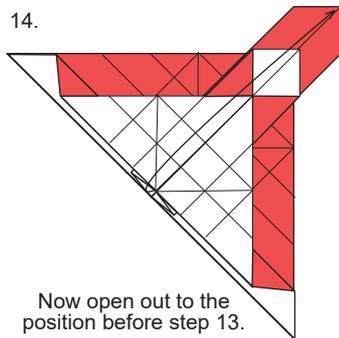


12. Fold diagonally in half.

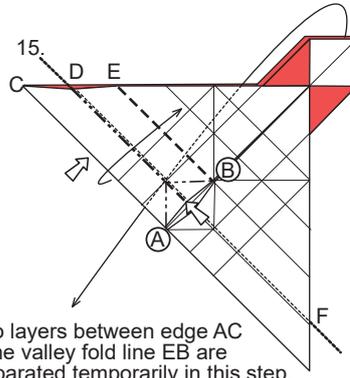


13. Using the circled landmarks, lift up the layers on each side of A and B and squash fold as illustrated.

13a. This shows how the layers in the middle are supposed to collapse.

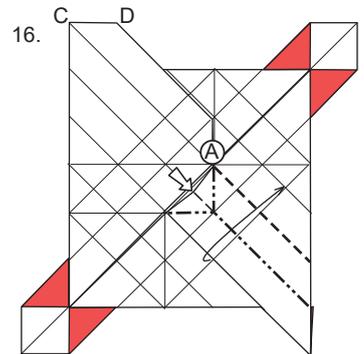


14. Now open out to the position before step 13.

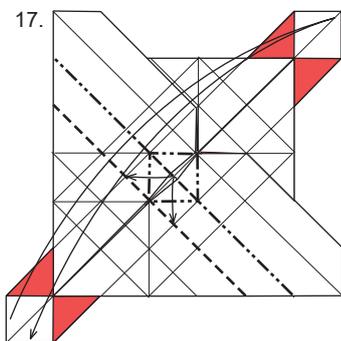


15. The two layers between edge AC and the valley fold line EB are separated temporarily in this step.

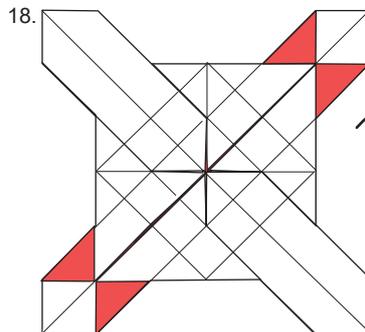
First, push the edge between points A and B, separating the paper along the Y-shaped mountain line, then continue by pushing along AC. While doing these, swivel the bottom half of the paper to the left along line DF.



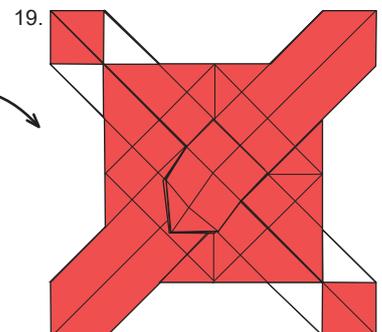
16. Repeat step 15 on the lower right section of the paper.



17. That done, repeat steps 13 to 16 on the adjacent area as illustrated.

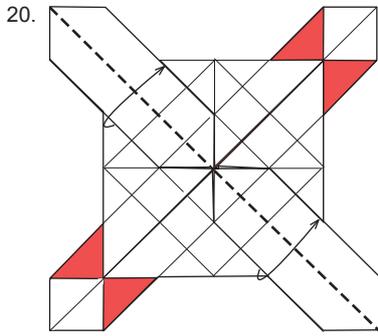


18. This is what the paper should look like after step 17. Turn over, ...

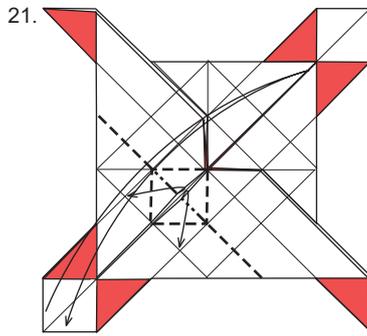


19. ... and the reverse side should appear like this. Turn the paper over again.

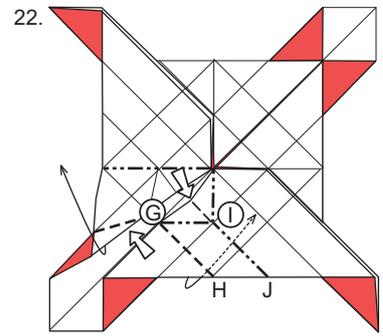




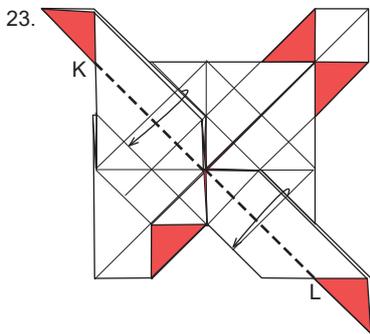
Swivel the two flaps diagonally to the right, ...



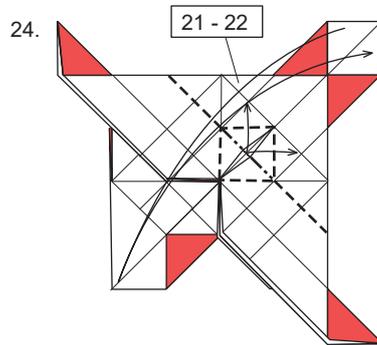
Repeat as in steps 13 and 14.



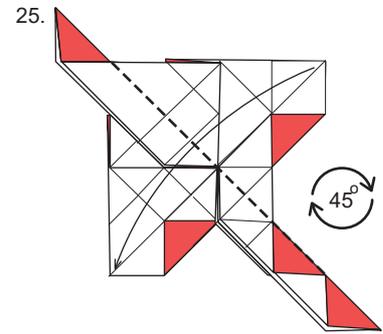
The section to the right of the bottom left quadrant should be collapsed in the same way as step 16, except that the valley fold line GH should go under mountain line IJ. The section on the left portion of this quadrant should be reverse folded, ...



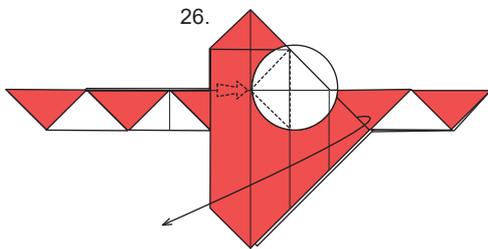
... like this. Swivel all flaps along the KL axis to the left, ...



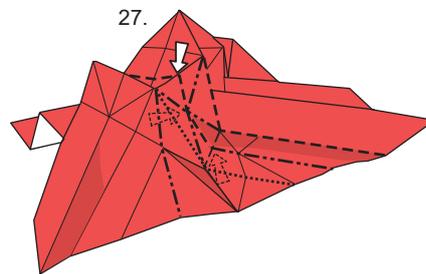
Repeat steps 21 & 22 on the right.



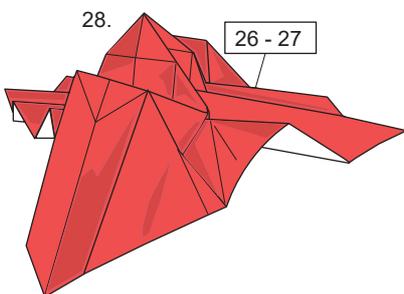
Fold diagonally in half, then rotate the model 45 degrees counter-clockwise, and flip horizontally.



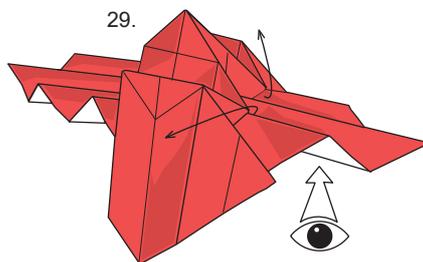
We will now have to reverse fold the hidden corner shown as an X-ray view in this illustration. Begin by opening out on the right, ...



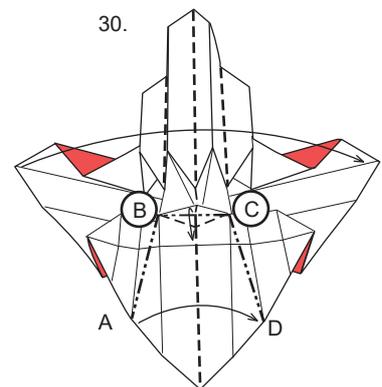
... then collapse along the existing crease lines by pushing from below and the top, ...



... until the corner pops out like this, allowing you to flatten the paper completely. Repeat steps 26 to 27 on the other side.

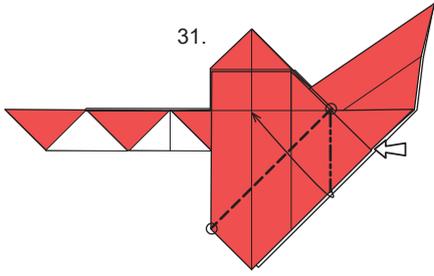


Open out on the right. The next figure would show the view from the underside of this area.

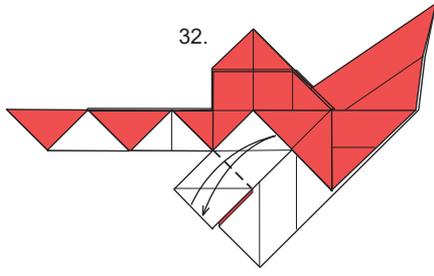


The paper will not fall flat at this Step. First, mountain fold along lines AB and CD, then form a little crimp between points B and C as you flatten the paper to the right.

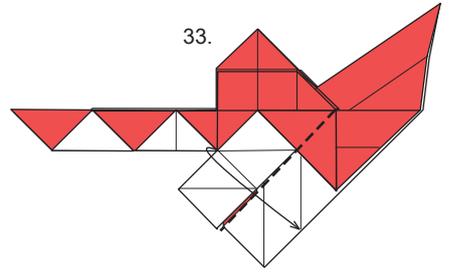




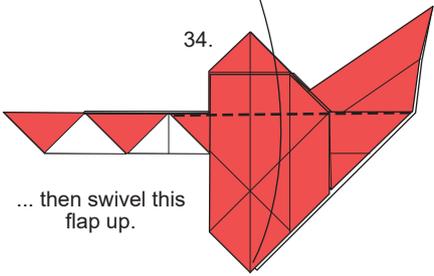
31. Reverse fold the corner on the right, then valley fold between the circled landmarks. Crease firmly.



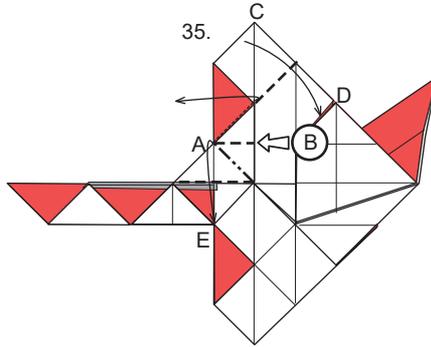
32. Fold and unfold, creasing firmly again.



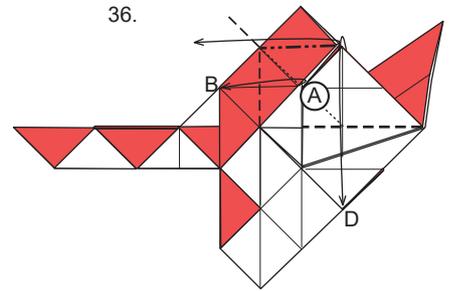
33. Valley fold, ...



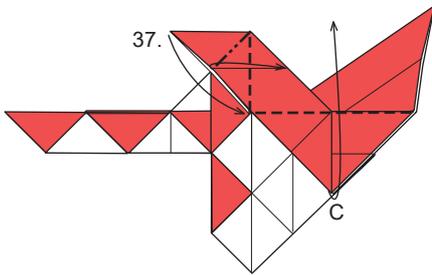
34. ... then swivel this flap up.



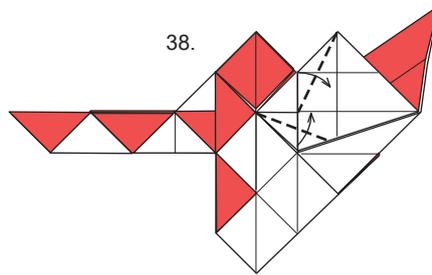
35. Push out at point B while bringing A to E. This will result in C swivelling D.



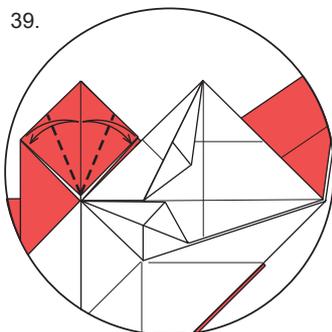
36. Fold point A to B, then bring Point C to D.



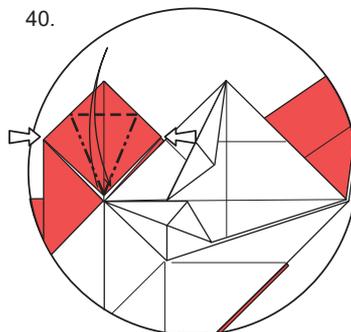
37. Swivel Point C up, then squash fold the triangular tab at the top of the central section.



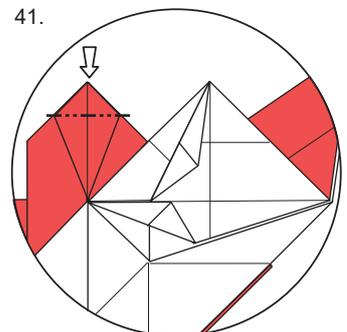
38. Valley fold twice as shown, ...



39. ... then fold the lower diagonal edges to the middle, crease firmly, and unfold.



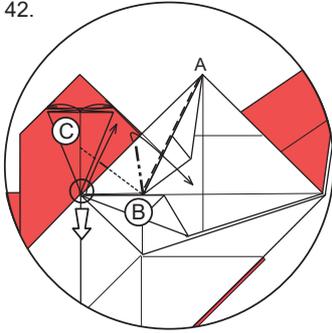
40. Petal fold.



41. Open sink fold, ...

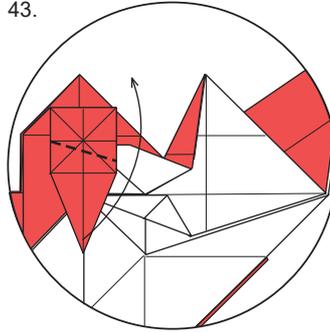


42.



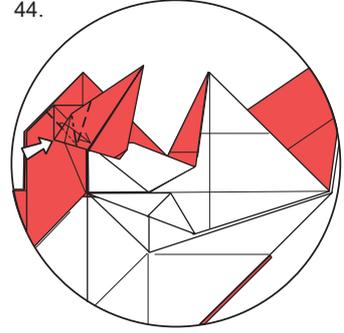
Valley fold along A and B. This will draw out the layer underneath along a valley line between B and C. Next, pull the tab below C down, to open and flatten the layers directly above, ...

43.



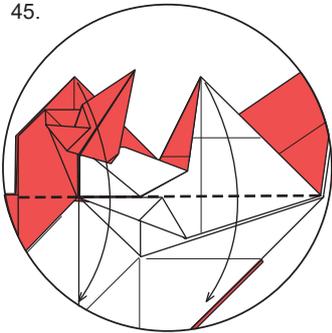
... like this. Valley fold the little tab at the angle shown.

44.



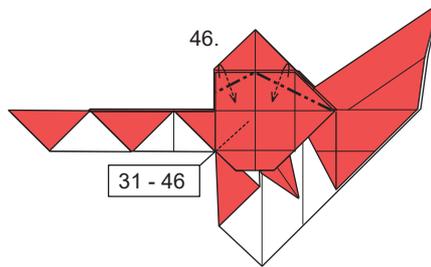
This fold on the little tab is similar to the sequence in step 42.

45.



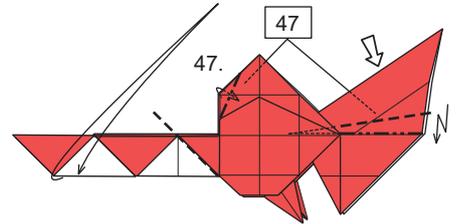
Now swivel the whole section down.

46.



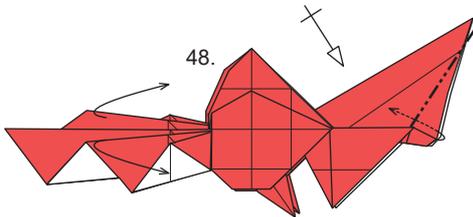
Mountain fold the corners to shape the body, then repeat from Step 31 on the other side.

47.



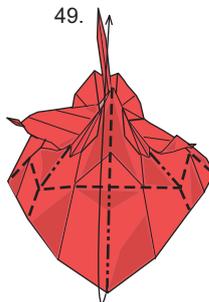
Crimp fold this side of the tail as illustrated, then repeat on the other side. Next, valley fold and unfold through all layers on the left, creasing firmly. Finally, mountain fold both corners at the front of the dorsal fin between the two layers.

48.



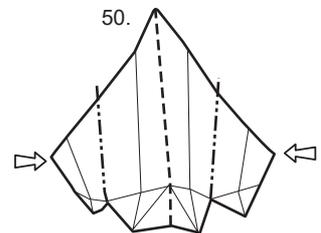
Mountain fold the edge of tail within itself. Repeat on the other side. That done, open out the pleated layers on the left as illustrated.

49.



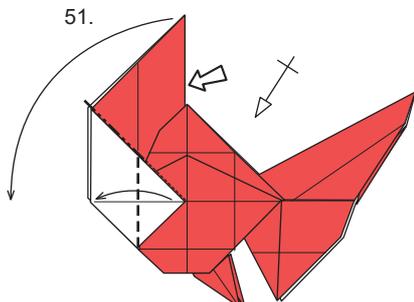
This is a top view of the front of the head piece. Using the existing crease lines, reverse fold the head piece in between the two layers of the dorsal fin.

50.



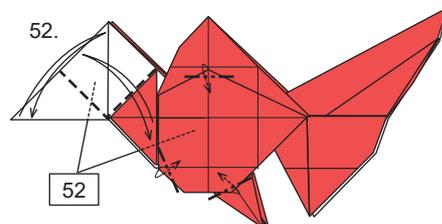
This is a view of the reverse side of the head piece as step 49 is in progress. Bring the pleats together again to complete the step.

51.



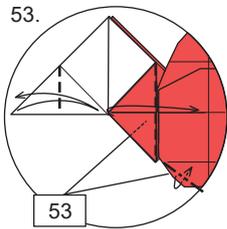
Your Ryukin should look like this at this stage. Reverse fold the head piece again as illustrated, and valley fold the white layer on both sides at the base of the head.

52.

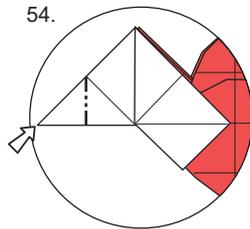


Valley fold twice at the head, crease firmly, and unfold. Next, make three mountain folds as illustrated. Repeat on the other side.

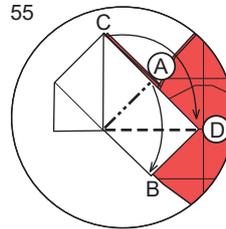




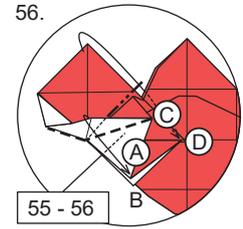
53. Fold and unfold both layers on the left together, creasing firmly. Swivel the triangular piece at the base of the neck to the right, and mountain fold the corner as illustrated. Repeat the latter two folds on the other side.



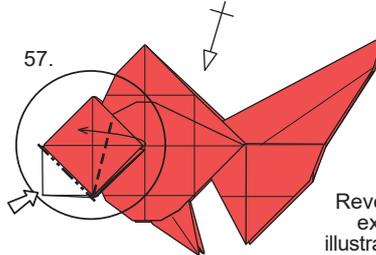
54. Reverse fold along the crease line made in step 53.



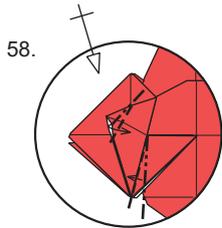
55. Bring A to B. This will automatically bring C to D, ...



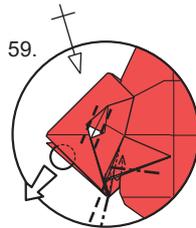
56. ... like this, in progress. Outside reverse the layers on the left, while repeating step 55 and 56 on the other side.



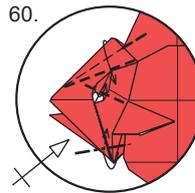
57. Reverse fold the triangular white extension and valley fold as illustrated on both sides of the head.



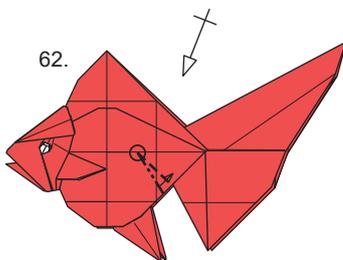
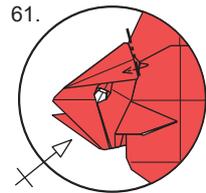
58. Squash fold at the eyes, and crimp fold to shape the pectoral fins. Repeat behind.



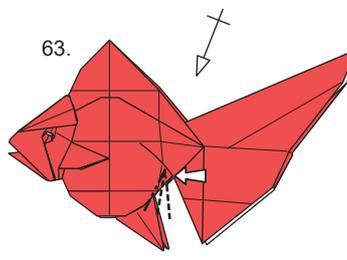
59. Pull out the hidden paper a little to form the lower jaw, then shape the eyes and pectoral fins on both sides.



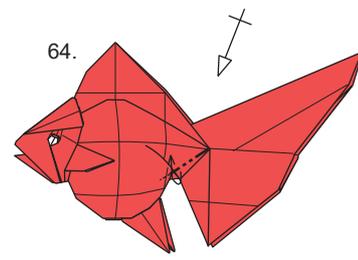
60. The crown is shaped with an off-set squash fold. step 61 shows how it should appear eventually. Shape the eyes and both sides of the head as diagrammed. Repeat behind.



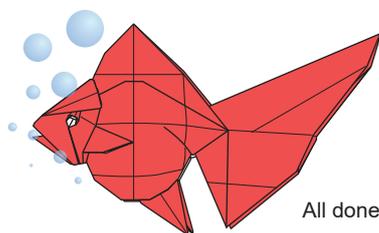
62. Crimp fold. The circled point should be protruding outwards. Repeat on the other side.



63. Reverse fold, repeating on the other side again, ...

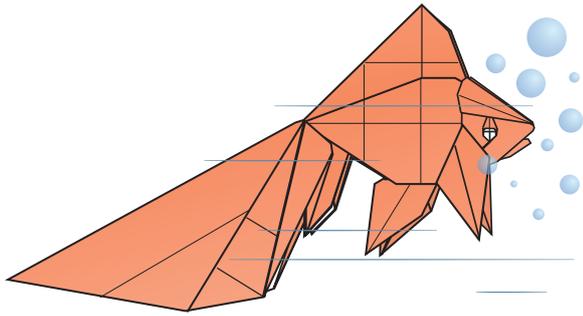


64. ... then mountain fold to secure in place. Repeat yet again.



All done!



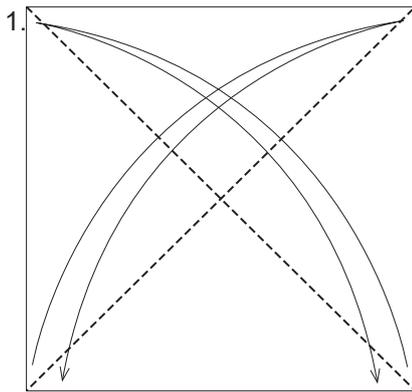


Paper:

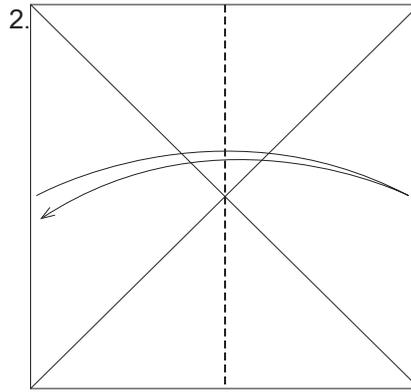
- Duo Kami 24x24 cm
- Sandwich 23x23 cm
- Tissue-foil 24x24 cm

Ratio: 0.67

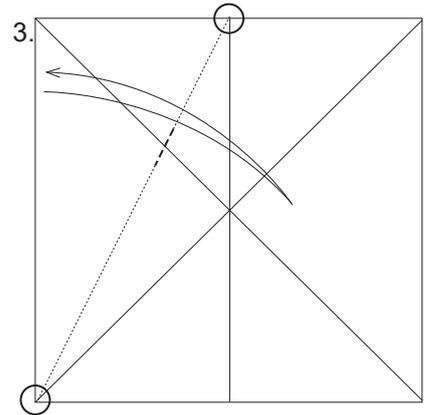
Begin with a square of at least 20x20 cm for your first attempt for a 13.5 cm goldfish. Steps 1 to 16 have to be folded very accurately, otherwise you will have problems with alignment as you go along.



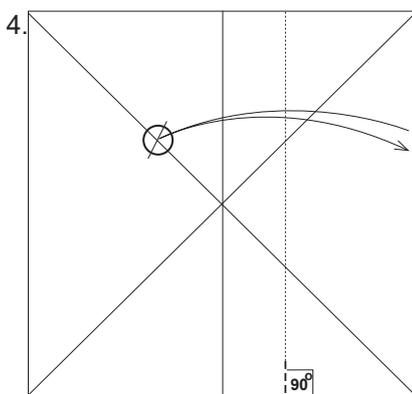
1. Fold diagonally in half, crease well, and unfold, then repeat in the opposite direction.



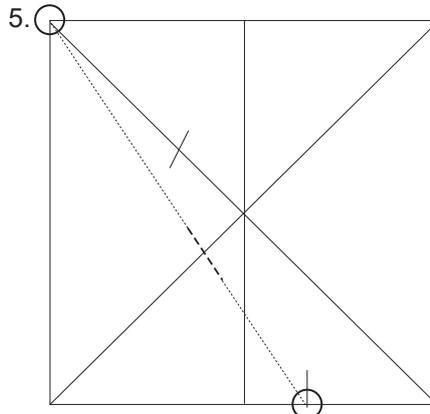
2. Fold vertically in half, crease well, and unfold.



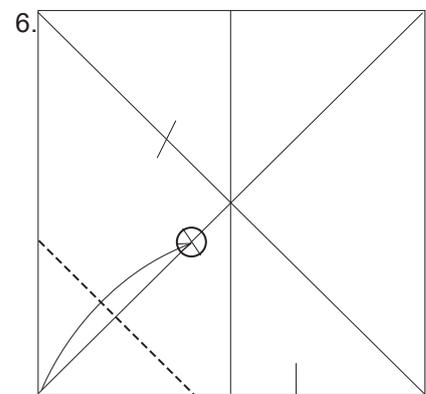
3. Valley fold between the circled landmarks, but crease where the fold intersects the existing diagonal crease line only.



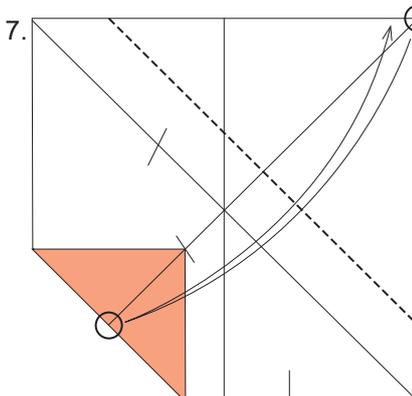
4. Valley fold the right edge to the circled landmark, while aligning the bottom such that the valley fold line lies 90 degrees to the base edge. Crease only where the fold meets the lower base edge.



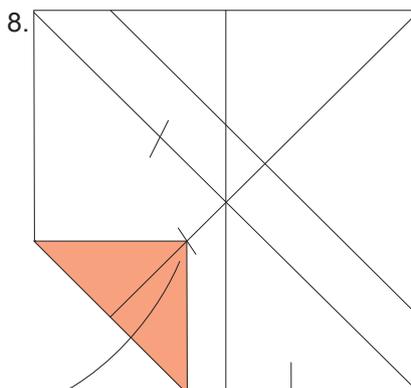
5. Again, valley fold between the circled landmarks; crease where the fold intersects the diagonal crease line only.



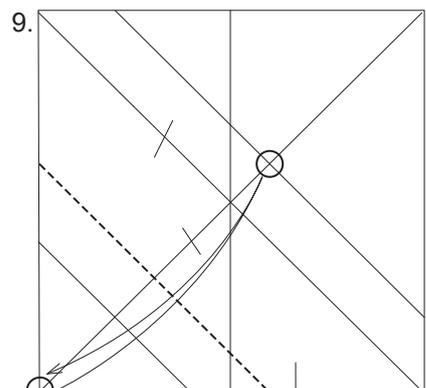
6. Valley fold the corner to the circled landmark.



7. Fold to the edge then unfold.

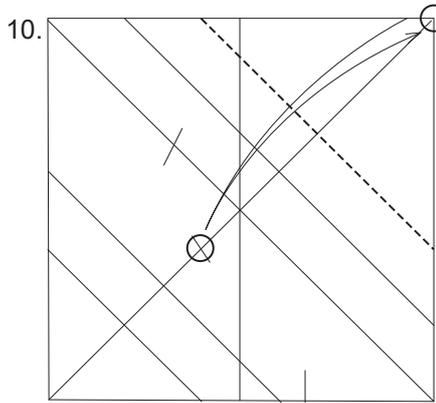


8. Unfold the corner.

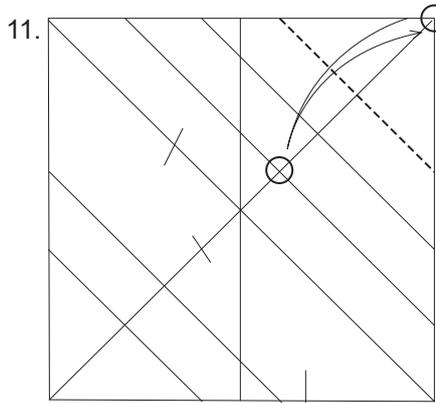


9. Fold then unfold.

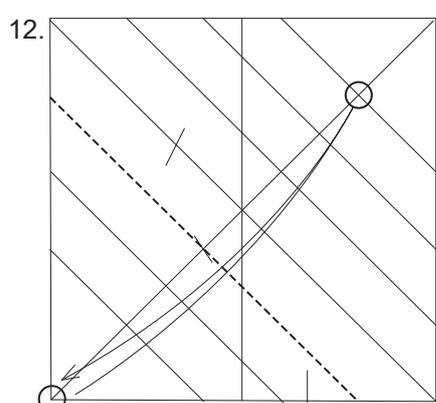




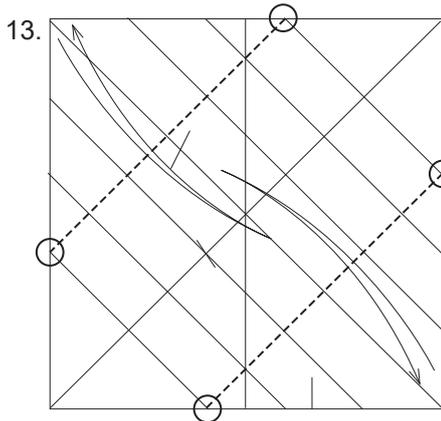
Fold then unfold.



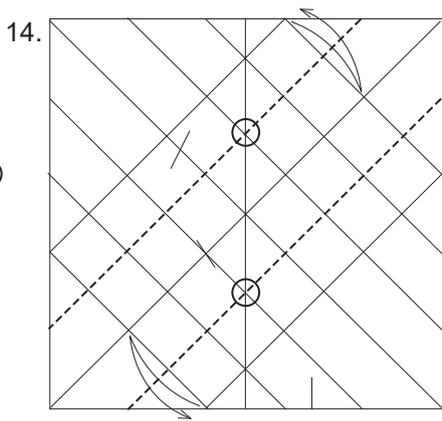
Fold then unfold.



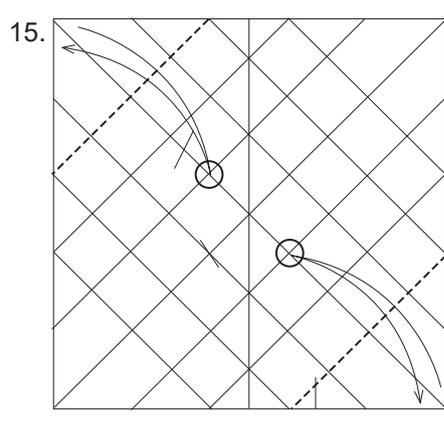
Fold then unfold.



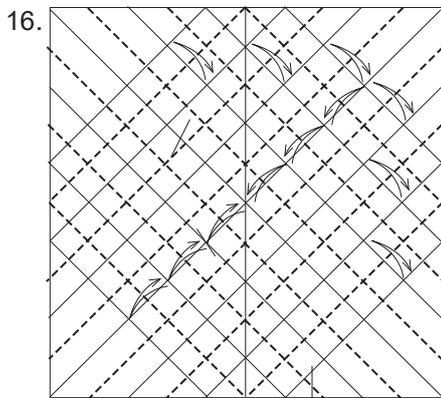
Now crease in the opposite direction and through the circled landmarks.



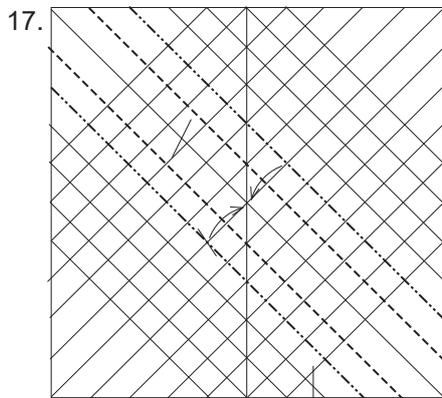
Now crease in the opposite direction and through the circled landmarks.



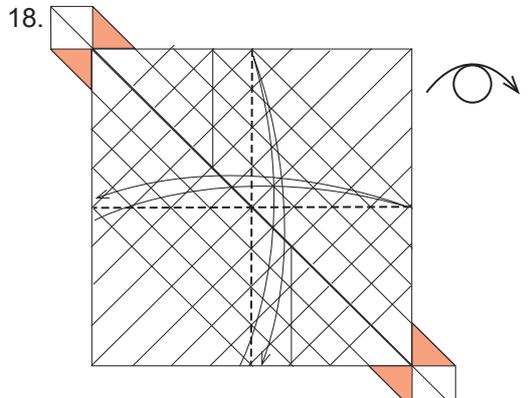
Valley fold each of the two corners to the circled landmark, crease firmly, and unfold.



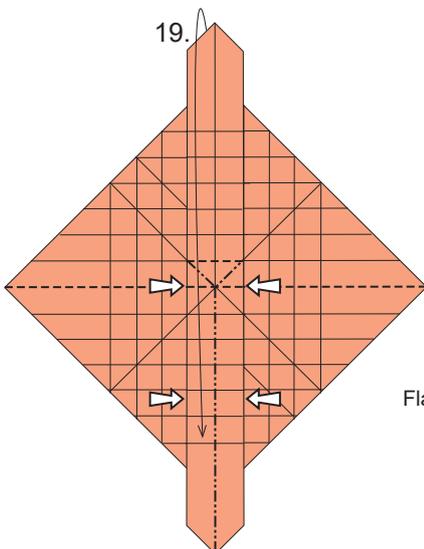
Now divide each of the diagonal sections in two as shown.



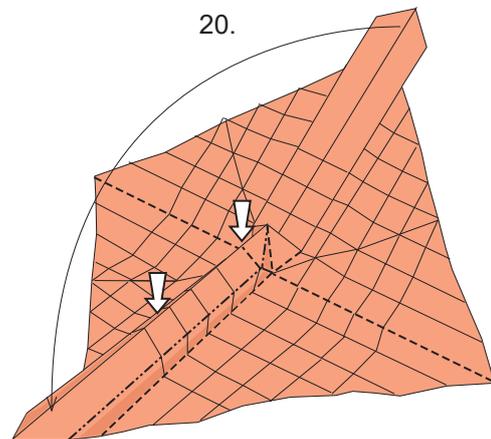
Pleat as illustrated, ...



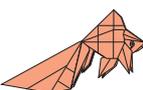
... fold and unfold, creasing firmly, and turn the paper over.

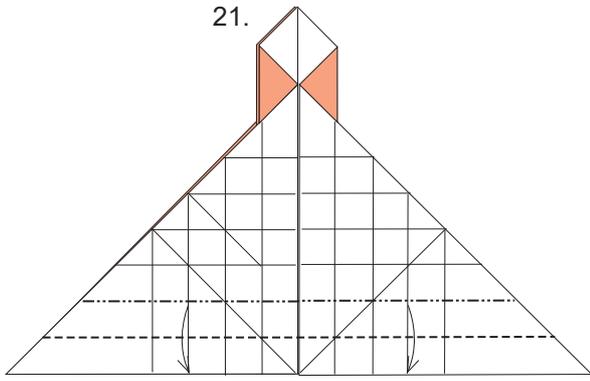


Flatten vertically, forming a "Y" in the middle, ...

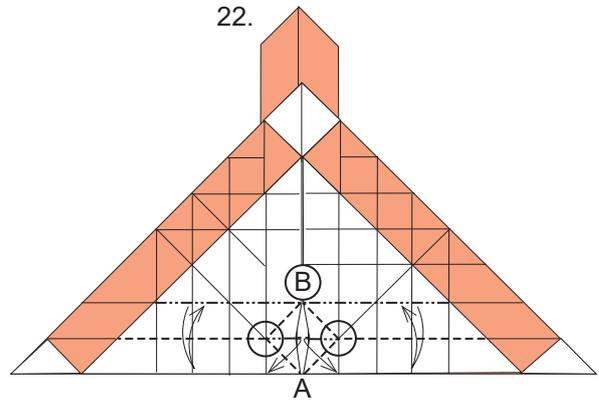


... like this. Next, flatten horizontally, leaving a protruding triangular tab in the middle.

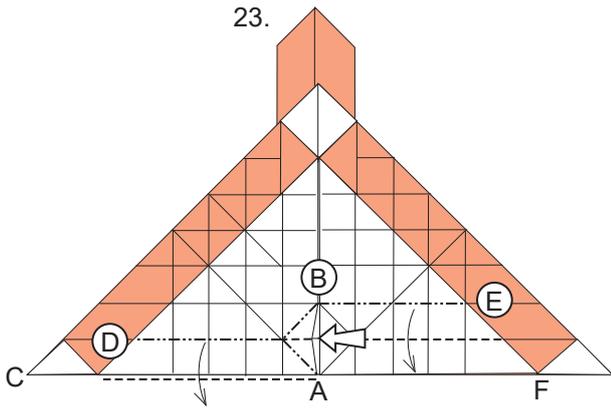




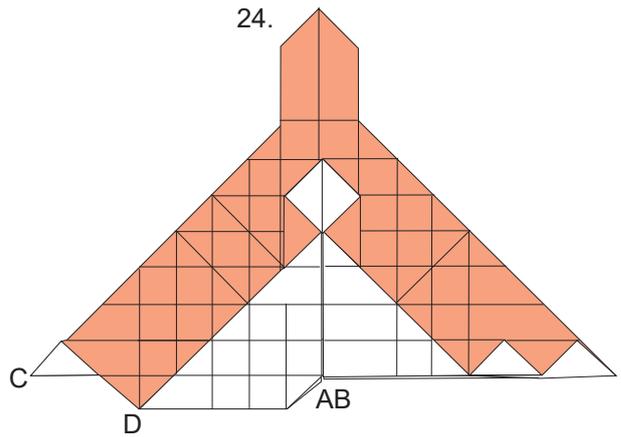
Pleat fold.



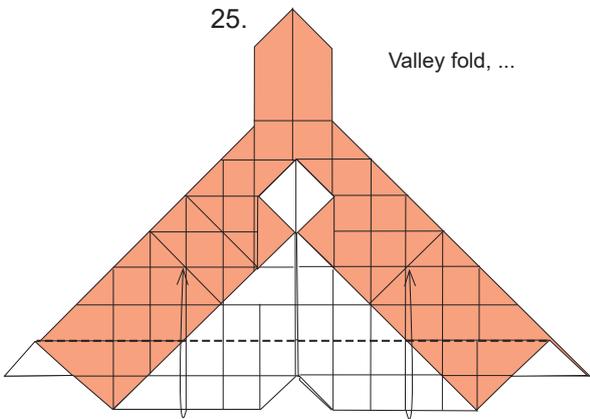
Lift the edges between A and B and squash fold. Crease and unfold.



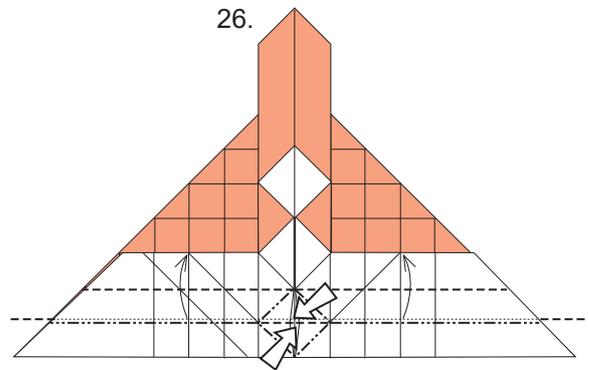
Push in the middle of Edge AB, separating the two layers along the Y-shaped mountain line. That done, fold BE to AF while bringing horizontal edge D below the bottom edge AC, ...



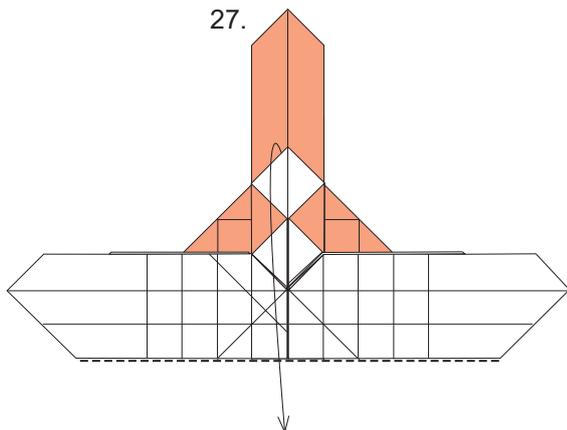
... like this. Repeat the folds on the left half of step 23 to the right.



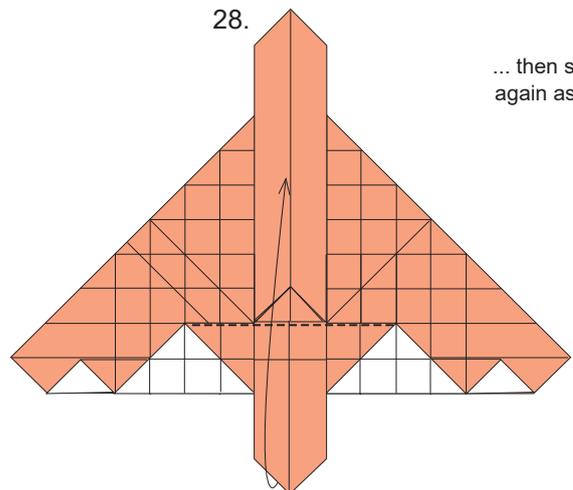
Valley fold, ...



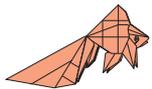
... then repeat steps 21 to 23 on both sides as shown. This time, the resulting flaps should be swivelled upwards, as shown in the following illustration.

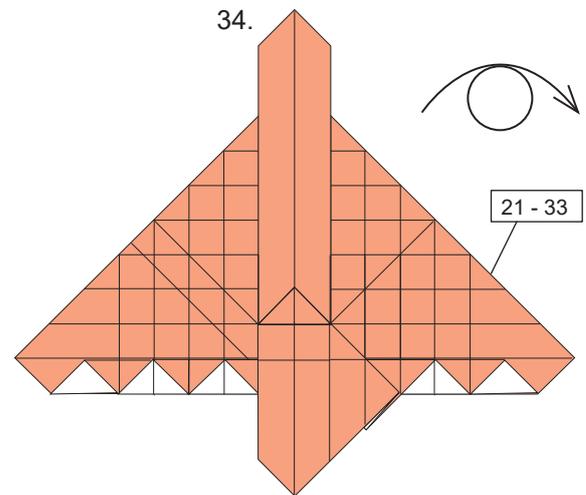
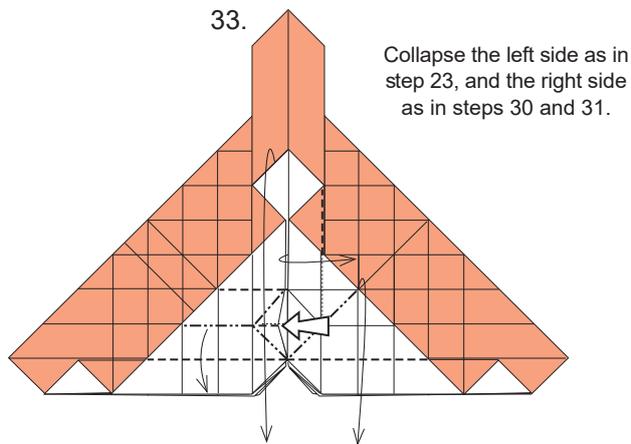
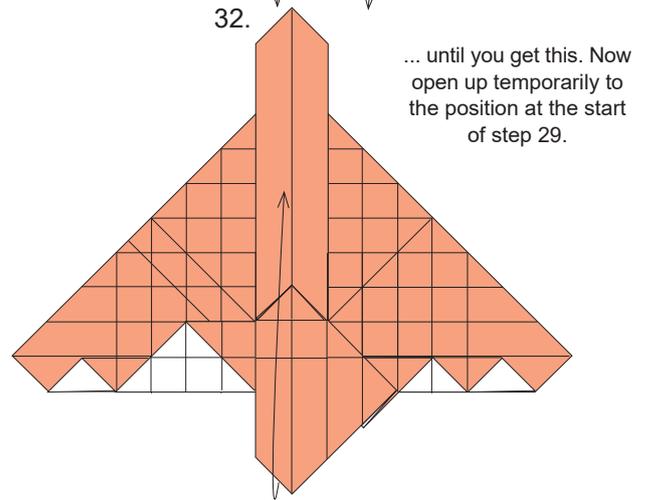
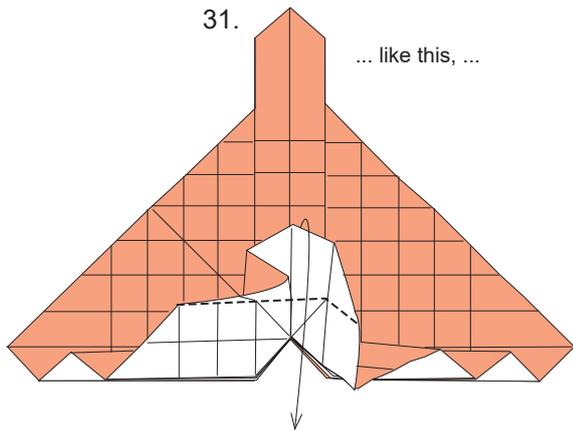
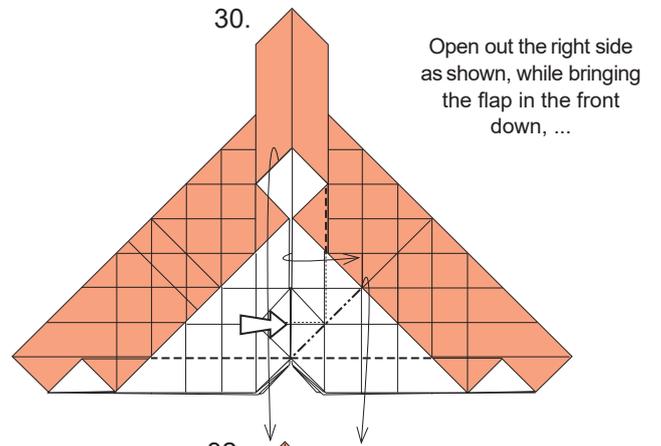
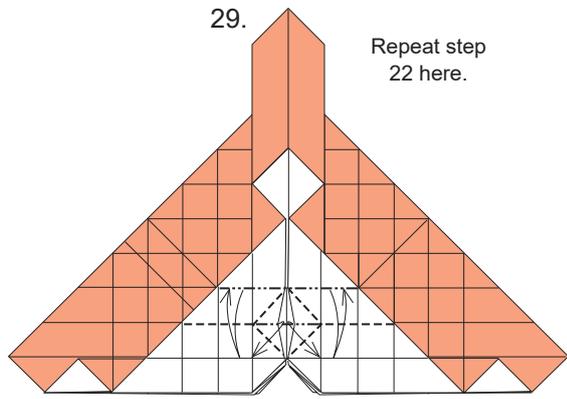


Now valley fold this whole section down, ...

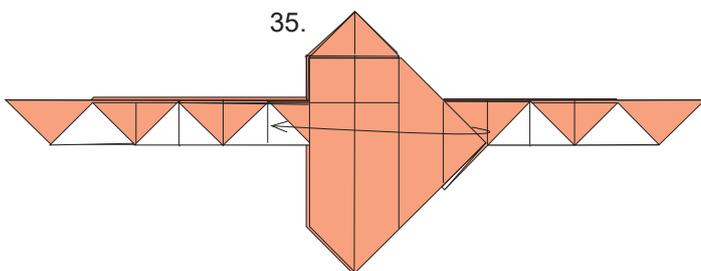


... then swivel up again as shown.

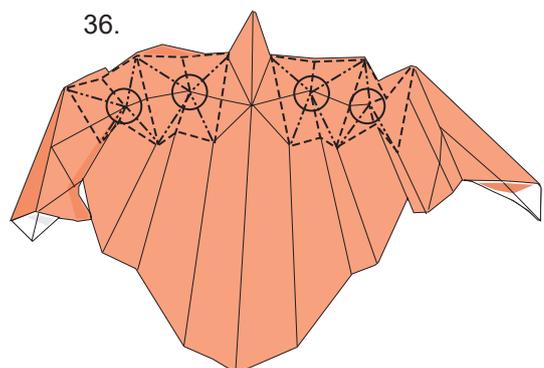




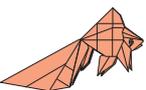
Turn the paper over and repeat from step 21 on the other side.

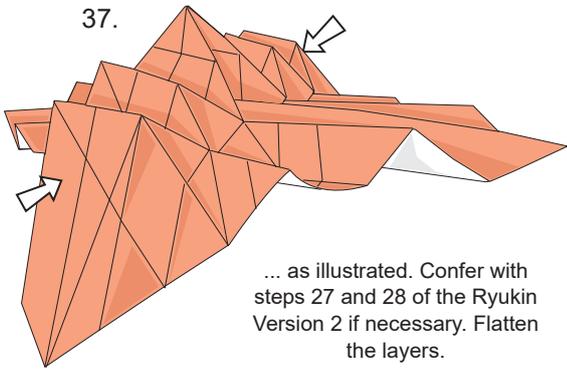


Open out the layers on the right, rotating the paper 90 degrees perpendicularly to the front...

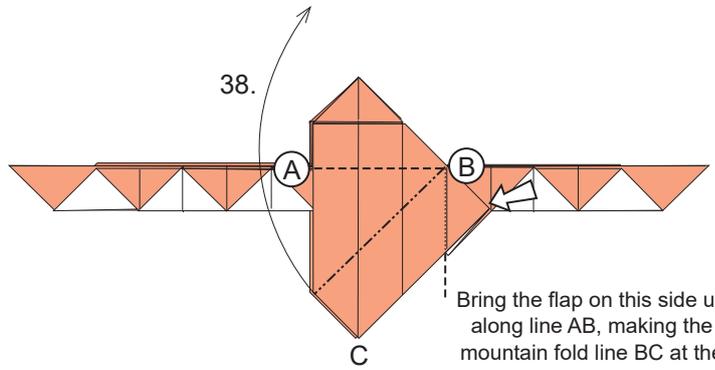


... like this. Now push the paper from the inside and reverse fold each of the four circled areas outwards, ...

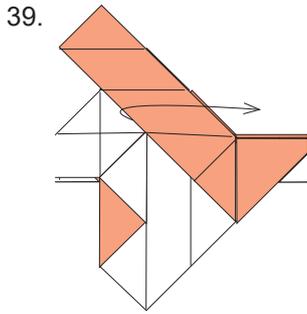




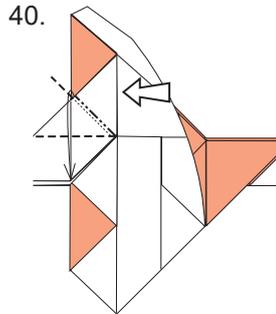
... as illustrated. Confer with steps 27 and 28 of the Ryukin Version 2 if necessary. Flatten the layers.



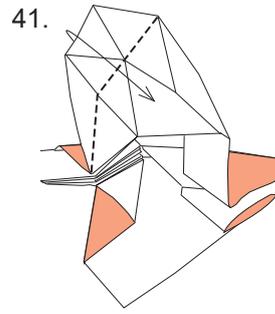
Bring the flap on this side up along line AB, making the mountain fold line BC at the same time.



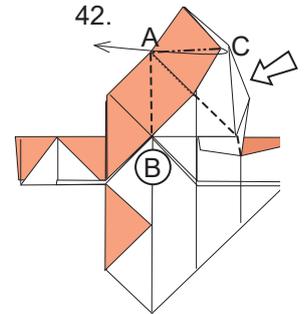
Open out to the right temporarily.



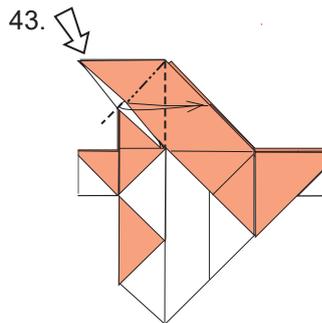
This is fairly similar to steps 30 and 31. Reverse fold and swivel the excess paper down.



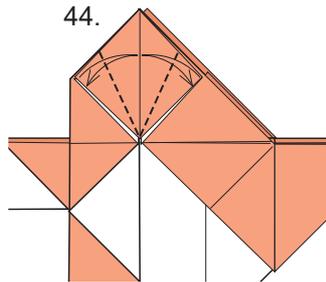
Valley fold, ...



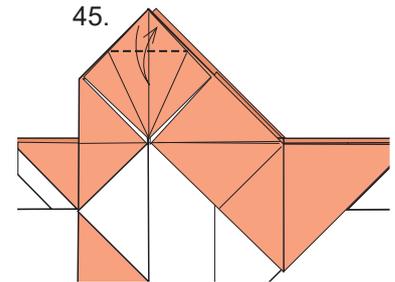
... then valley fold again along line AB while drawing line AC to the right, ...



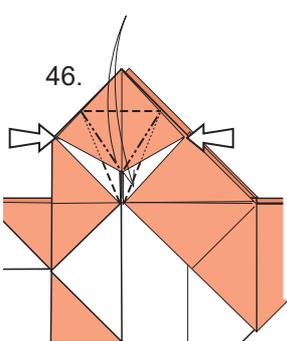
... closing up like this. Squash fold, ...



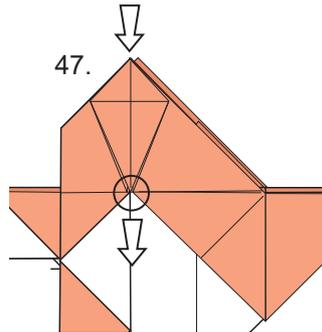
... then valley fold to the centre, crease firmly, and unfold.



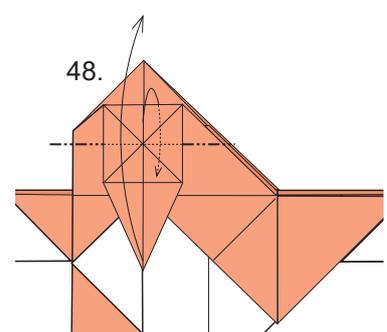
Fold and unfold, creasing firmly again.



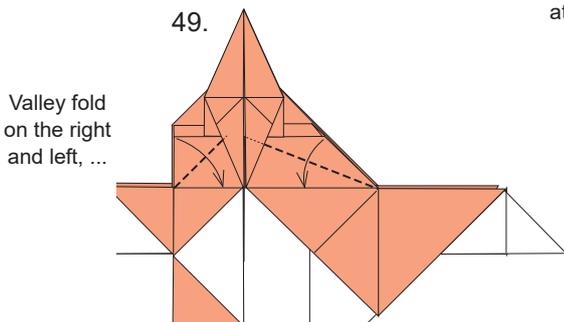
Reverse fold.



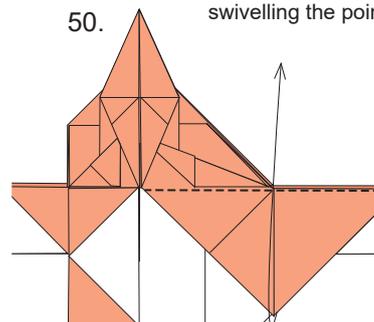
Grasp the circled point and pull down, while flattening at the top, ...



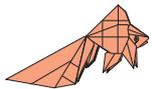
... like this. Mountain fold as illustrated, while swivelling the point up.



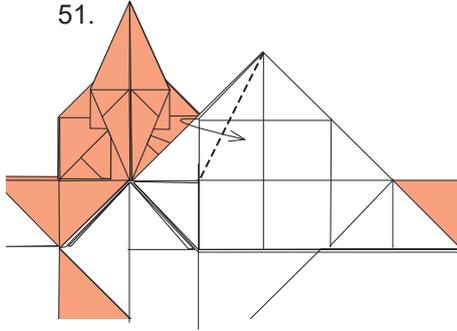
Valley fold on the right and left, ...



... then swivel the triangular flap on the right upwards.

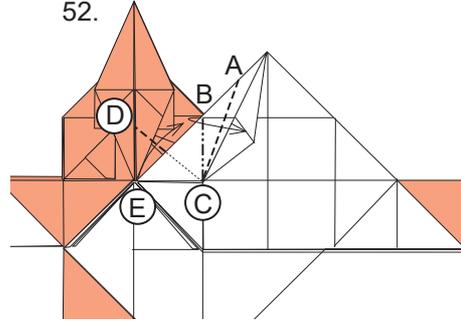


51.



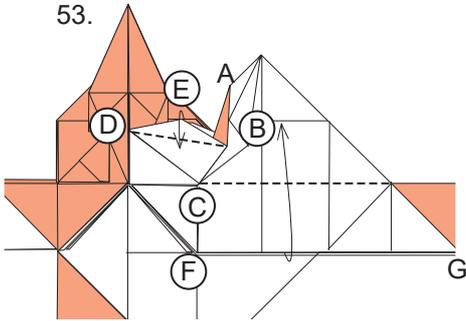
Valley fold to get this bit out of the way.

52.



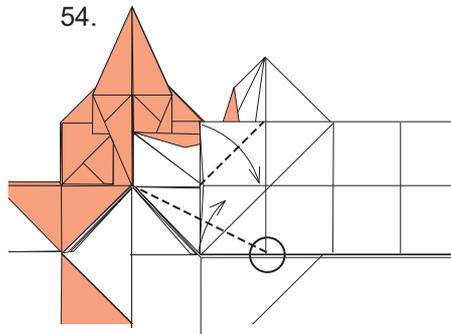
Valley fold along line AB, at the same time drawing point E towards point B, with another valley fold along DC. The mountain fold line BC will fall in place when you flatten the paper, ...

53.



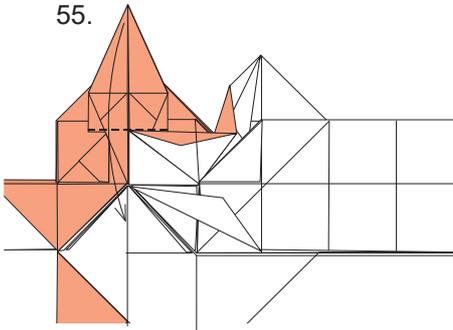
... like this. Valley fold along line DB, then swivel up one flap from the edge FG.

54.



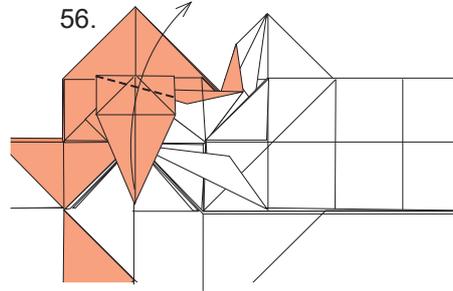
Valley fold the two corners out of the way. Note the circled landmark for the lower valley fold.

55.



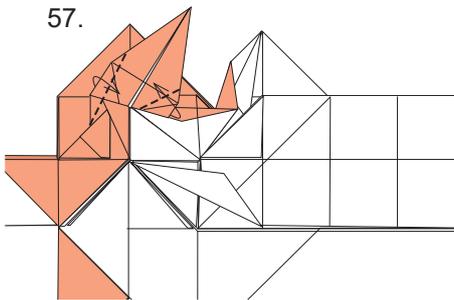
Fold down, ...

56.



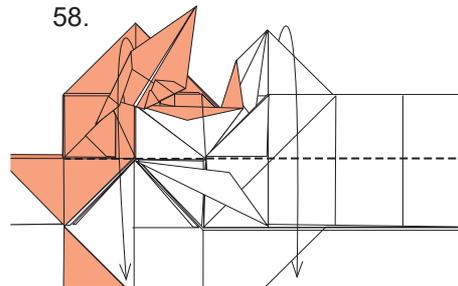
... and up again, at the angle shown.

57.

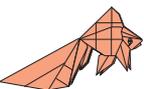


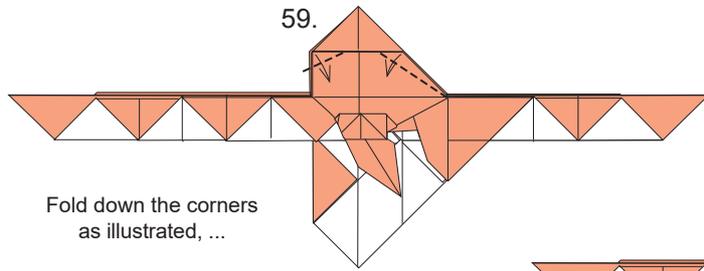
Narrow both sides to complete the pelvic fin.

58.

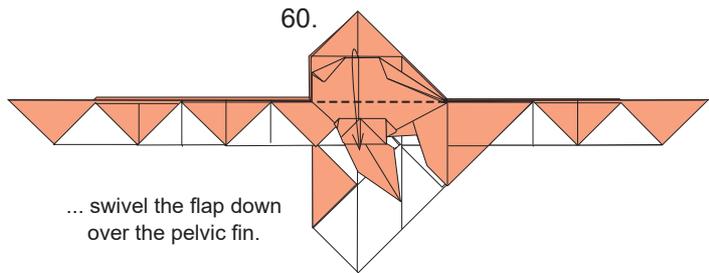


Fold down the pelvic fin, at the same time swivelling down the adjoining layers on the right.

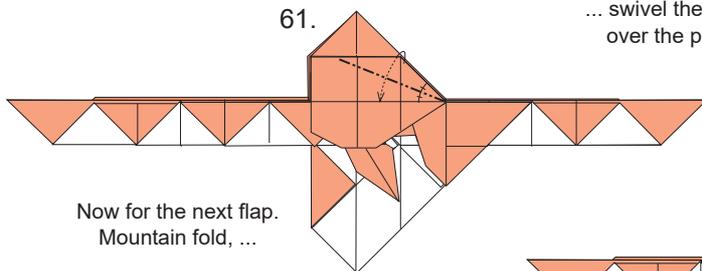




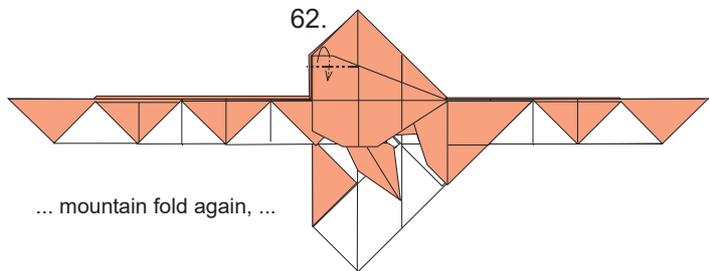
59.
Fold down the corners
as illustrated, ...



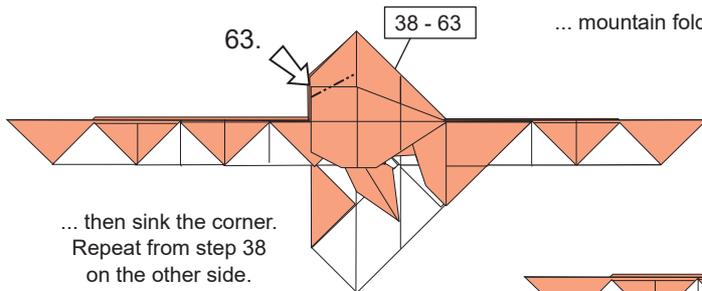
60.
... swivel the flap down
over the pelvic fin.



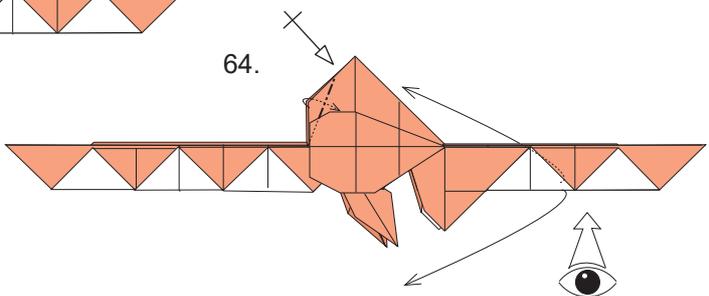
61.
Now for the next flap.
Mountain fold, ...



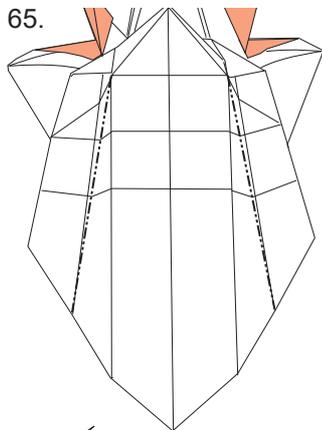
62.
... mountain fold again, ...



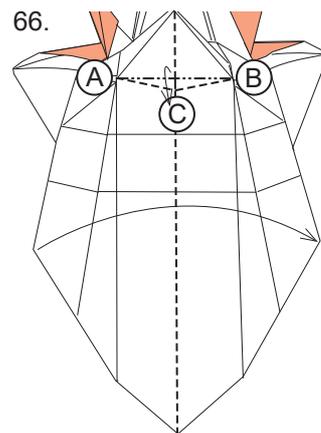
63.
... then sink the corner.
Repeat from step 38
on the other side.



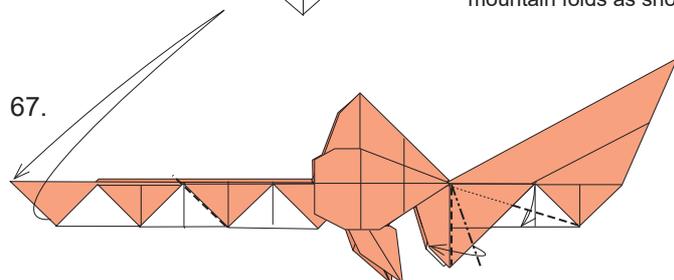
64.
Shape the front of the dorsal fin with mountain folds on
each side. That done, open out the pleated layers for the
tail, on the right.



65.
This is a view of the bottom
of the tail, with the pleats
spread out. Make two
mountain folds as shown.

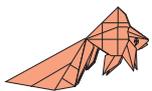


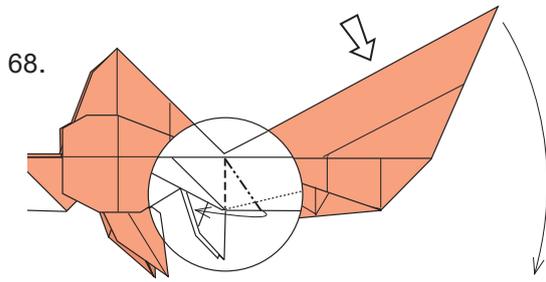
66.
That done, form a crimp at ABC and fold
the model in half.



67.

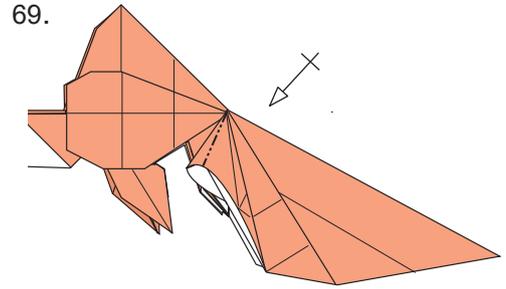
Fold and unfold on the left, creasing firmly through all
layers. Swivel-fol.





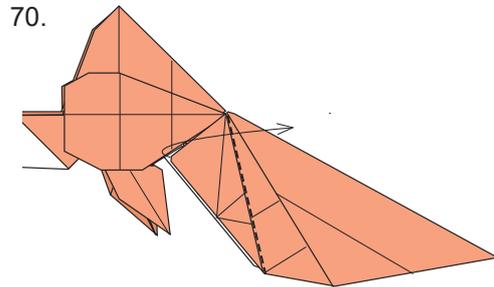
68.

Bring down the tail by crimping the four hidden layers at its base, allowing the outer layer on each side to billow temporarily.



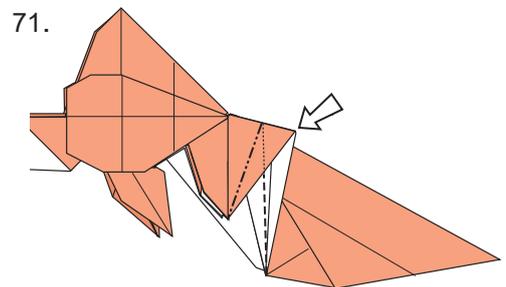
69.

Now flatten the outer layer on each side.



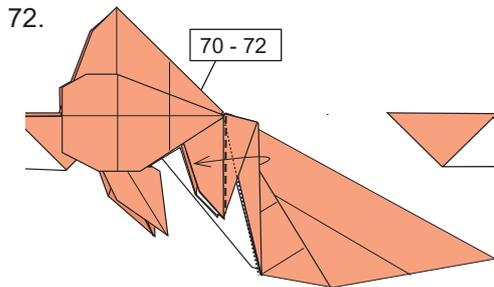
70.

Swivel to the right, including the hidden layers underneath.



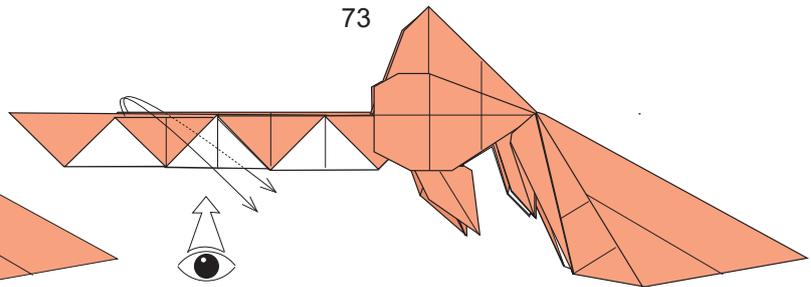
71.

Reverse fold, ...



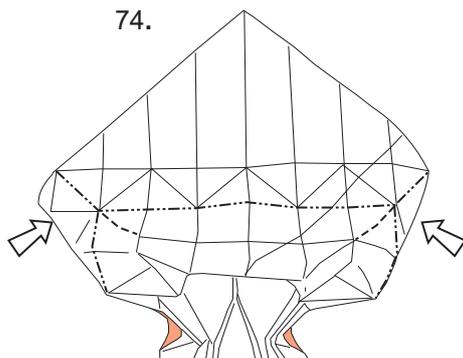
72.

... and close to the left as illustrated. Repeat from step 70 on the other side.



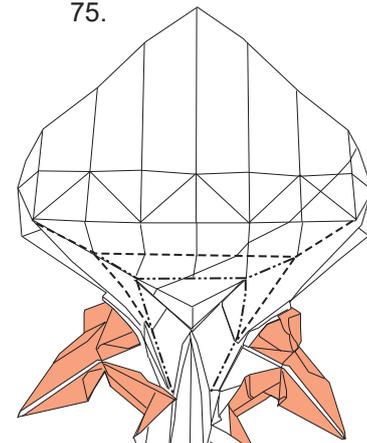
73

Now for the head. Open out the pleats on the right entirely. The next figure will show a view of the underside of the pleated area.



74.

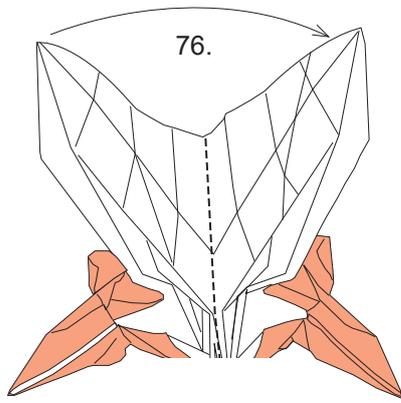
Begin collapsing with the mountain fold lines as illustrated, ...



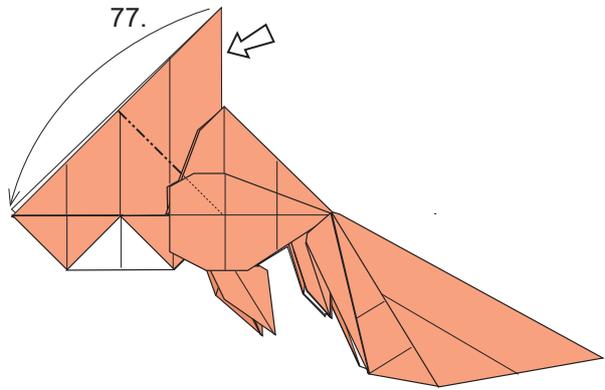
75.

... pleating with a series of mountain and valley folds as you proceed, ...

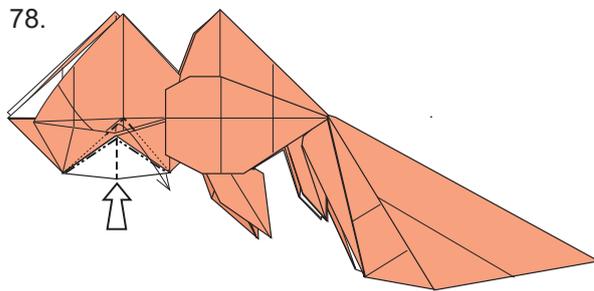




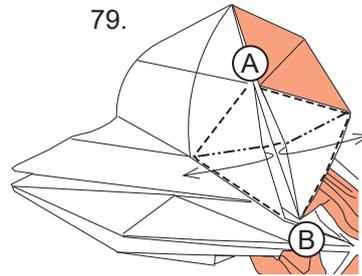
Now flatten out.



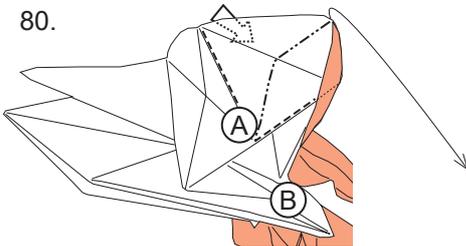
The model should now look like this.
Reverse fold.



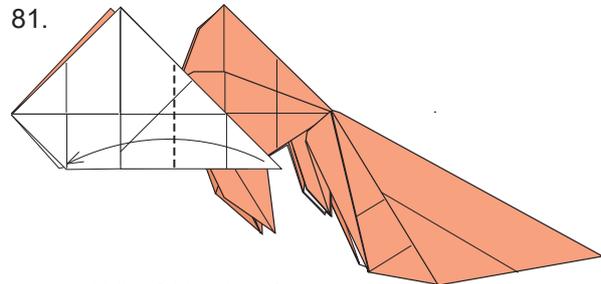
Pull down the first two layers and reverse fold the white triangular area underneath, ...



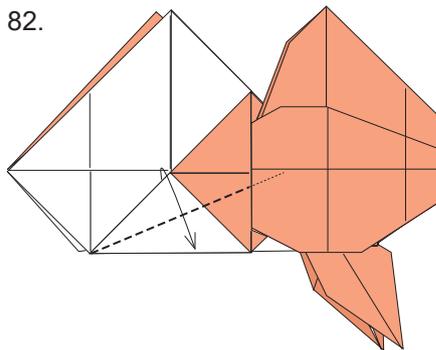
... like this. Lift out the layers on each side while continuing to reverse fold the back portion until Corner A meets Corner B.



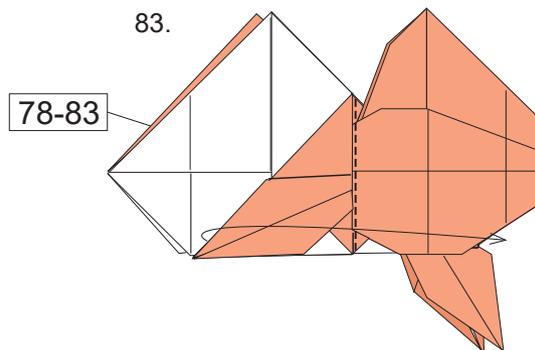
That done, push this area from the back to flatten this area completely.



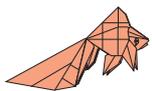
Valley fold to the left, ...

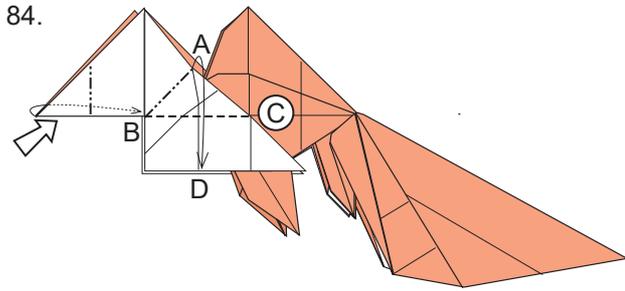


... and fold the first layer down to conceal much of the white area, to complete one of the pectoral fins.

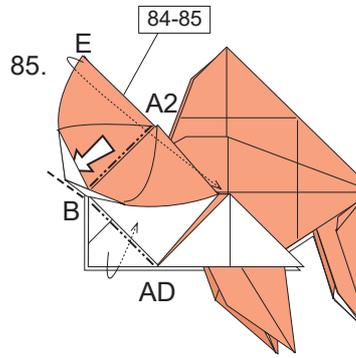


Swivel the pectoral fin to the right and repeat from step 78 on the other side.

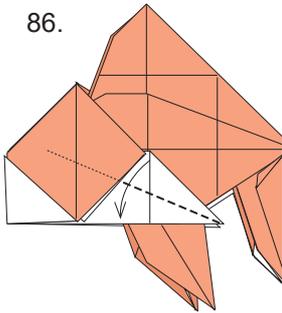




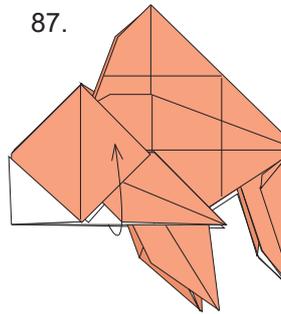
84. Inside reverse fold on the left. Next, valley fold along line BC to bring A down to D, ...



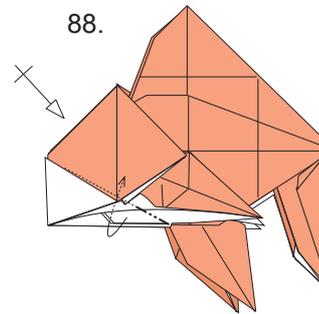
85. ... like this. Outside reverse fold along line A2-B. Mountain fold the corner along line B-AD. Then repeat Steps 84 & 85 on the other side.



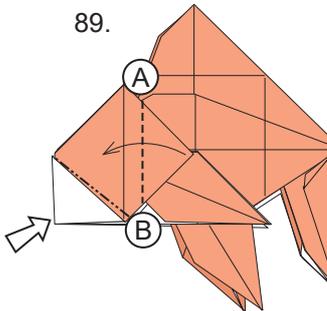
86. ... such that both sides of the head looks like this. Valley fold to hide much of the white side of the paper.



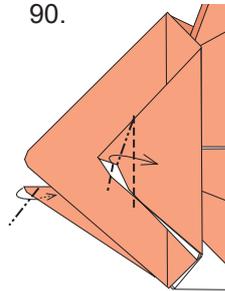
87. Lift up the pectoral fin and the layer immediately underneath, ...



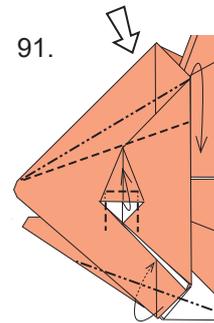
88. ... and mountain fold the hidden corner underneath. Repeat behind.



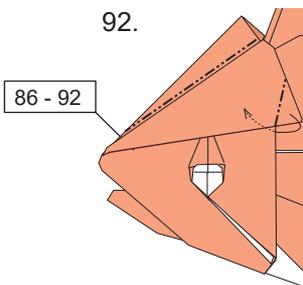
89. Reverse fold the white triangular area and valley fold along line AB.



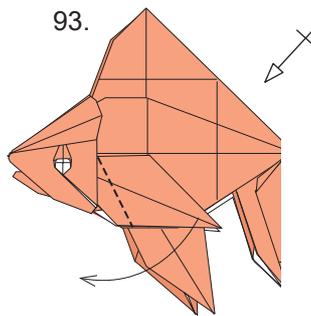
90. Fold the tip of the lower jaw under, and squash fold in the centre to form the eyes.



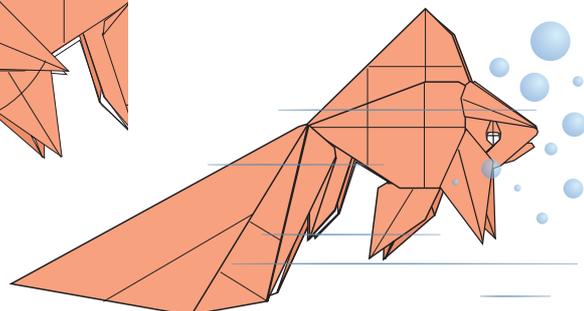
91. Continue shaping the eyes, lower jaw and crown as illustrated, ...



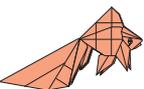
92. ... then tuck the excess paper under with a mountain fold. Repeat from step 86 on the other side.

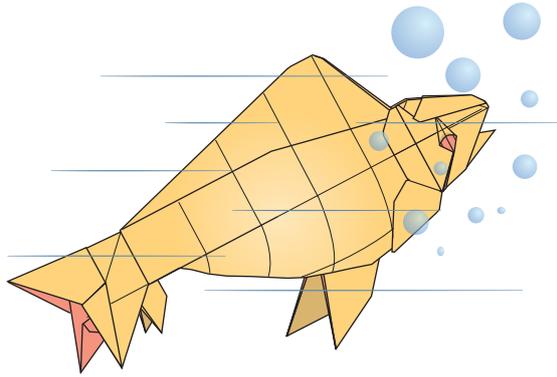


93. Valley fold both pectoral fins into position and you're all done!



Check out the Wakin for another, simpler way to do the eyes.



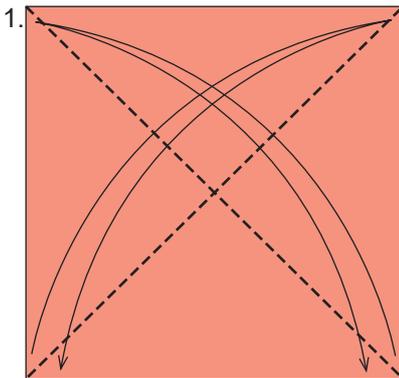


Paper:

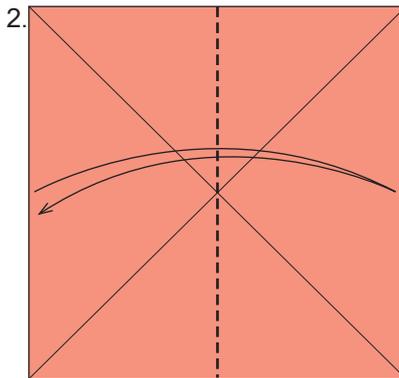
- Duo Kami 24x24 cm
- Sandwich 23x23 cm
- Tissue-foil 24x24 cm
- Biotope 35x35 cm

Ratio: 0.65

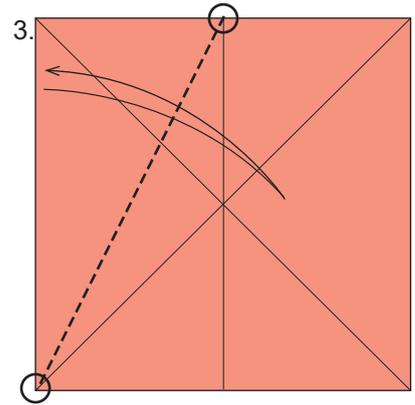
The Wakin looks a bit like a Japanese Koi with a mini goldfish tail. When I showed the model to a couple of origami enthusiasts, I got the "You sure there is such a goldfish variety?" Look. It is probably the least popular goldfish strains in Singapore, but it exists alright. Steps 1 to 20 have to be folded very accurately, otherwise you will have problems with alignments as you go along.



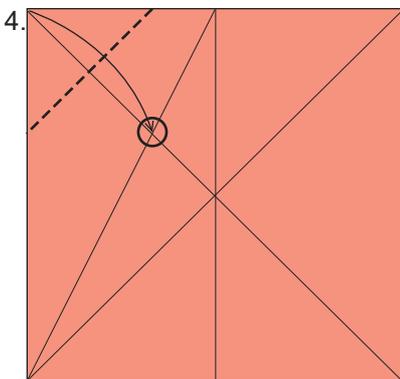
1. Fold diagonally in half, crease well, and unfold. Repeat in the opposite direction.



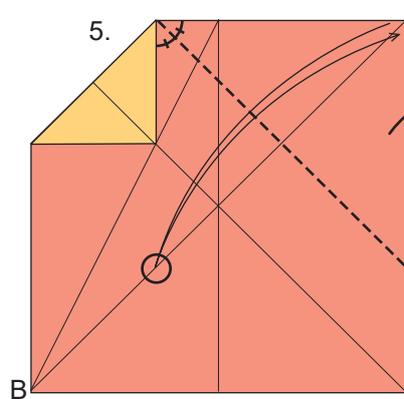
2. Fold vertically in half, crease well, and unfold again.



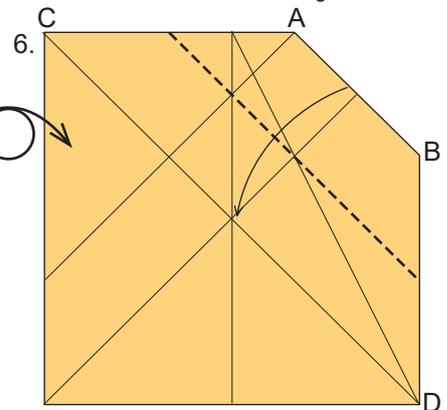
3. Fold between the two circled landmarks, crease and unfold again.



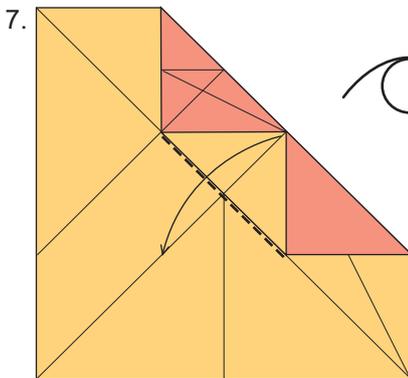
4. Valley fold the corner to the circled landmark.



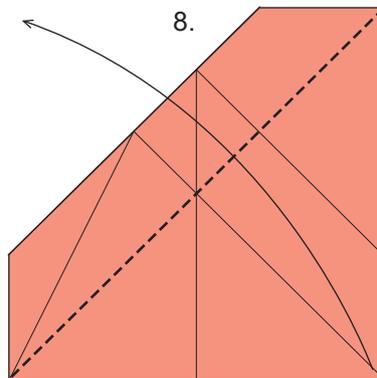
5. Fold and unfold as shown. Corner 'A' should fall exactly on the diagonal crease line AB. Turn paper over.



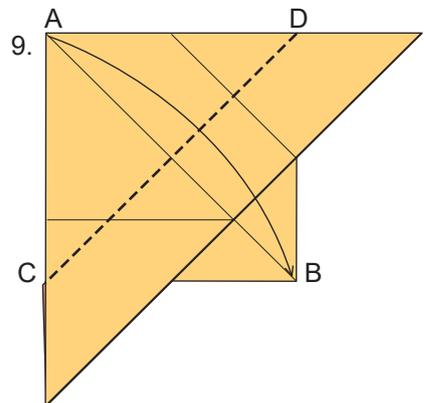
6. Align the edge AB with diagonal crease CD.



7. Unfold the triangular layer in the centre towards the left bottom corner, then turn the paper over.

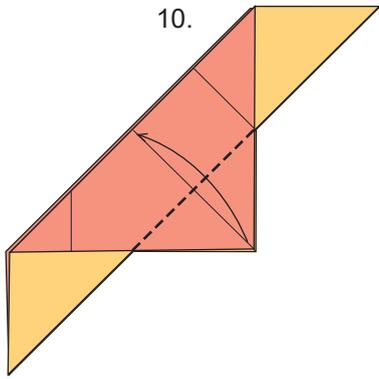


8. Fold one layer diagonally to the top left.



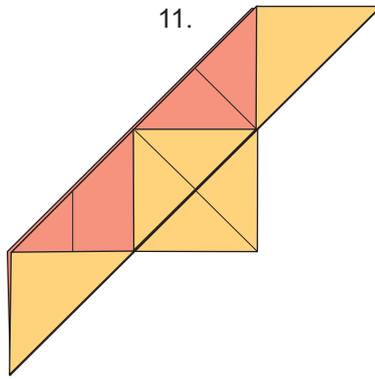
9. Fold Corner A to Corner B, making sure that the resulting valley fold line CD is aligned with the diagonal edge underneath, ...





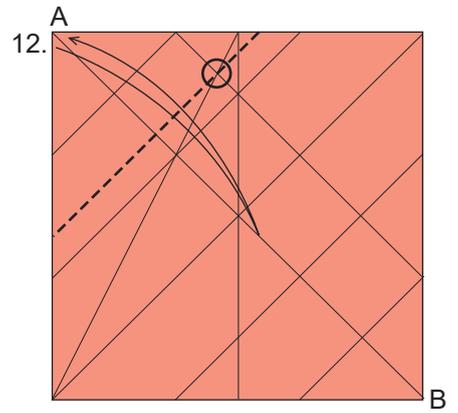
10.

... then valley fold once more, again aligning with the diagonal edge underneath.



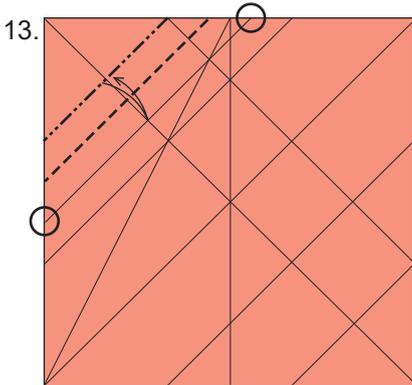
11.

Now unfold completely to the position at the start of step 4, ...



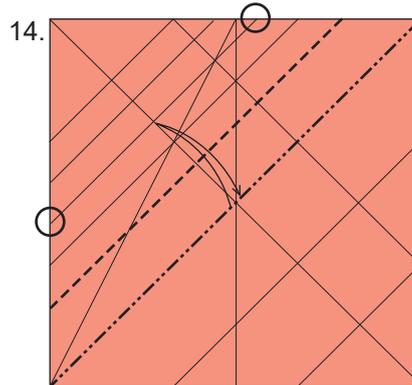
12.

Fold and unfold diagonally as shown, through the circled landmark. Corner A should lie exactly along the diagonal line AB.



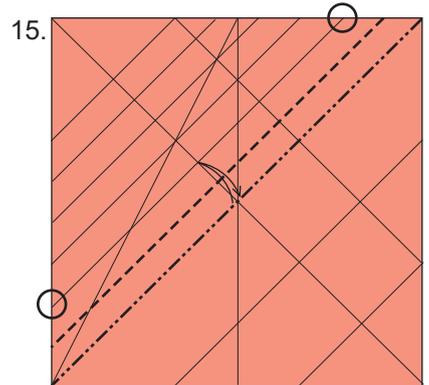
13.

Align the mountain fold line to the line marked by the two circled landmarks, crease, and unfold.



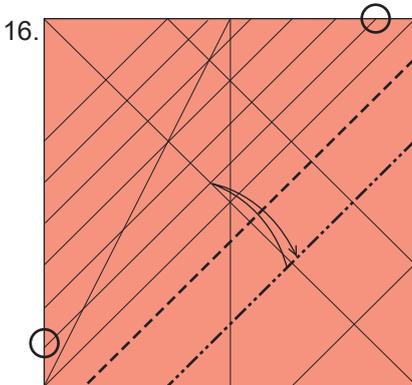
14.

Continue doing the same as illustrated, ...



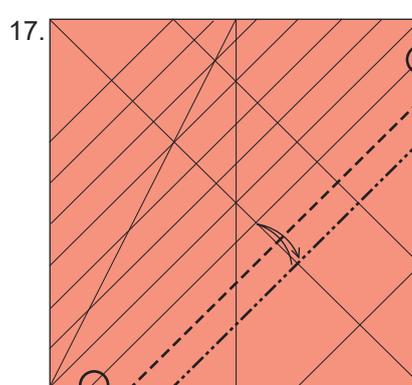
15.

... again, ...



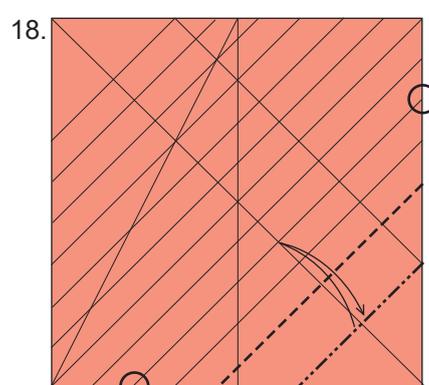
16.

... and again, ...



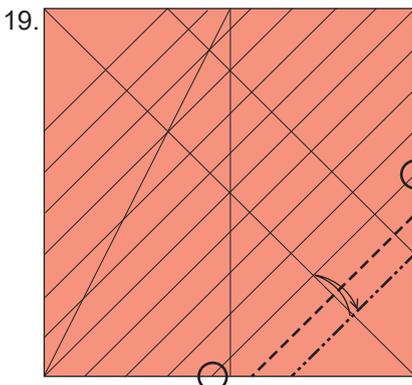
17.

... and again, ...



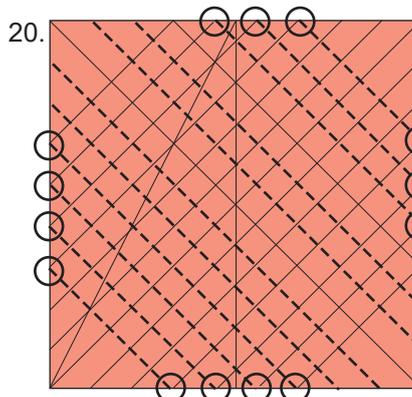
18.

... and again, ...



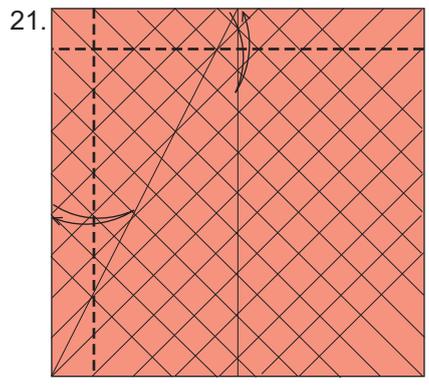
19.

... and again. Each of the diagonal divisions should be exactly 1/18th the length of the diagonal.



20.

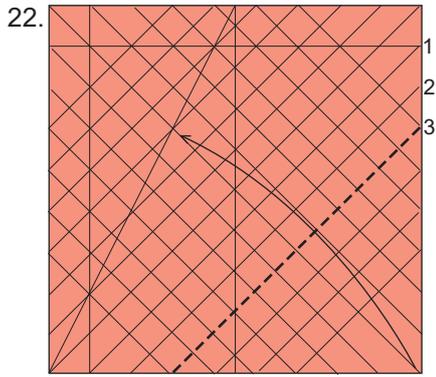
Using the circled landmarks, continue the precreasing in the opposite direction.



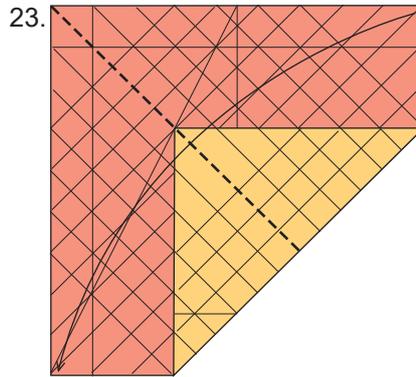
21.

Fold and unfold as illustrated, creasing firmly.

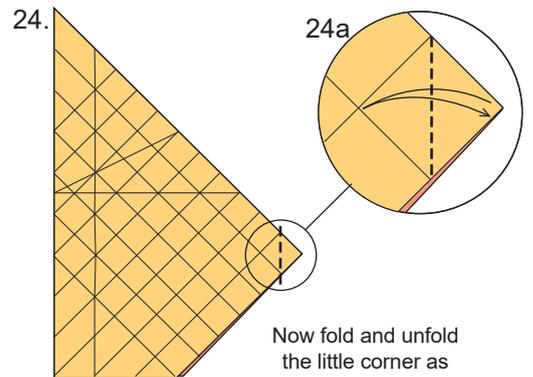




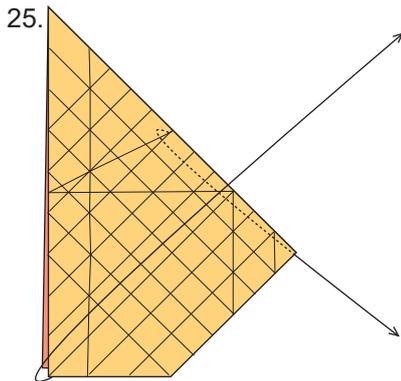
Valley fold, ...



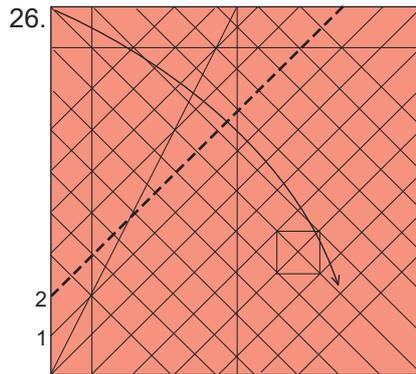
... then fold diagonally in half.



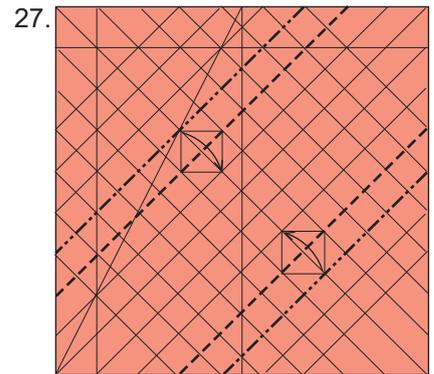
Now fold and unfold the little corner as shown, creasing firmly through all layers, ...



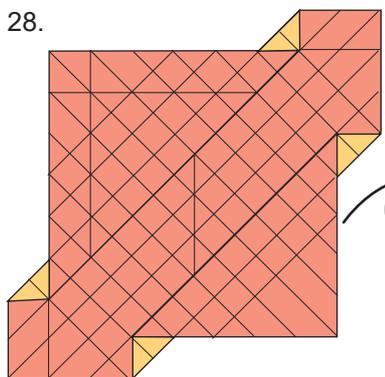
... then open out completely to the position before the start of step 22.



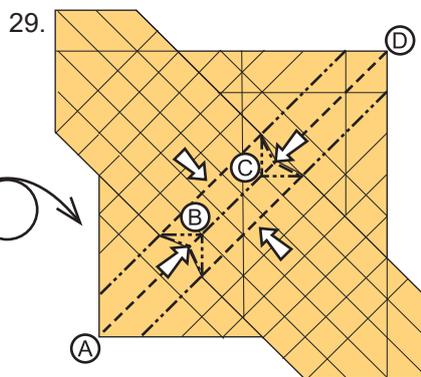
Valley fold, then repeat steps 23 to 25 on this section.



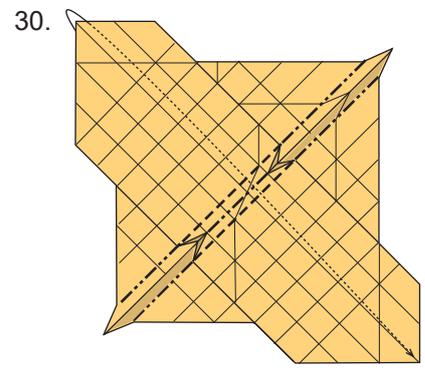
Pleat fold twice, ...



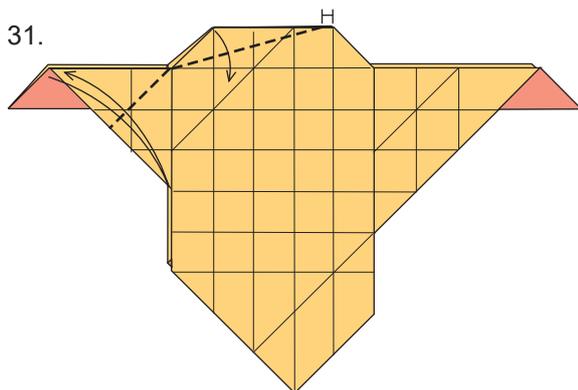
... then turn the paper over.



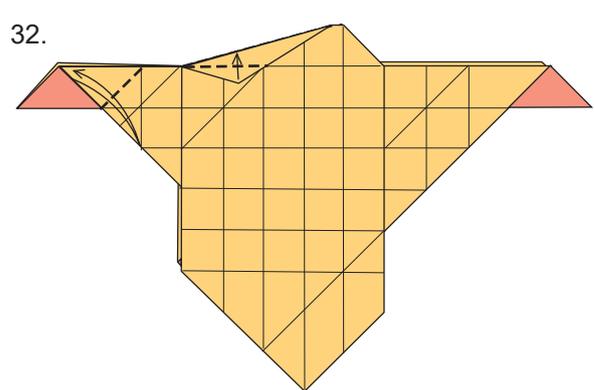
Push in each end of the mountain fold line BC, using the crease lines formed in step 24a and 26. The central diagonal pleats will be drawn together and the valley fold lines AB and CD should be formed as a result, ...



... like this. Now mountain fold the paper in half.

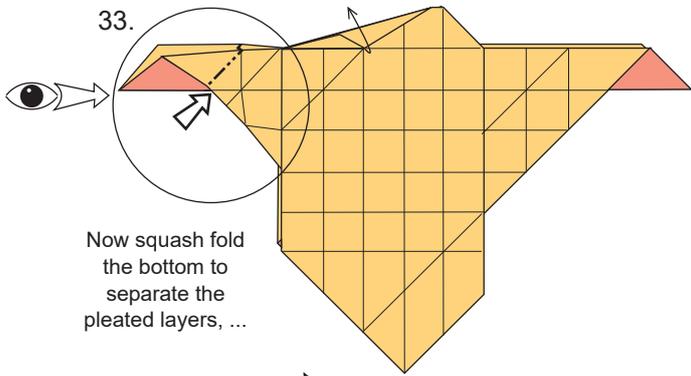


Valley fold at the top, then fold and unfold on the left as shown, creasing firmly through all layers.

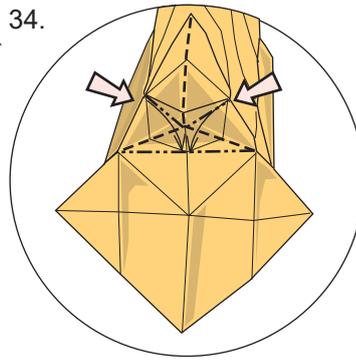


Valley fold at the top, then fold and unfold on the left, creasing firmly.

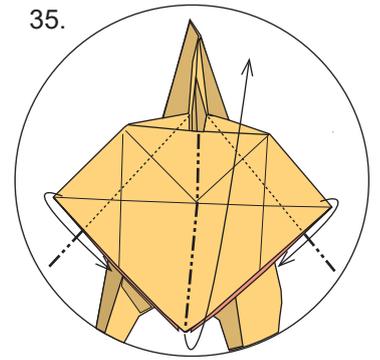




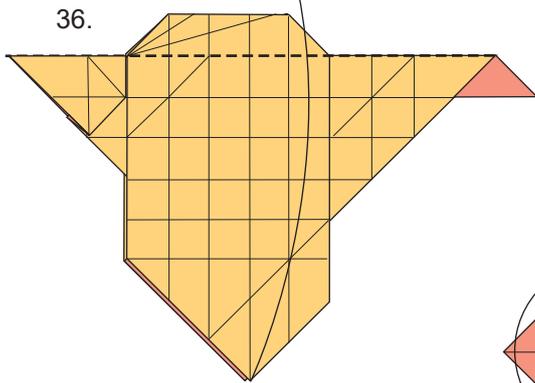
Now squash fold the bottom to separate the pleated layers, ...



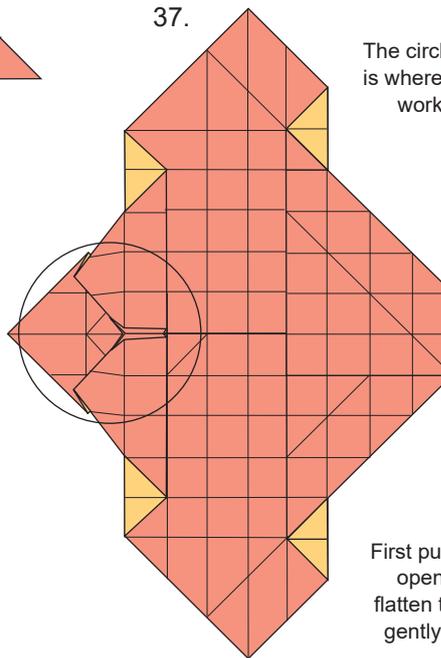
... like this, as seen from the left. Close up as shown, ...



... then lift the bottom corner of this piece up to flatten this section ...

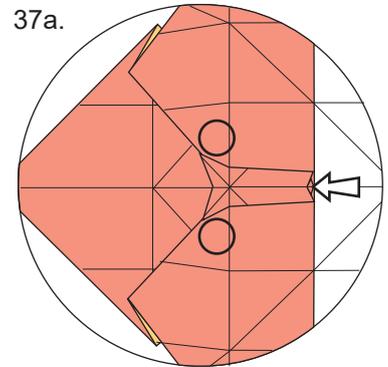


36.



37.

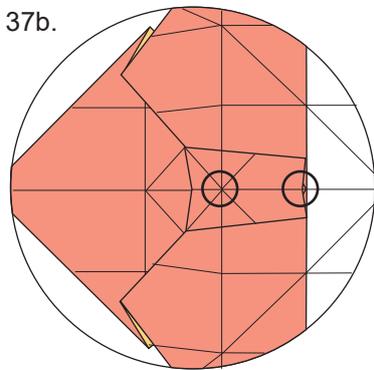
The circled section is where we will be working on.



37a.

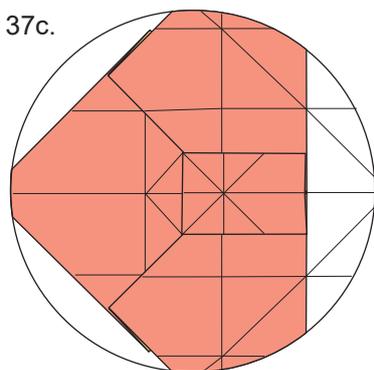
First push in between the vertical layers on the right to open out slightly as indicated by the arrow. Next, flatten the upper and lower sections by pushing down gently at the circled areas, while keeping the layers underneath in position, ...

Steps 37 to 37c are an optional spread-squash, but will make folding a little easier as we proceed. Lift one layer up.



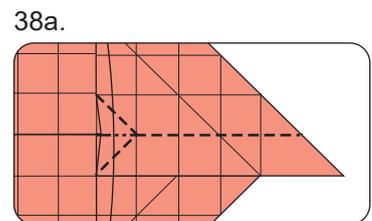
37b.

... like this. Push down around the circled areas to flatten completely, ...



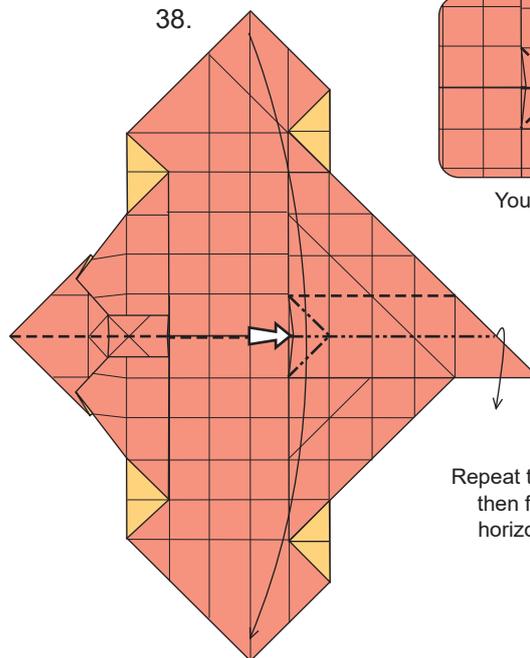
37c.

... until you get this.



38a.

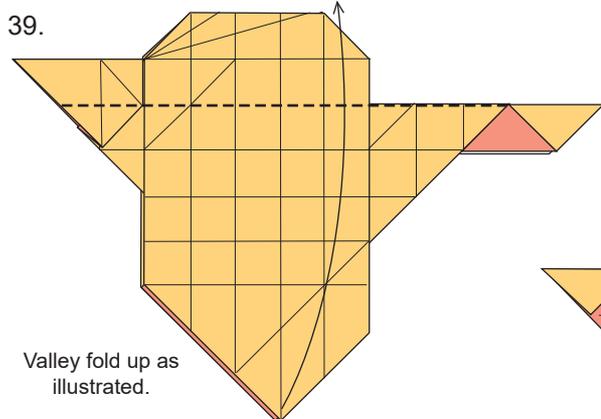
You could precrease step 38 with this step.



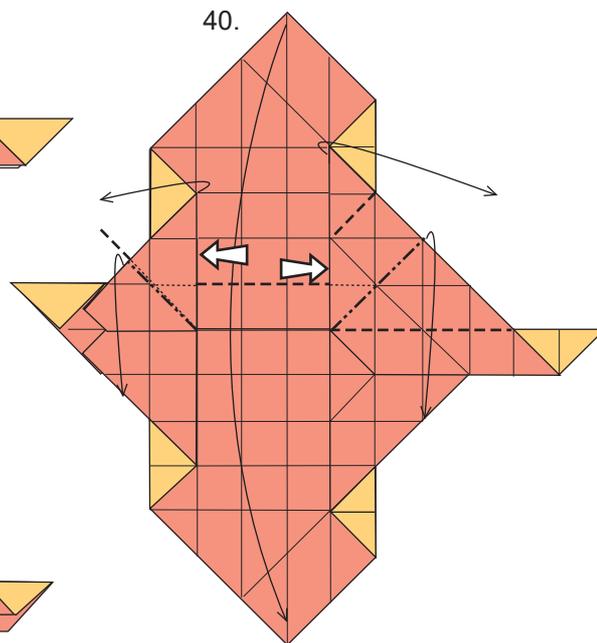
38.

Repeat this step behind, then fold the paper horizontally in half.

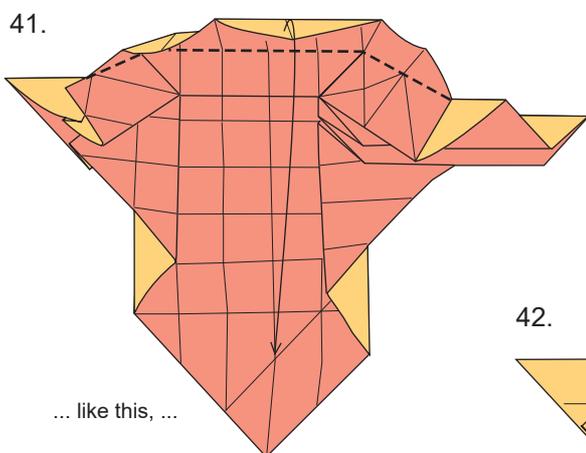




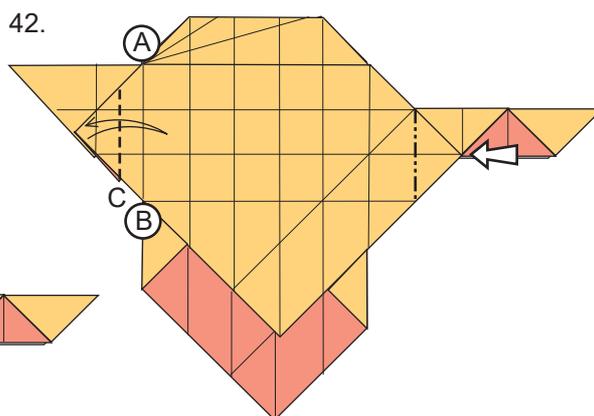
Valley fold up as illustrated.



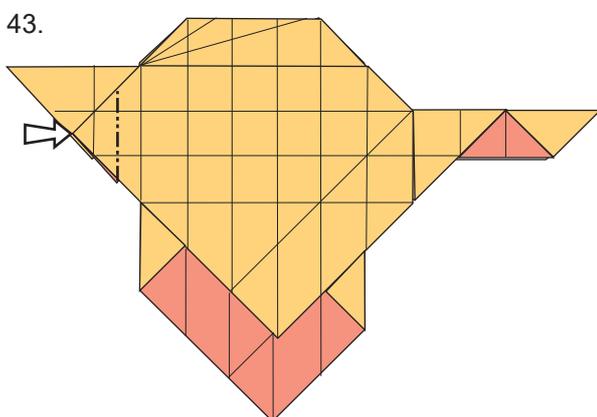
Push the vertical edge on each side outwards as you bring down the flap at the top, ...



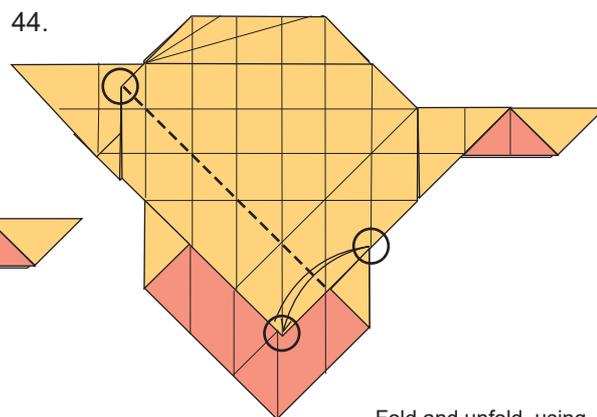
... like this, ...



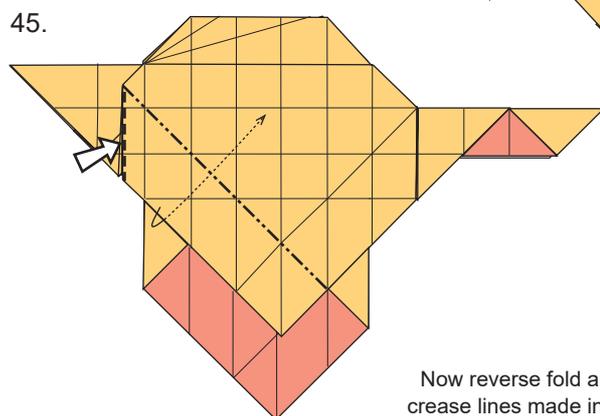
... and this. Fold and unfold on the left, creasing firmly. Note that the valley line should extend as far as the layers at the lower end (C) will allow, and is parallel to crease line AB. Reverse fold on the right.



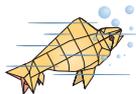
Reverse fold along the crease lines made in Step 42.

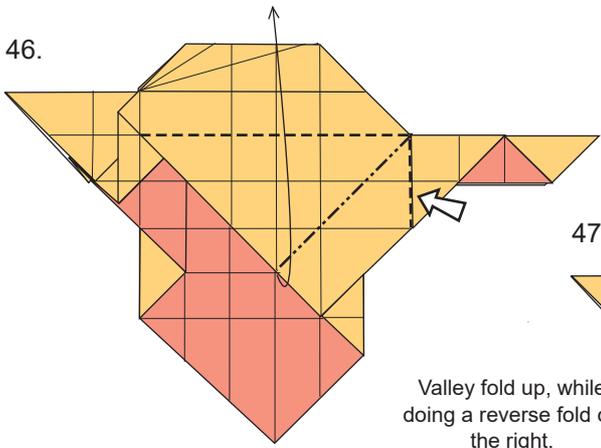


Fold and unfold, using the circled landmarks. Crease firmly.

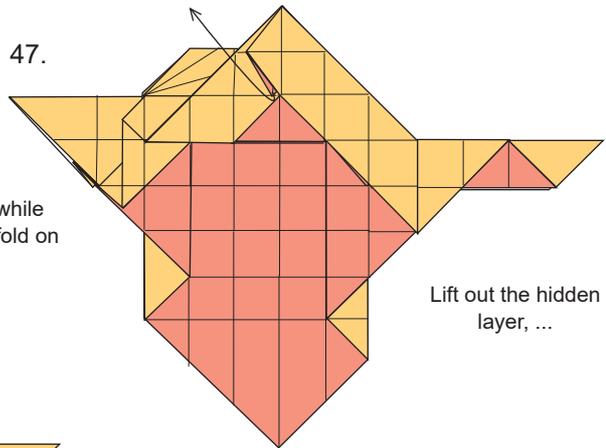


Now reverse fold along the crease lines made in Step 44.

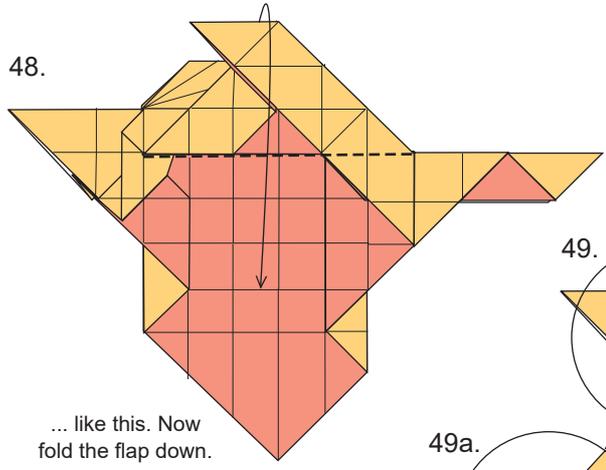




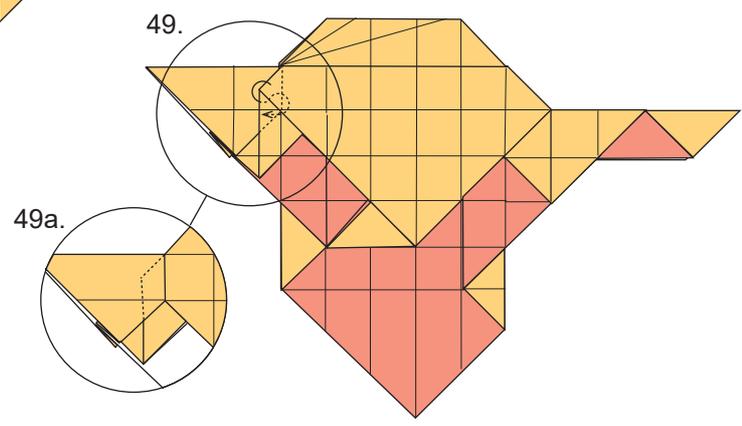
Valley fold up, while doing a reverse fold on the right.



Lift out the hidden layer, ...

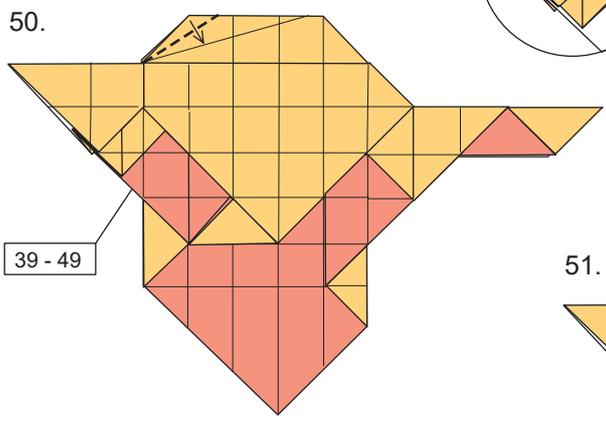


... like this. Now fold the flap down.



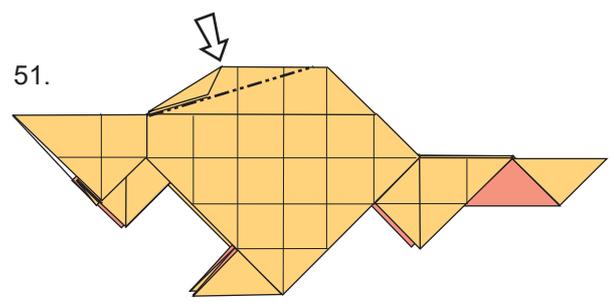
49a.

Now tuck this corner under as shown in step 49a.

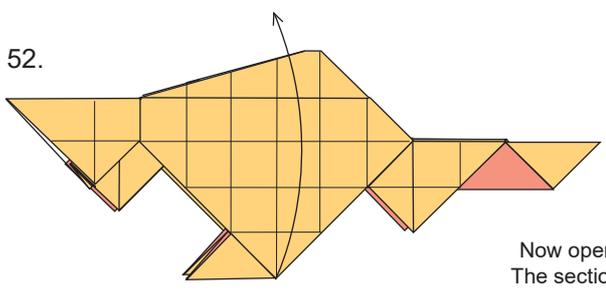


39 - 49

Repeat from step 39 on the other side, then valley fold at the top.

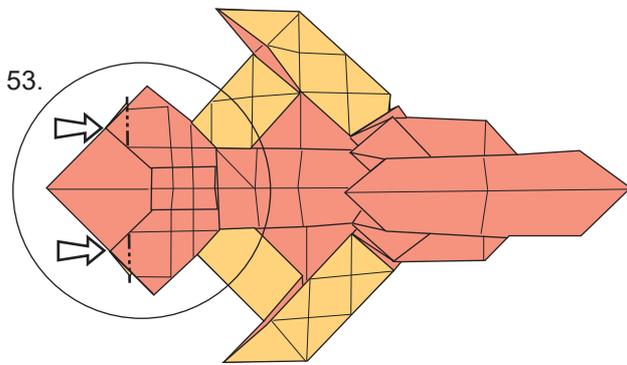


Sink fold along existing crease lines to shape the dorsal fin. Sticking a couple of fingers between the layers from below will help in making the sink easier and neater.

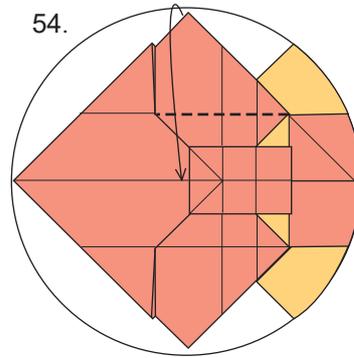


Now open up temporarily. The section on the right will not lie flat.

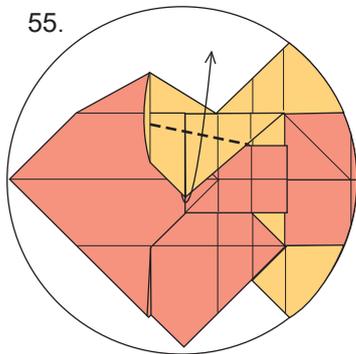




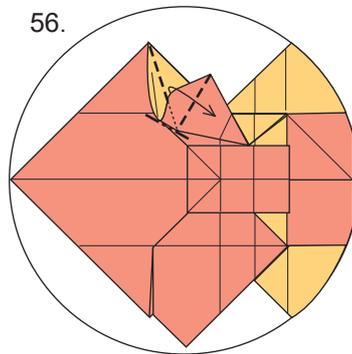
53. We will now work on the tail. First, reverse fold the corners as indicated, ...



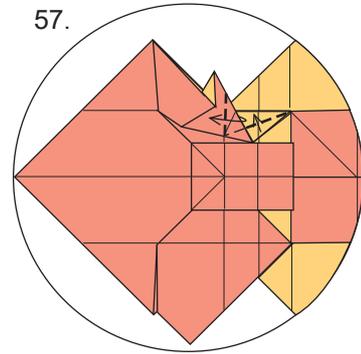
54. Valley fold down, ...



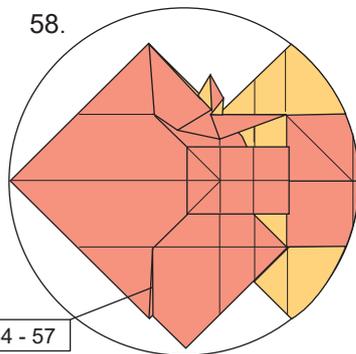
55. ... then up again at the illustrated angle.



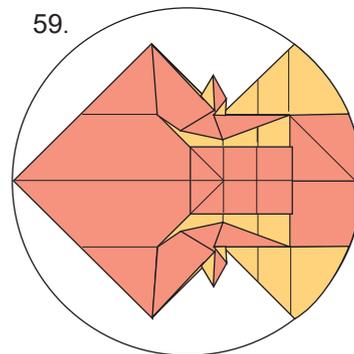
56. Narrow as shown, ...



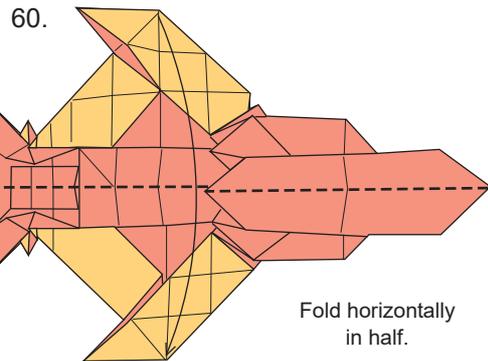
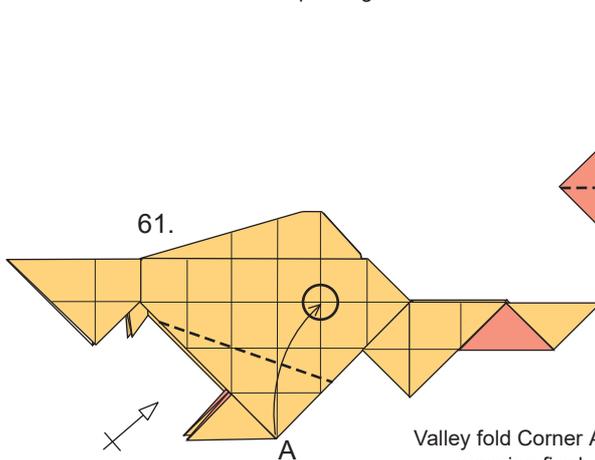
57. ... and a little more.



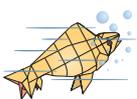
58. Repeat steps 54 to 57 on the corresponding section below.

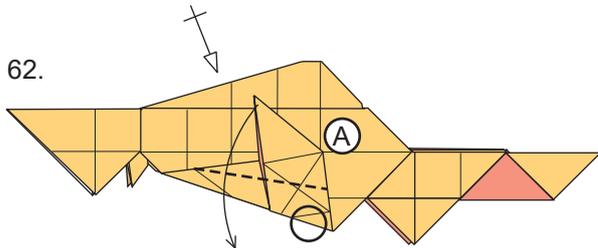


59. Section done.

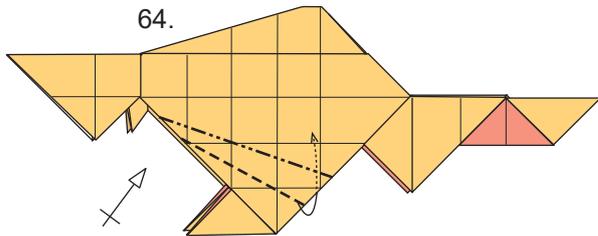


61. Valley fold Corner A to the circled landmark, creasing firmly, then repeat behind.

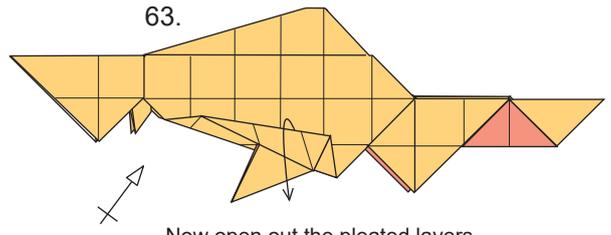




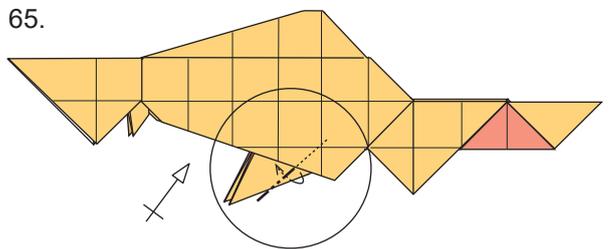
Valley fold Corner A to the the circled area.
Repeat on the other side.



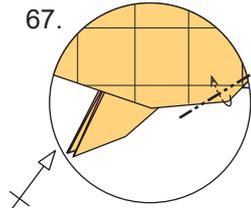
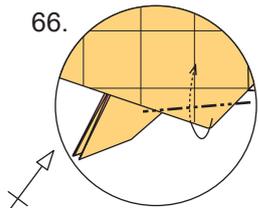
... then mountain and valley fold both sides along the crease lines to hide the excess paper within the body, ...



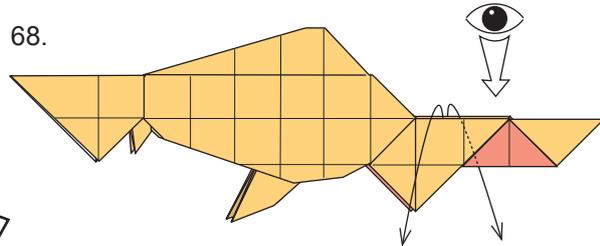
Now open out the pleated layers at the belly, ...



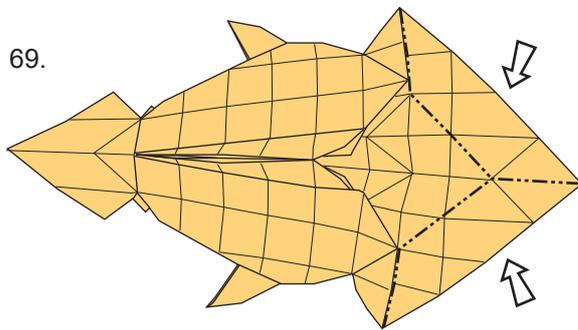
Narrow the base of both fins with mountain folds, ...



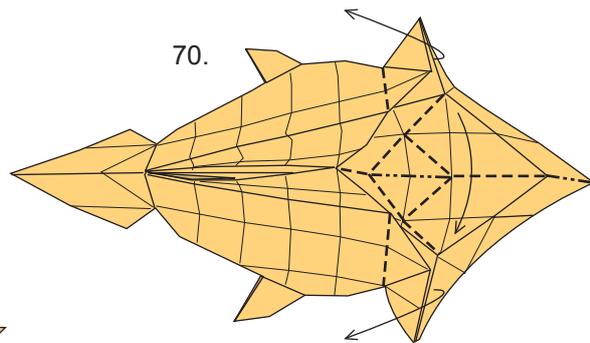
... then shape both sides of the body as illustrated above.



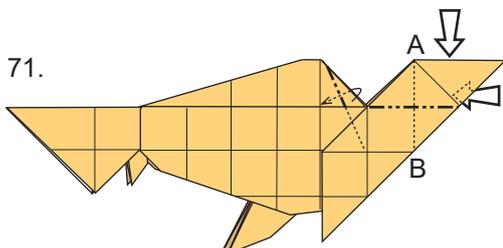
Open up and separate the pleats on the right. The next step will show a view of the model from the top of the head piece.



Form the mountain fold lines as illustrated, then begin closing up again, ...

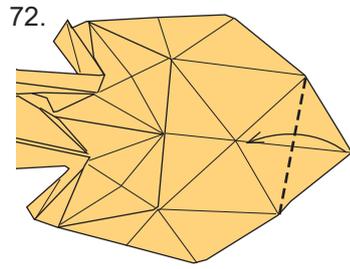


... like this, forming the valley and mountain fold lines as you bring the head piece up towards the dorsal fin.

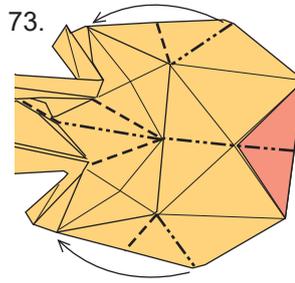


First, mountain fold both layers at the front of the dorsal fin within itself. Next, push the hidden edge AB from between the layers on the right to flatten the top of the head piece, ...

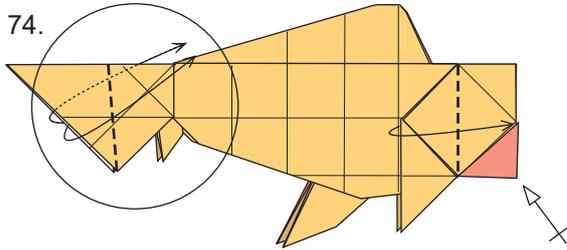




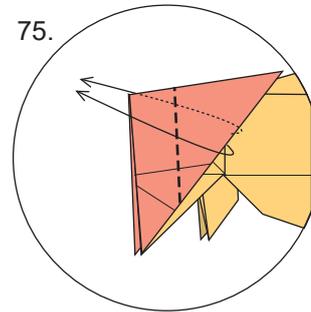
Valley fold, ...



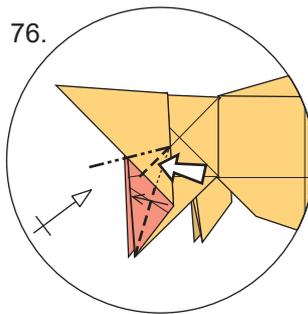
... then flatten as shown, ...



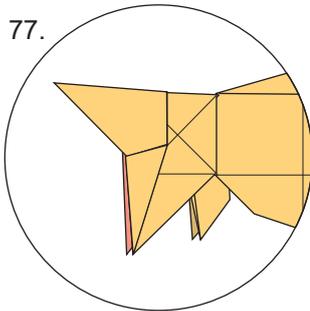
... like this. Outside reverse fold the tail and valley fold all layers on both sides of the head.



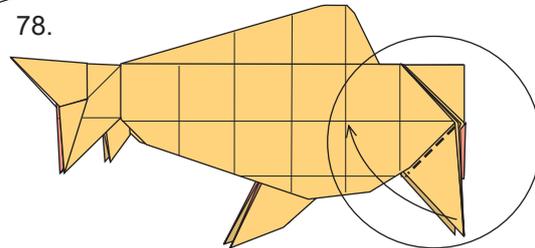
Outside reverse fold the tail piece again, ...



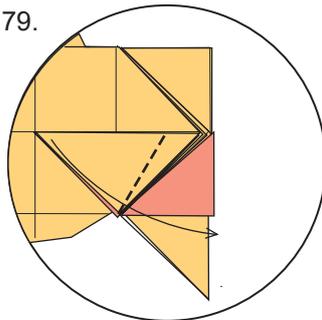
... and crimp fold as illustrated.



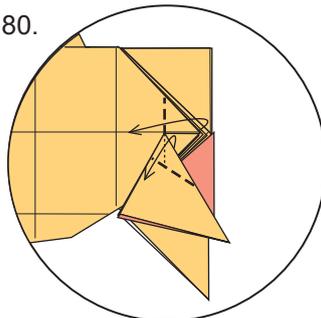
This is what the completed tail should look like.



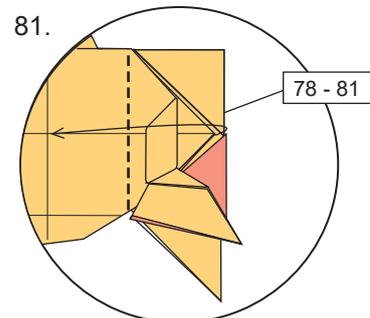
Valley fold one flap up, ...



... then down again as shown.

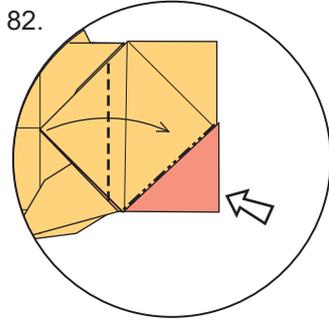


Do the lower valley fold first, followed by the vertical valley fold immediately behind.

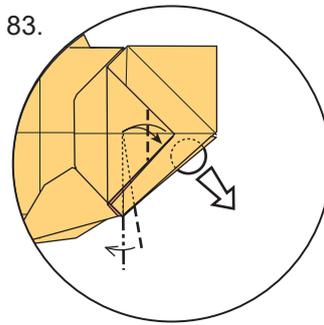


Repeat from step 78 on the other side, then swivel both flaps on each side towards the tail.

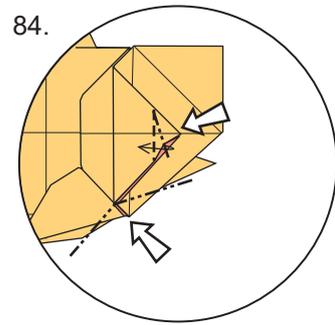




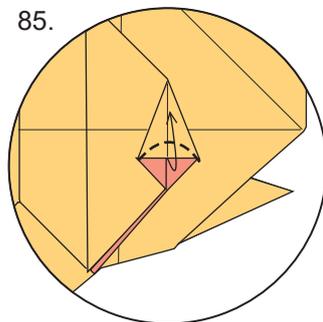
82. Reverse fold the white area and valley fold the flaps on both sides of the head.



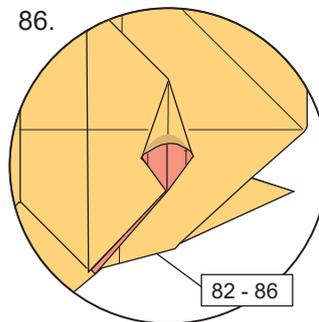
83. Pull the lower jaw down a little, then valley fold the flap on both sides of the head again as illustrated.



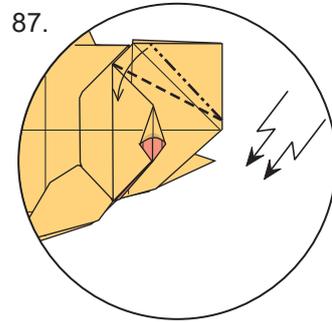
84. Squash fold to form the eye, then mountain fold the base of the lower jaw. Repeat behind.



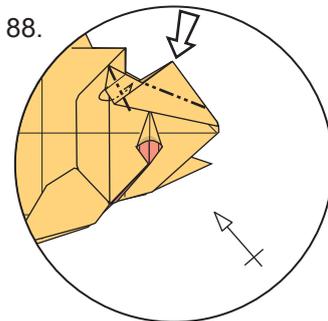
85. Lift this layer up with a crescent-shaped valley fold.



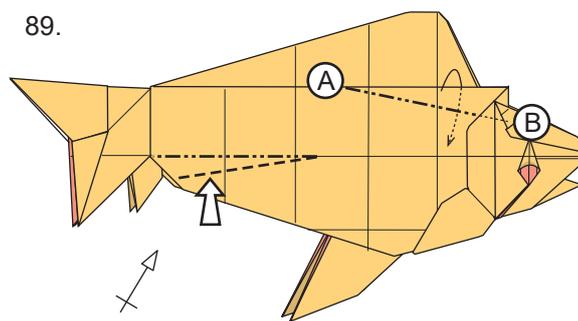
86. Repeat behind.



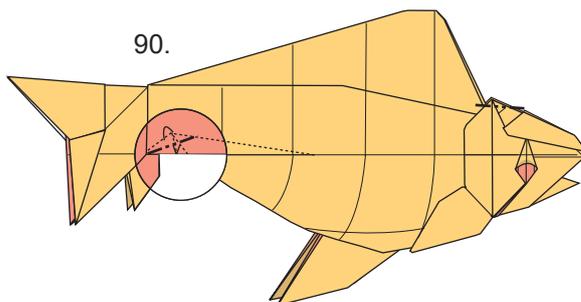
87. Crimp fold both sides as shown, ...



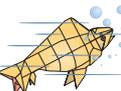
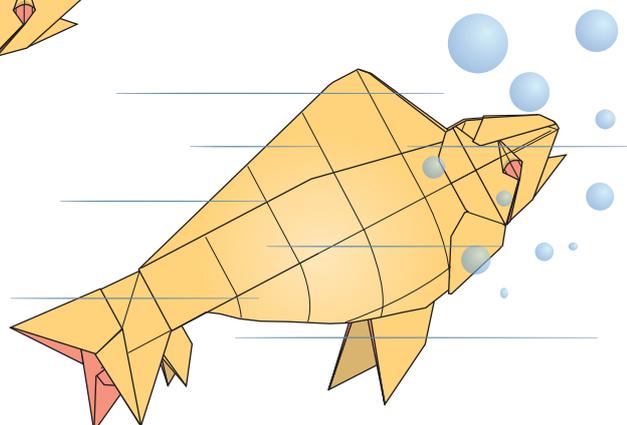
88. ... then sink the crown and mountain fold the corners on both sides of the head.

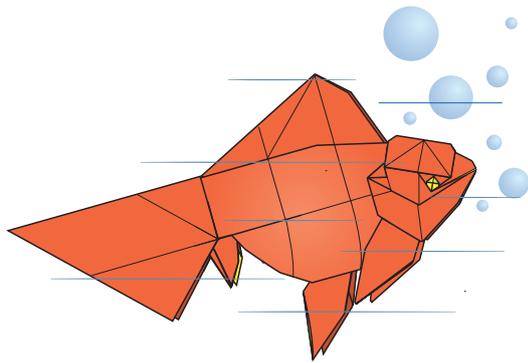


89. First, mountain fold along line AB to hide the excess paper. That done, crimp fold the body as illustrated. Repeat on the other side.



90. Lock the crimp in place with a mountain fold within the body, then mountain fold the corner at the crown of the head. Repeat behind to complete the Wakin.



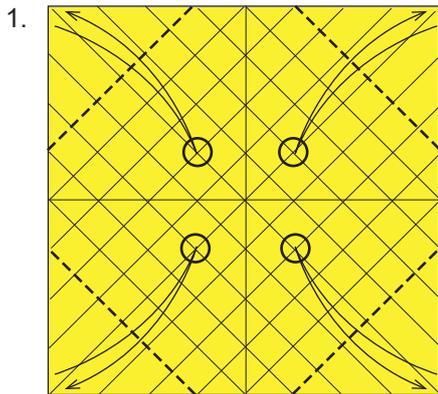
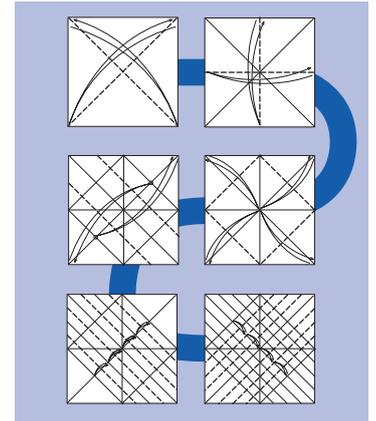


Paper:

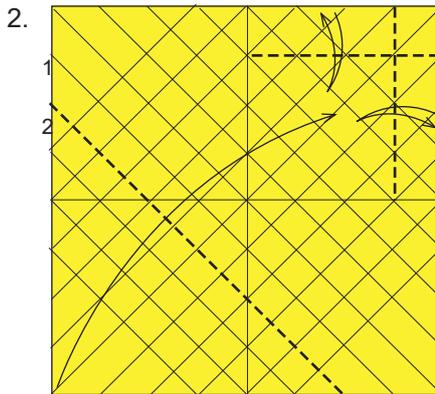
- Duo Kami 24x24 cm
- Sandwich 23x23 cm
- Tissue-foil 24x24 cm
- Biotope 35x35 cm

Ratio: 0.44

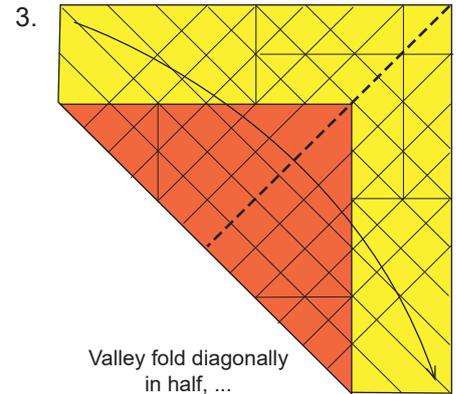
Begin from Step 6 of the Ryukin Version 2 page 26



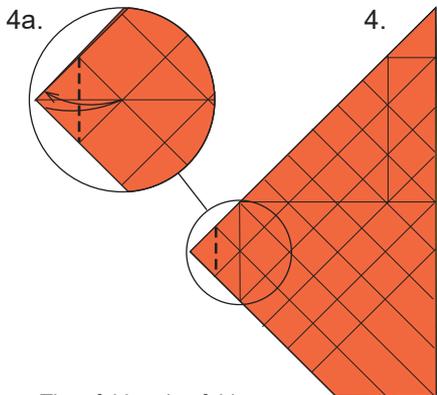
1. Fold and unfold each of the four corners to the circled landmarks to create additional crease lines.



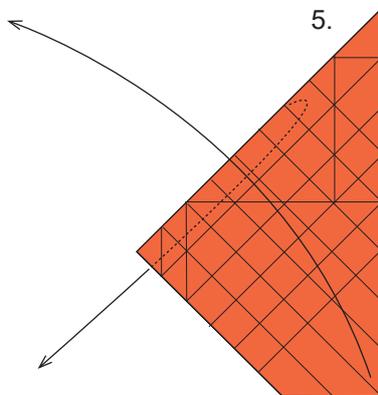
2. First, fold and unfold twice in the top right quadrant, then valley fold the bottom left corner as illustrated.



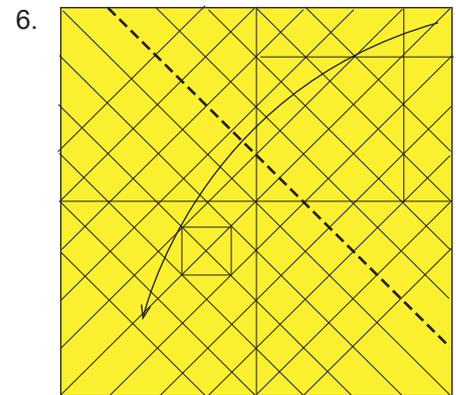
3. Valley fold diagonally in half, ...



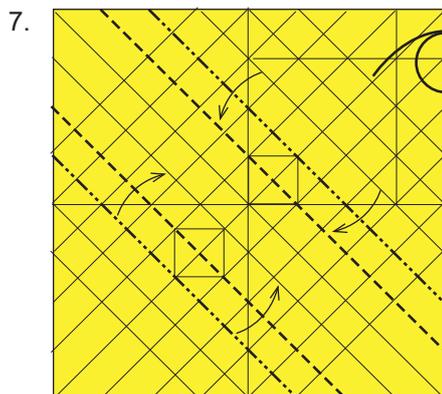
4a. ... Then fold and unfold the little corner, creasing firmly through all layers.



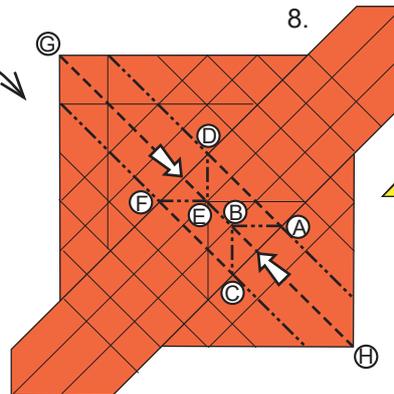
5. Open out completely, ...



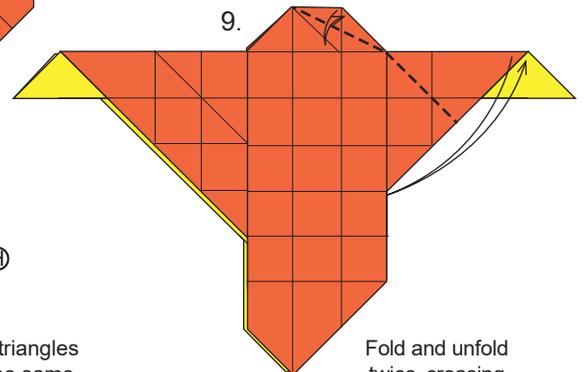
6. ... valley fold as shown, and repeat Steps 3 to 5.



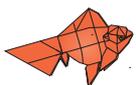
7. Now pleat fold twice as shown, turn paper over, ...

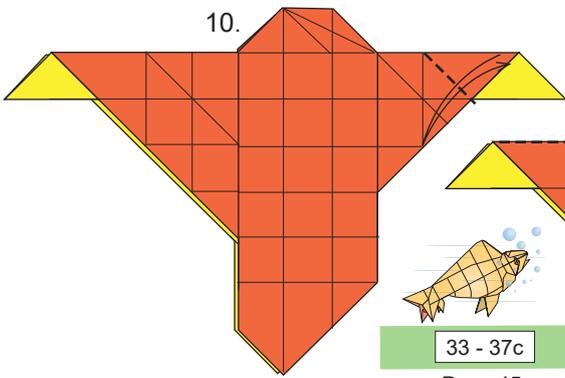


8. ... and push the edges along the base of triangles ABC and DEF, to collapse the paper in the same way as Steps 29 to 30 of the Wakin Goldfish.



9. Fold and unfold twice, creasing firmly, ...





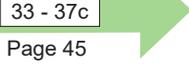
10.

33 - 37c

Page 45

... and fold and unfold again, then fold through Steps 33 to 37c of the Wakin Goldfish page 45.

Fold one flap up, and fold through Steps 38 and 39 of the Wakin page 45. That done, repeat on the other side.



38 - 39

Page 45

Fold one flap up, and fold through Steps 38 and 39 of the Wakin page 45. That done, repeat on the other side.



33 - 37c

Page 45

... and fold and unfold again, then fold through Steps 33 to 37c of the Wakin Goldfish page 45.



38 - 39

Page 45

Fold one flap up, and fold through Steps 38 and 39 of the Wakin page 45. That done, repeat on the other side.



33 - 37c

Page 45

... and fold and unfold again, then fold through Steps 33 to 37c of the Wakin Goldfish page 45.



38 - 39

Page 45

Fold one flap up, and fold through Steps 38 and 39 of the Wakin page 45. That done, repeat on the other side.



33 - 37c

Page 45

... and fold and unfold again, then fold through Steps 33 to 37c of the Wakin Goldfish page 45.



38 - 39

Page 45

Fold one flap up, and fold through Steps 38 and 39 of the Wakin page 45. That done, repeat on the other side.



33 - 37c

Page 45

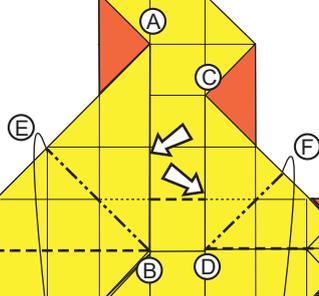
... and fold and unfold again, then fold through Steps 33 to 37c of the Wakin Goldfish page 45.

11.

12.

13.

14.



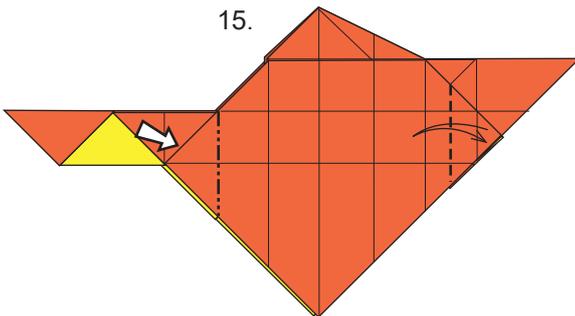
Spread the pleated layers out by pushing along edges AB and CD, while swivelling points E and F downwards, ...

12-14

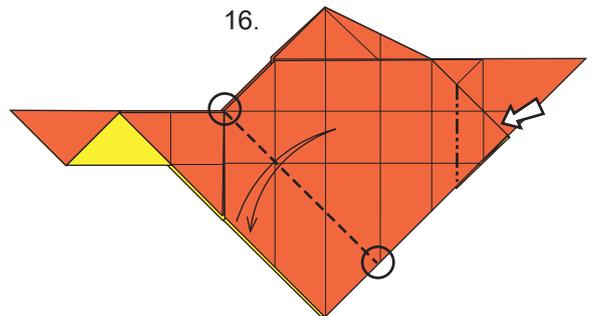
... like this. Repeat from Step 12 on the other side, without the sink.

15.

16.



Now fold and unfold on the right, creasing well, then reverse fold on the left.



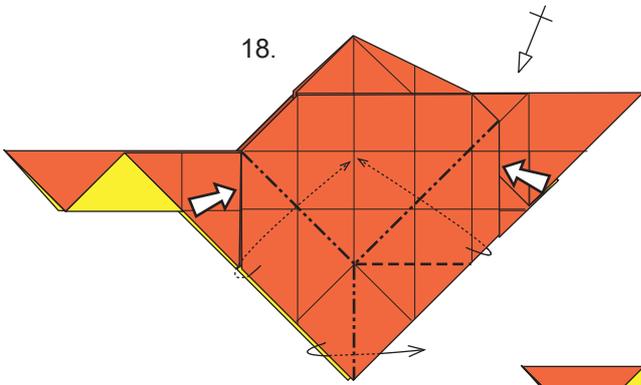
Reverse fold on the right, then fold and unfold on the left through the circled landmarks, creasing firmly.

17.

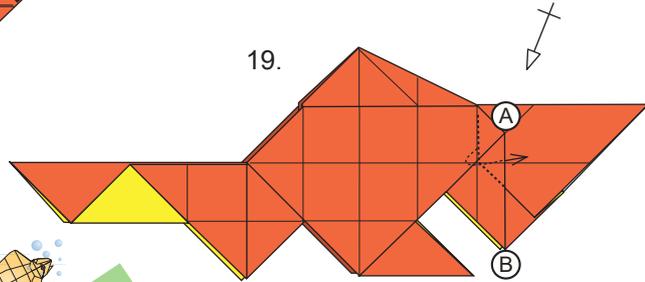
Fold and unfold, creasing firmly again. Repeat from Step 15 on the other side.

15-17

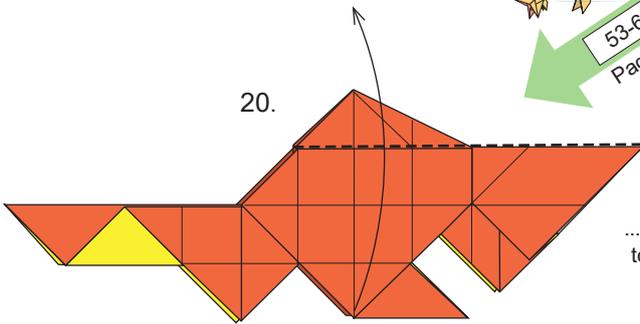




Reverse fold both sides as diagrammed, swivelling the resulting tab at the bottom to the right.

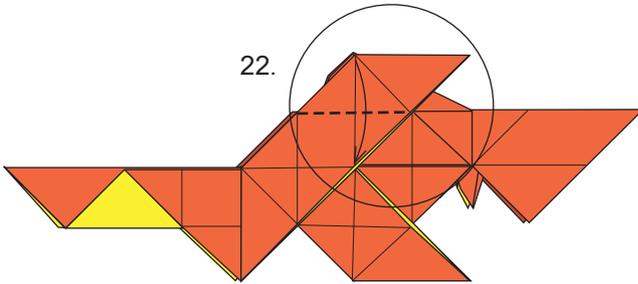
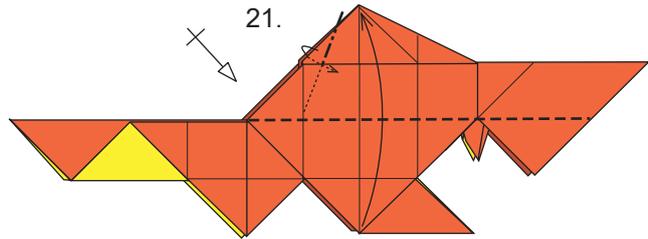


Lift out the hidden layer at the base of the tail over the edge AB, ...

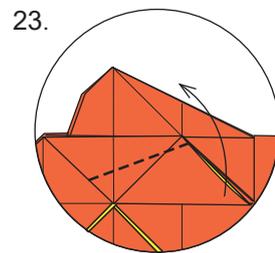


... then lift up one flap and complete the tail according to Steps 53 to 60 of the Wakin goldfish page 48.

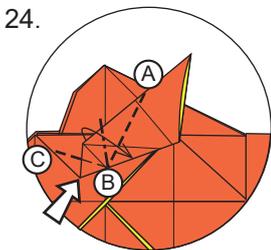
Shape the front of the dorsal fin with mountain folds on each side, tucking the excess paper within the pocket. That done, lift one flap up again as illustrated.



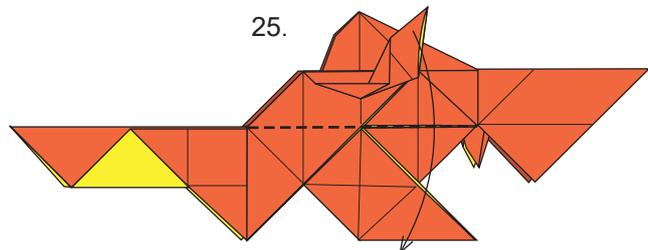
Valley fold down, ...



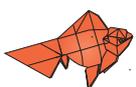
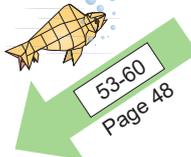
... then up again.

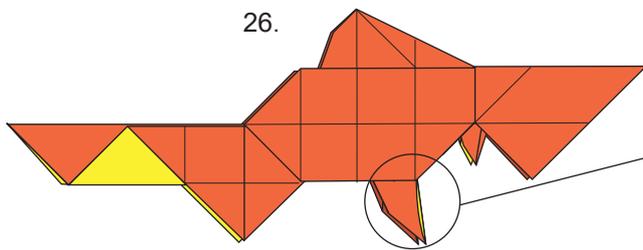


Valley fold along line AB first. This will cause a pocket to be formed on the left along line BC, ...

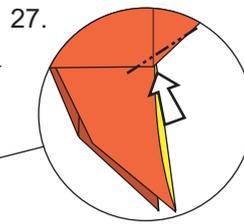


... like this. Bring down this flap and repeat from Step 21 on the other side of the body.

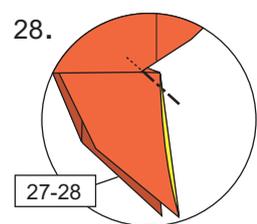




26.



27.



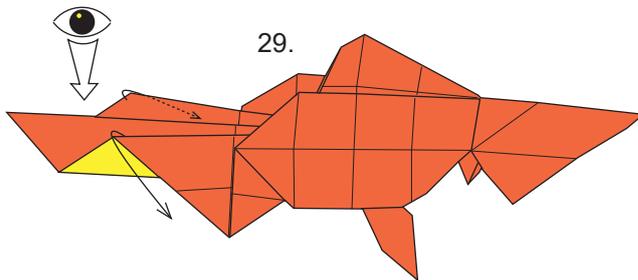
28.

27-28

Sink this corner, ...

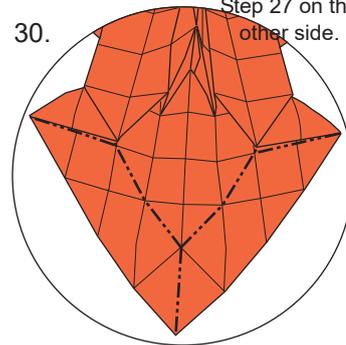
... then mountain

fold to finish the fin. Repeat from Step 27 on the other side.



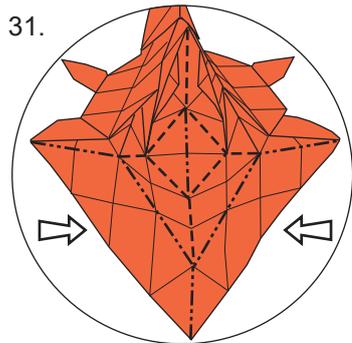
29.

Open up the pleated layers on the left, ...



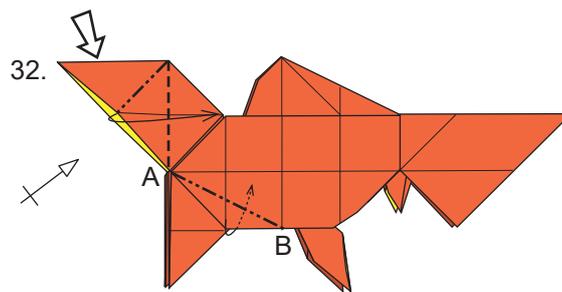
30.

... shape the mountain fold lines along existing creases, ...



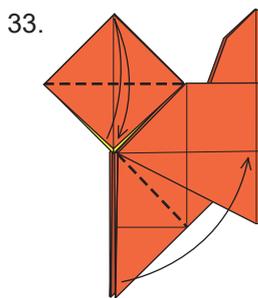
31.

... then flatten according to the illustrated mountain and valley fold lines, ...



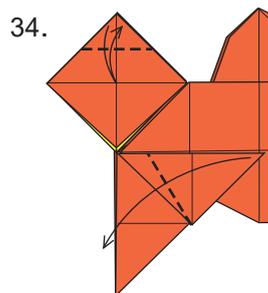
32.

... like this. Squash fold on the top left, and mountain fold along line AB on both sides to hide the excess paper within the body.



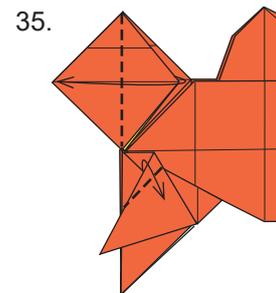
33.

We will now shape the head and pectoral fin like this, ...



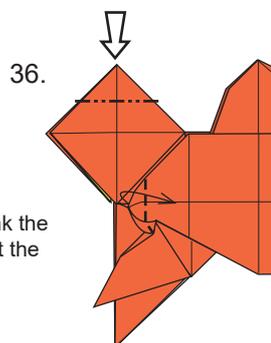
34.

... and this, ...



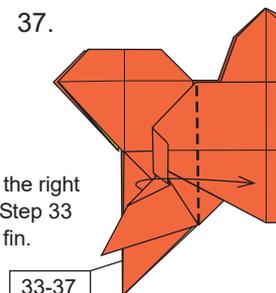
35.

... and so on, ...



36.

... and on. Open sink the triangular corner at the top left.

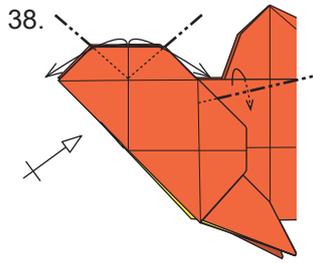


37.

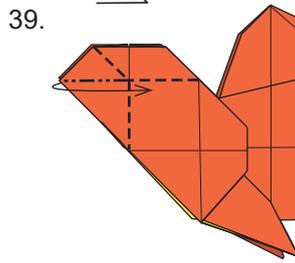
Swivel this flap to the right and repeat from Step 33 on the other fin.

33-37

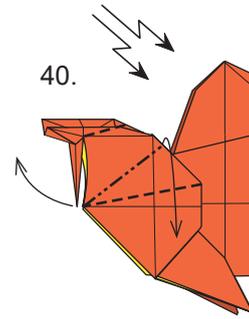




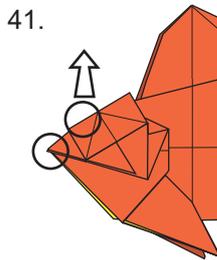
38. Reverse fold the hidden layers on the top left, then mountain fold both sides of the body as shown.



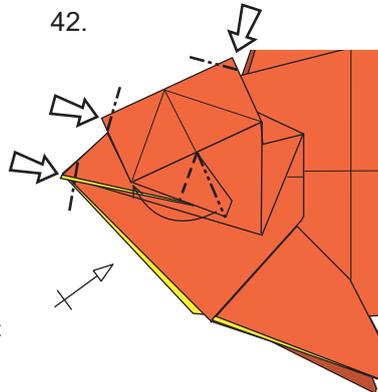
39. Swivel the corners to each side as illustrated, ...



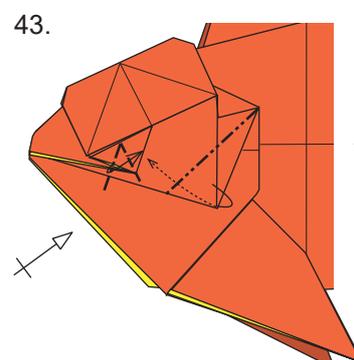
40. ... flattening the top, then crimp fold both sides of the head, ...



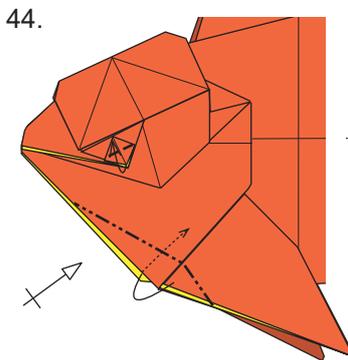
41. ... like this. Hold the model at the circled areas and pull the crown very slightly upwards.



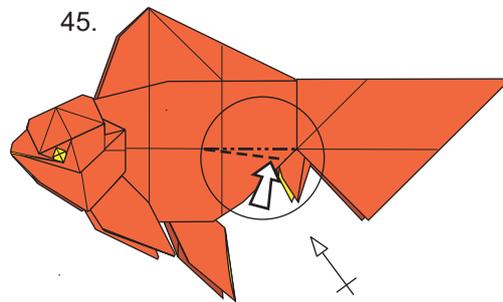
42. Sink each of the three indicated corners. Swivel the little tabs in the middle of both sides to the left as shown.



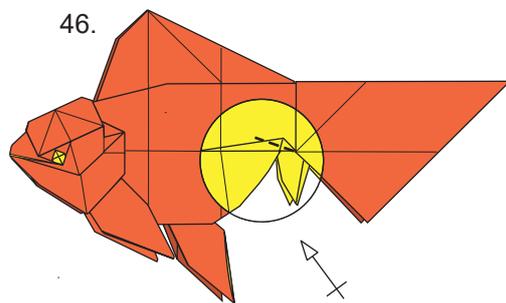
43. Shape the side of the head with a mountain fold, then separate one layer of the little tab to the right and squash fold. Repeat on the other side.



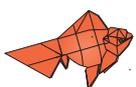
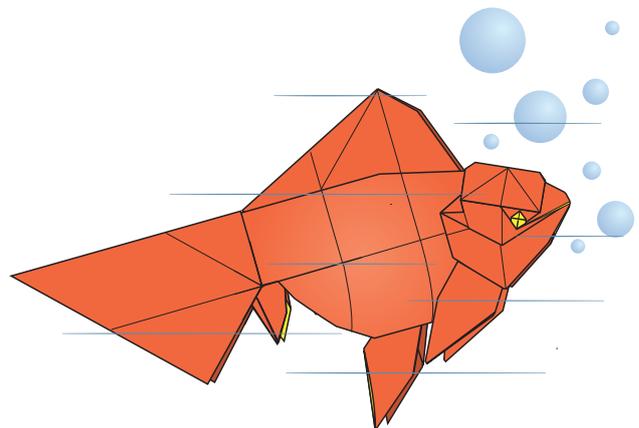
44. Effect a colour change of the eye with a valley fold. Mountain fold the fin and base of the head. Repeat behind.

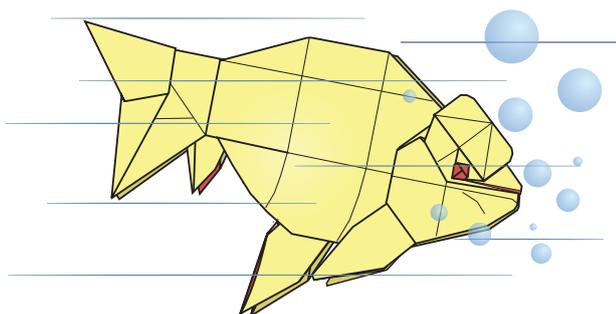


45. Round out the body with crimps on both sides, ...



46. ... and lock the crimps in place with valley folds within the body.



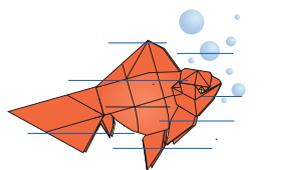
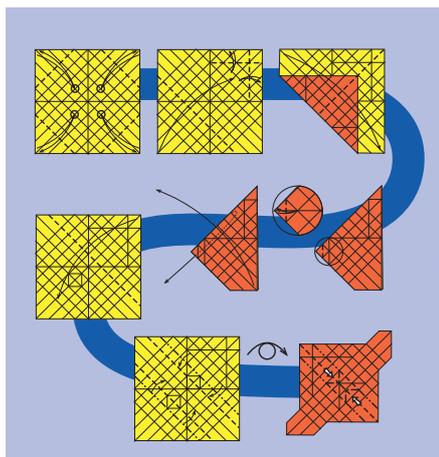


Paper:

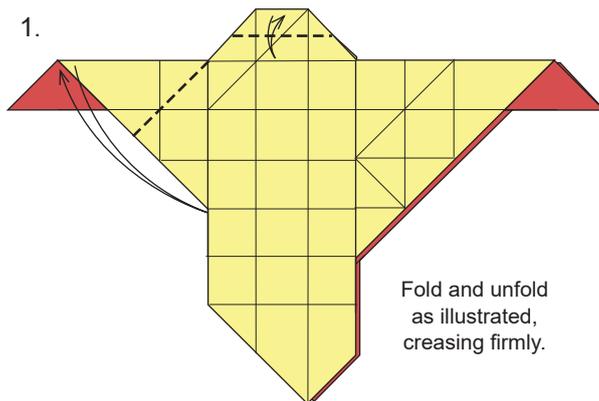
- Duo Kami 24x24 cm
- Sandwich 23x23 cm
- Tissue-foil 24x24 cm
- Biotope 35x35 cm

Ratio: 0.46

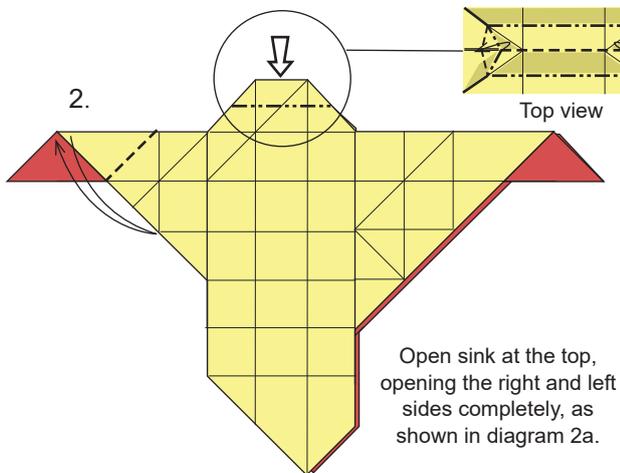
The Ranchu is about as close to a living, swimming tennis ball as a goldfish can get. The more spherical the fish is, the more it is prized. Other desired characteristics are the jelly-like plume of its crown, and the vibrancy of its colour.



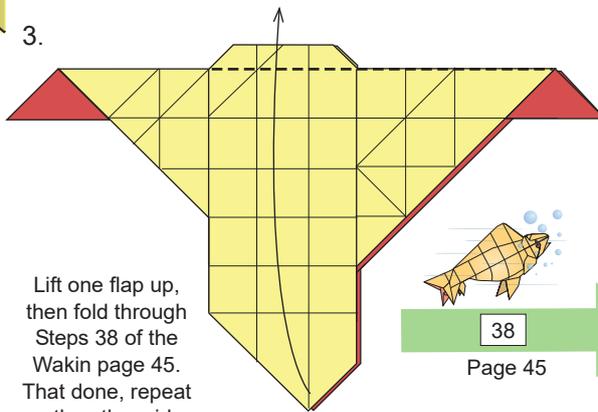
Begin from step 8 of the Oranda page 52.



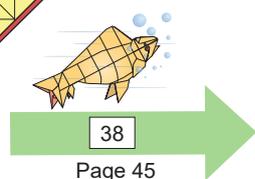
Fold and unfold as illustrated, creasing firmly.



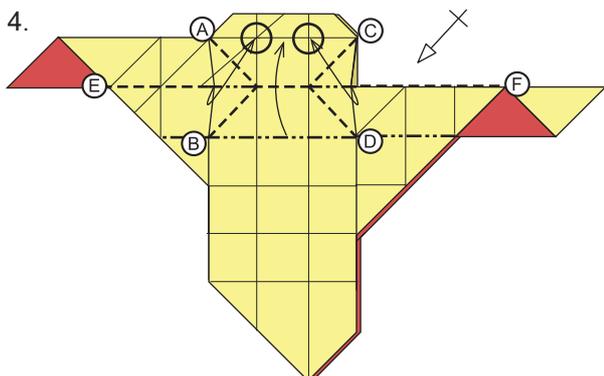
Open sink at the top, opening the right and left sides completely, as shown in diagram 2a.



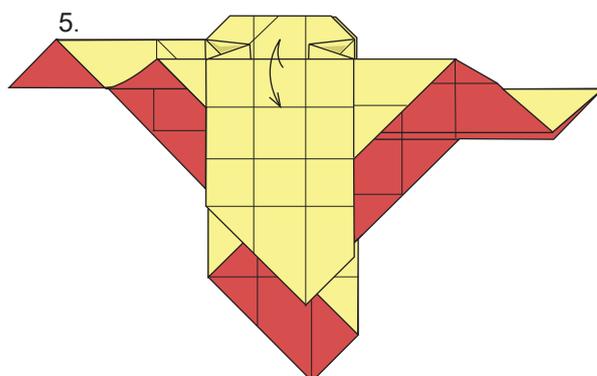
Lift one flap up, then fold through Steps 38 of the Wakin page 45. That done, repeat on the other side.



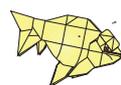
Page 45

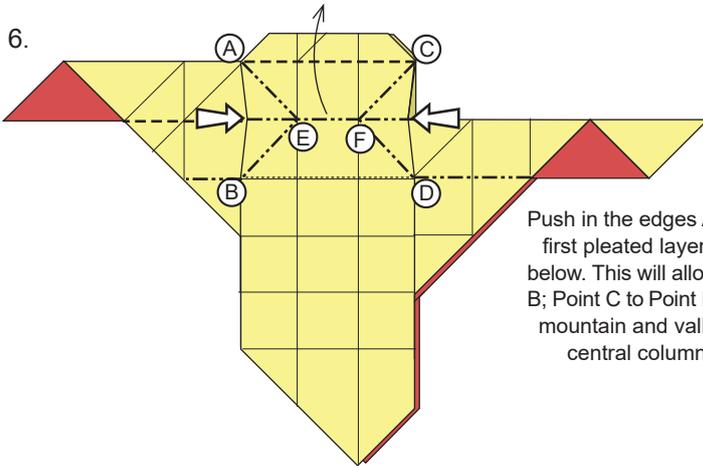


Now swivel one flap up along line EF, at the same time lifting edges AB and CD such that the middle of these edges lie on the respective circled landmarks. Repeat Step 4 on the other side.

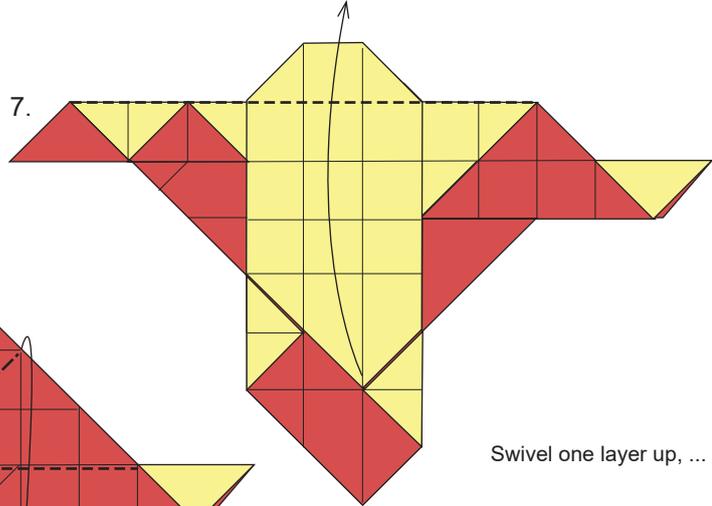
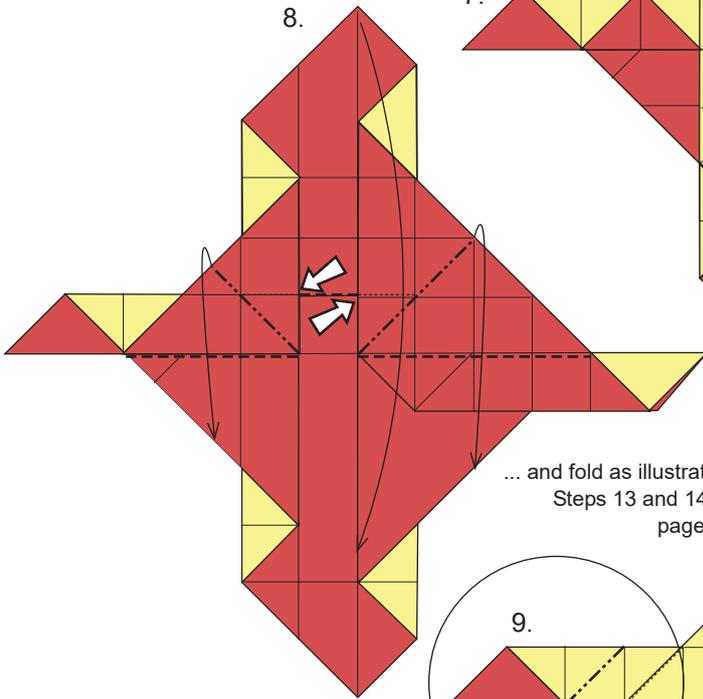


Press flat, crease firmly, and unfold.



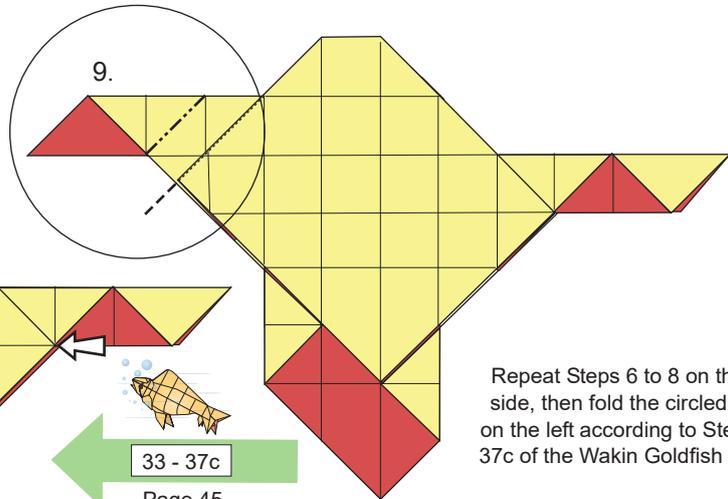
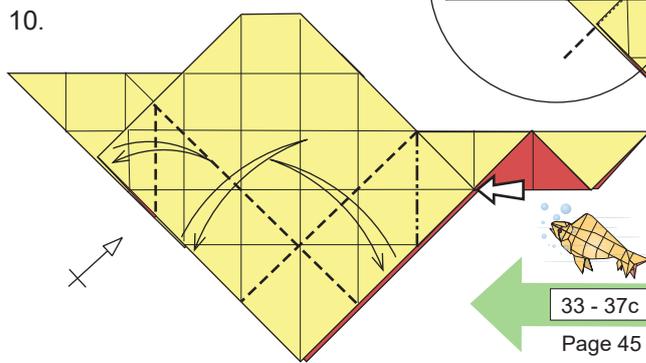


6. Push in the edges ABE and CDF, separating the first pleated layer from the layer immediately below. This will allow you to bring Point A to Point B; Point C to Point D, and edge EF upwards. The mountain and valley folds on each side of the central columns should follow naturally.



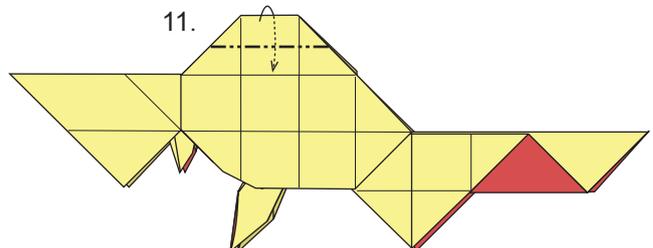
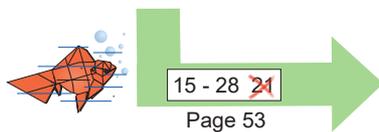
7. Swivel one layer up, ...

... and fold as illustrated. This is similar to Steps 13 and 14 of the Oranda page 53.



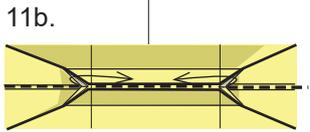
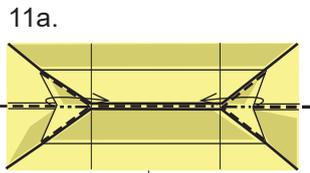
Repeat Steps 6 to 8 on the other side, then fold the circled section on the left according to Steps 33 to 37c of the Wakin Goldfish page 45.

Fold through Steps 15 to 28 of the Oranda, except the fold on the dorsal fin at Step 21. Please note that the above illustration is transposed left to right from Figure 15 page 53 of the Oranda. Repeat behind.

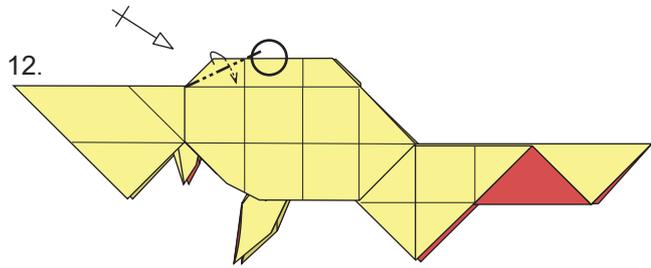


11. Mountain fold as illustrated, repeating on the other side. The excess paper should be mountain folded in between the sink fold made in Step 2.

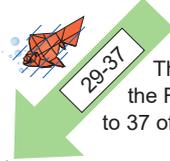




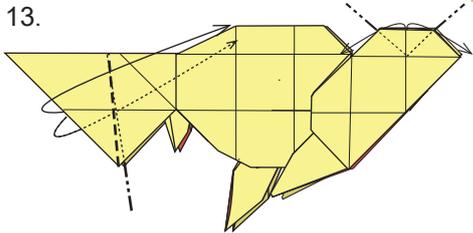
Reverse fold the little flap lying on the right and left sides of the sink fold made in Step 2.



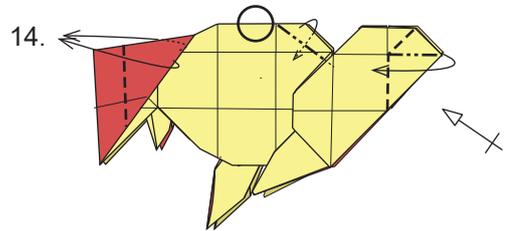
Hold the layers together at the circled area, then mountain fold both sides of the paper within the pocket. Take care not to tear the little tab folded in step 11a and 11b. The tab helps hold the layers together along the spine of the Ranchu.



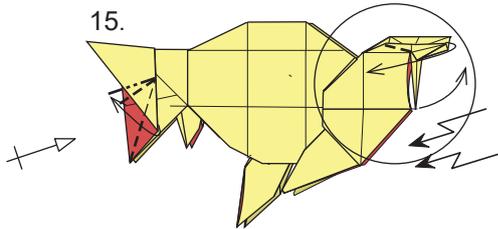
That done, continue to fold the Ranchu through steps 29 to 37 of the Oranda page 55.



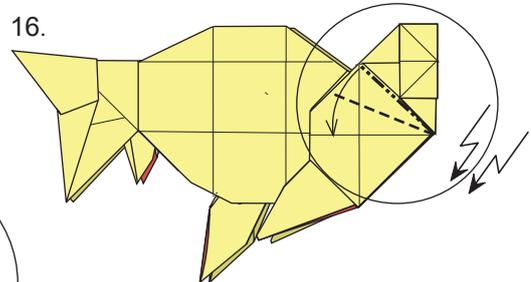
Reverse fold the two hidden tabs on the right, then do an outside reverse fold of the tail piece on the left.



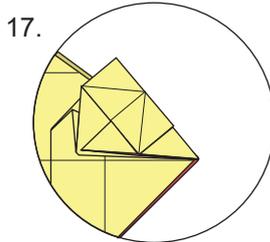
Shape the back of the Ranchu with mountain folds on each side into the pocket, holding the layers firmly together at the circled area. That done, do another outside reverse fold on the tail as illustrated, then begin shaping the head as shown on the right section of the above figure. Repeat the last step for this figure behind.



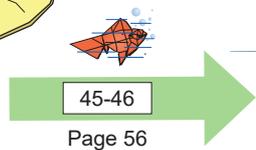
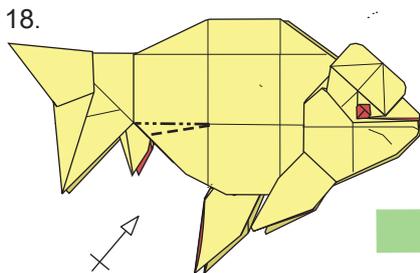
Complete the tail, then swivel the layers of the head to the position shown in Figure 16.



Crimp fold both sides of the head as shown, ...

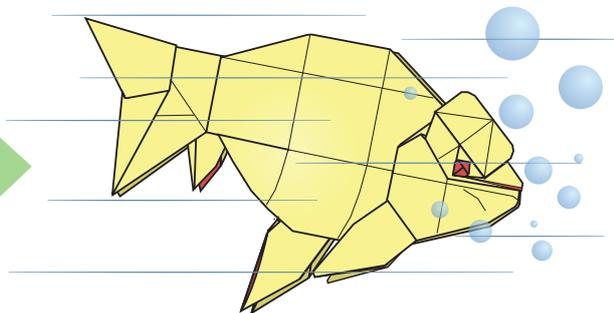


... then fold through steps 41 to 44 of the Oranda to complete the head.



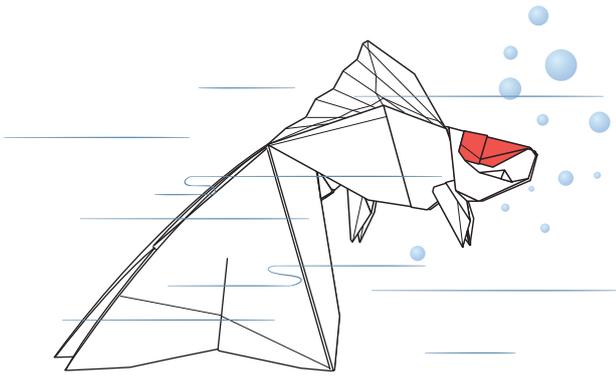
Page 56

Round out the body with crimps on both sides as in Steps 45 and 46 of the Oranda page 56 to complete the Ranchu.



Okay, I know this is not a typical top quality Ranchu, but a specimen this good will still set you back quite a bit.



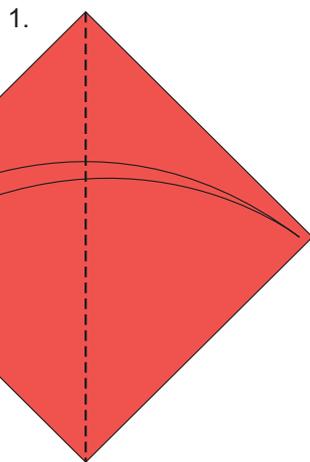


Paper:

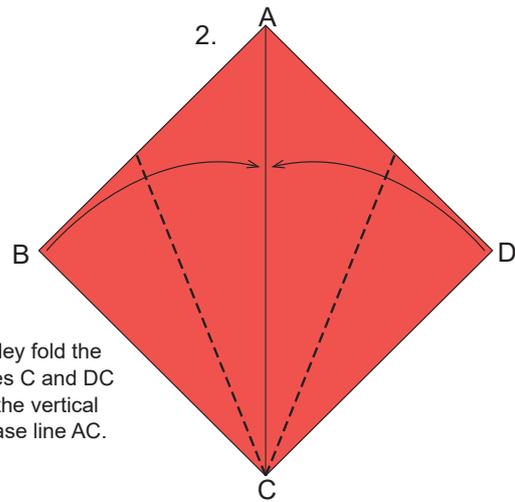
- Duo Kami 24x24 cm
- Sandwich 23x23 cm
- Tissue-foil 24x24 cm

Ratio: 0.56

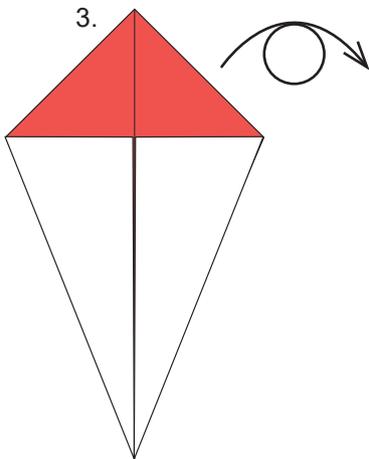
Use a square that is red on one side, and white on the other.



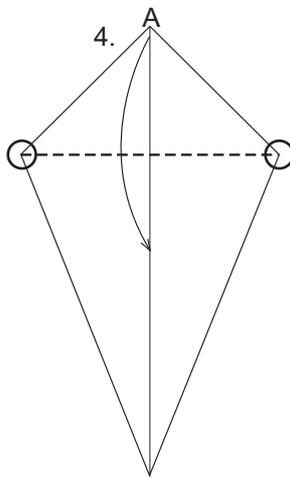
1. With the red side faced up, fold diagonally in half, crease firmly, and unfold.



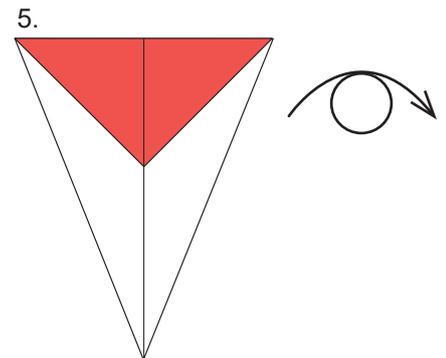
2. Valley fold the edges C and DC to the vertical crease line AC.



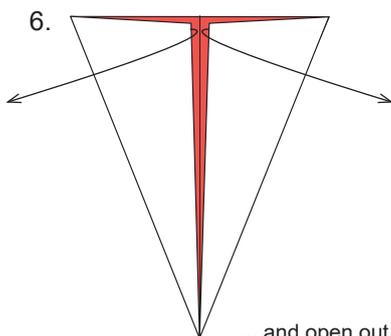
3. Turn the paper over ...



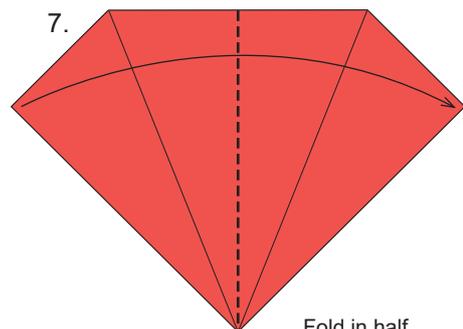
4. ... and fold along the circled landmarks to bring Corner A down.



5. ... like this. Turn the paper over again ...

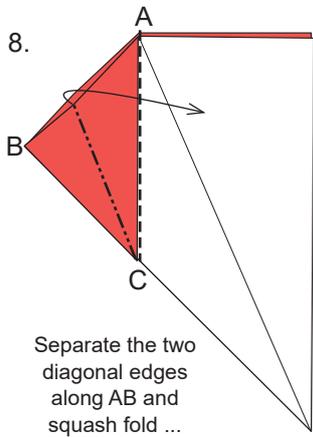


6. ... and open out.

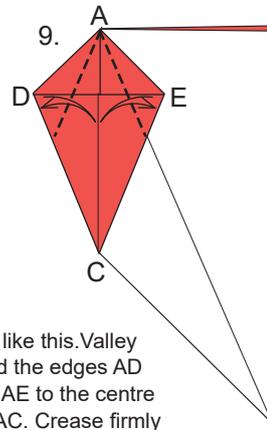


7. Fold in half.

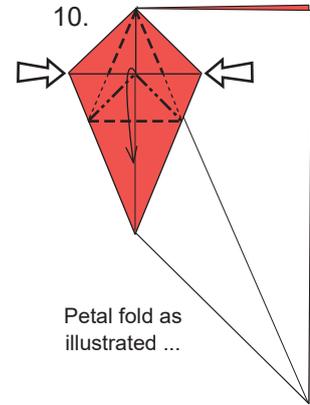




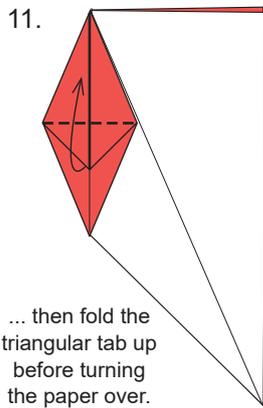
Separate the two diagonal edges along AB and squash fold ...



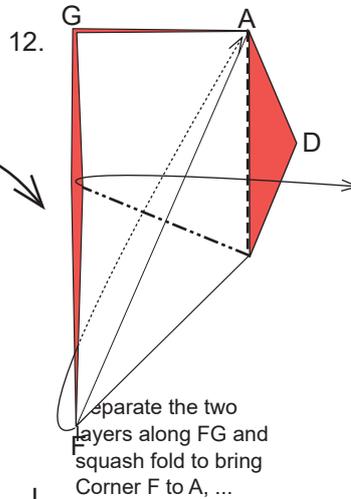
... like this. Valley fold the edges AD and AE to the centre line AC. Crease firmly and unfold.



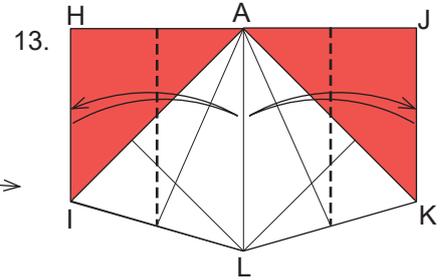
Petal fold as illustrated ...



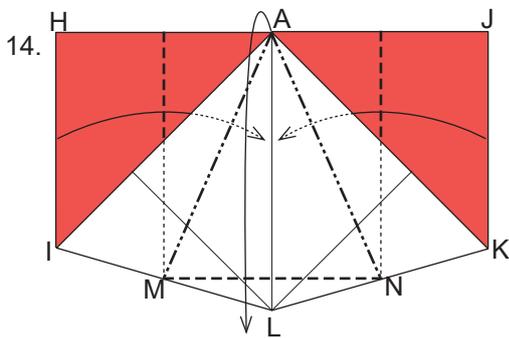
... then fold the triangular tab up before turning the paper over.



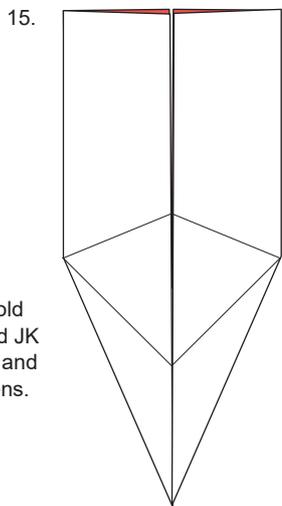
Separate the two layers along FG and squash fold to bring Corner F to A, ...



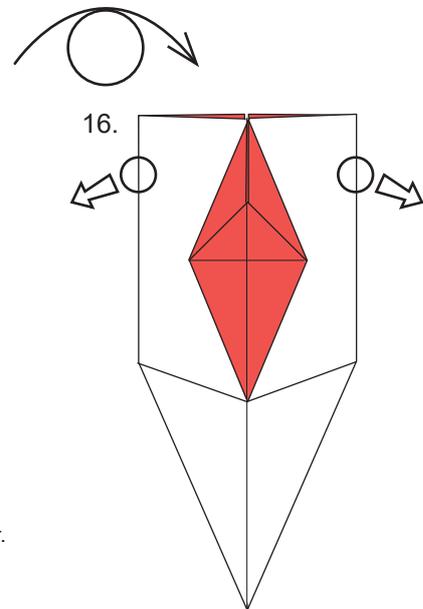
... like this. Now fold the vertical edges HI and JK to line AL in the middle. Crease firmly and unfold.



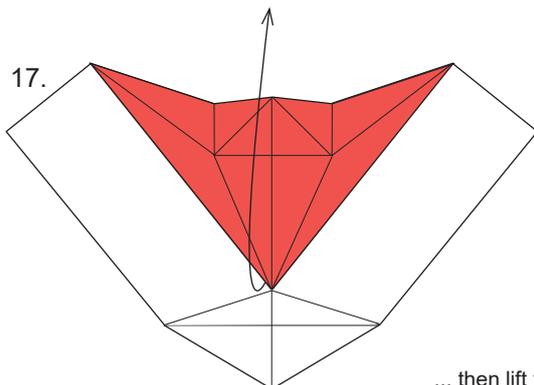
Now bring Corner A down with a valley fold along line MN, while drawing edges HI and JK to the middle. The mountain fold lines AM and AN should fall in place as the paper flattens.



Turn the paper over.

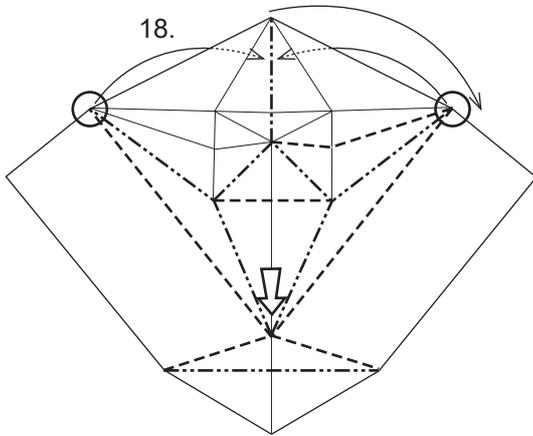


Grasp the circled portion of the paper and pull gently apart, ...

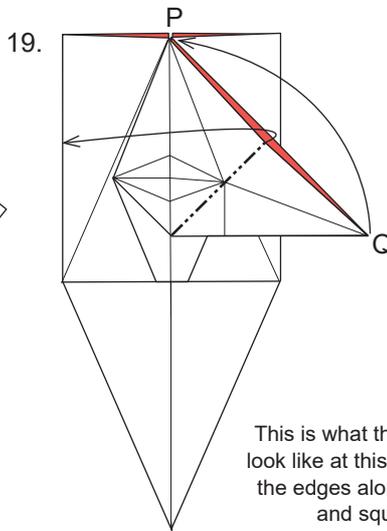


... then lift the red layer all the way up.

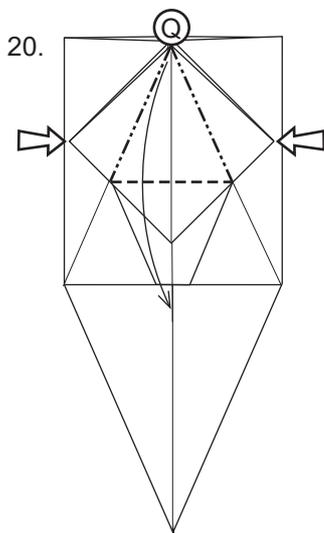




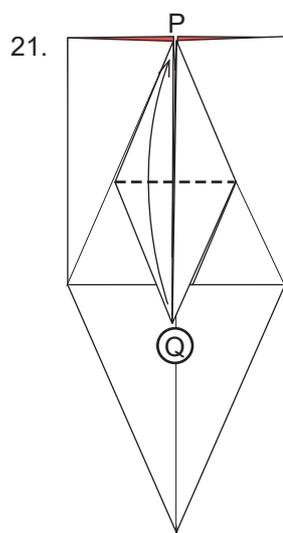
18. Bring the two circled corners together again, collapsing the paper in the centre along existing crease lines as illustrated.



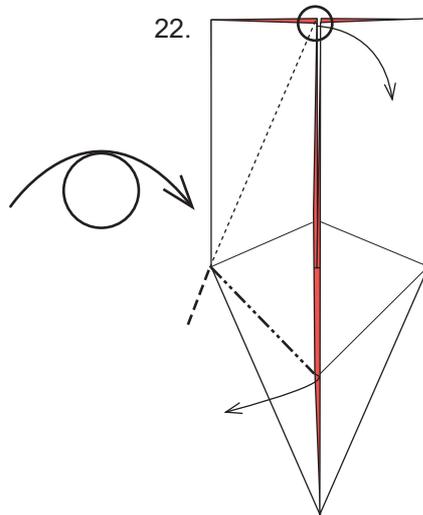
19. This is what the model should look like at this stage. Separate the edges along diagonal PQ and squash fold.



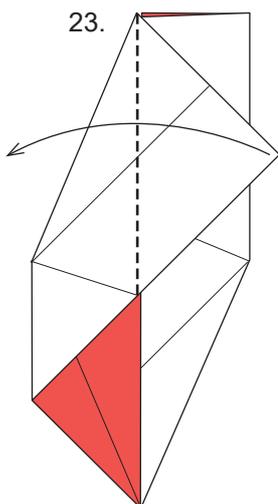
20. Reverse fold both sides, while bringing Point Q down ...



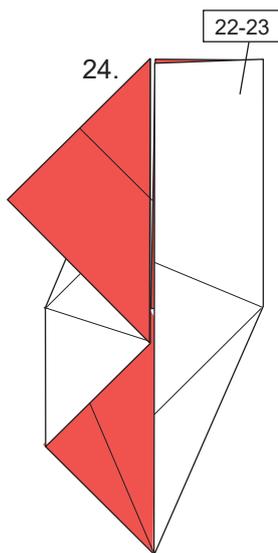
21. ... and up again. Turn over.



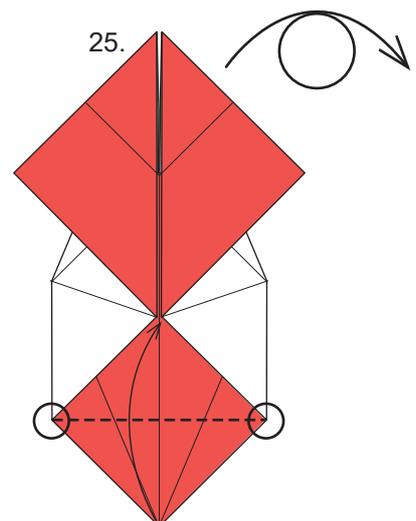
22. Using existing crease lines on the front and back, swivel one layer as illustrated.



23. Valley fold to the left ...

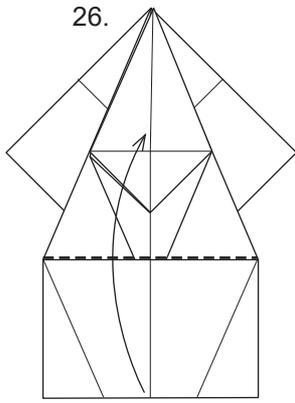


24. ... then repeat Steps 22 and 23 on the right side.

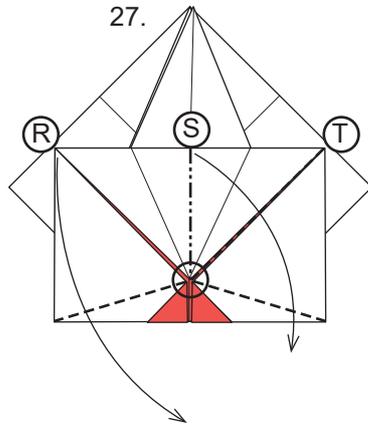


25. Valley fold up, then turn the model over.

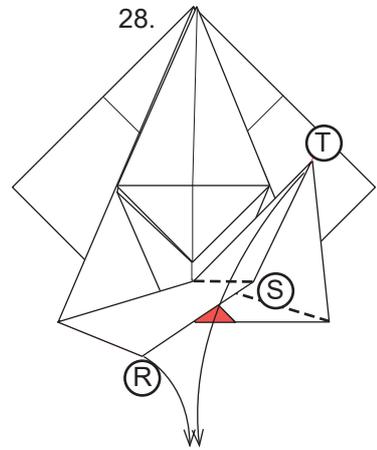




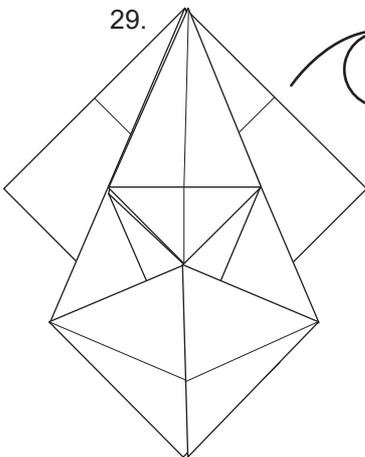
26. Fold up the rectangular section at the bottom.



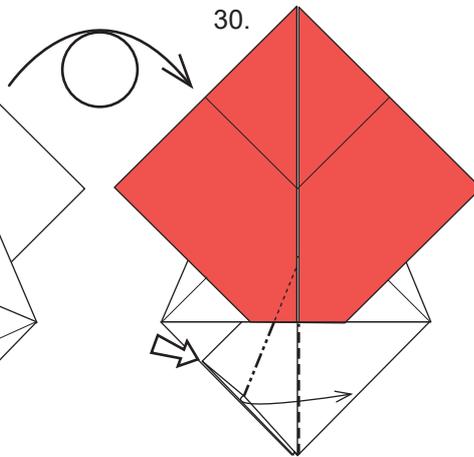
27. Now use the existing crease lines and bring Corners R and T down to meet at the bottom, ...



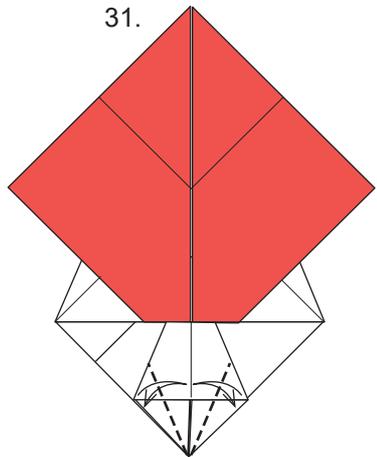
... like this ...



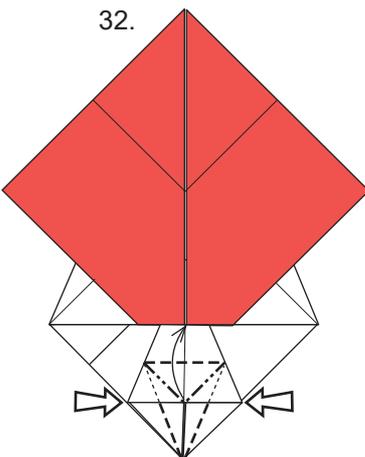
29. ... until it looks like this. Now turn the model over.



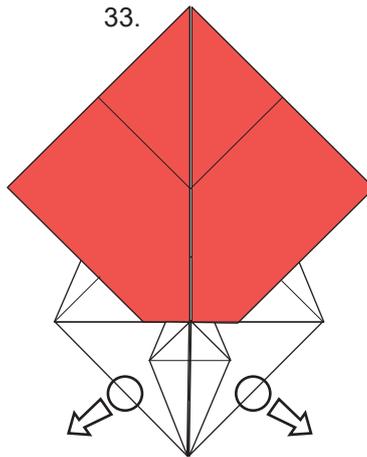
30. Squash fold. You will need to open out some of the overlapping layers temporarily to be able to do this.



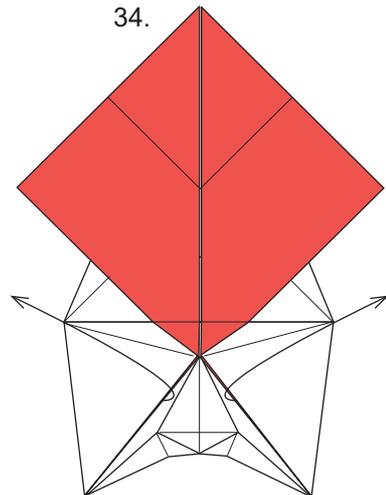
31. Fold and unfold the first layer, creating firmly.



32. Petal fold.

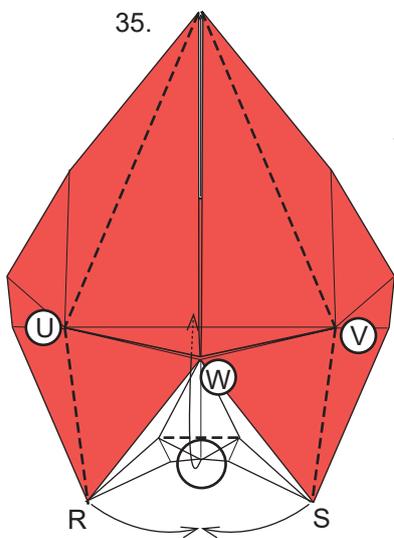


33. Hold the paper at the circled areas and pull gently down and to the sides, ...

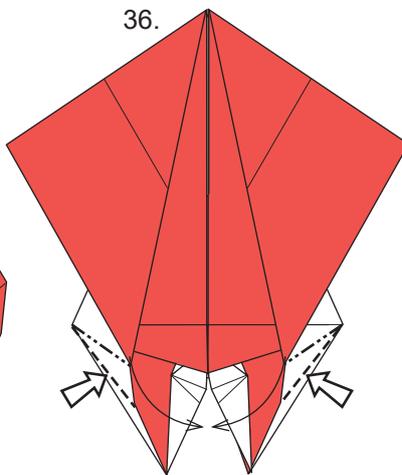


34. ... then lift up one layer from each side to open out temporarily ...

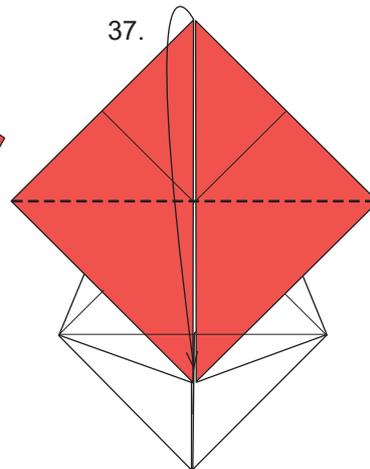




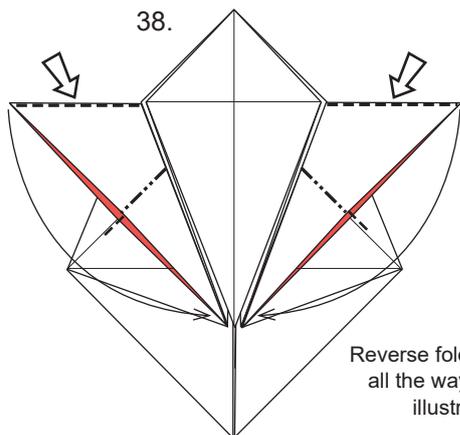
... like this. Draw Points R and S together while tucking the circled tab under the triangle U_WV and closing up ...



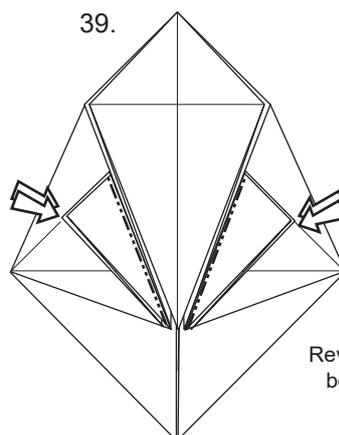
... like this, ...



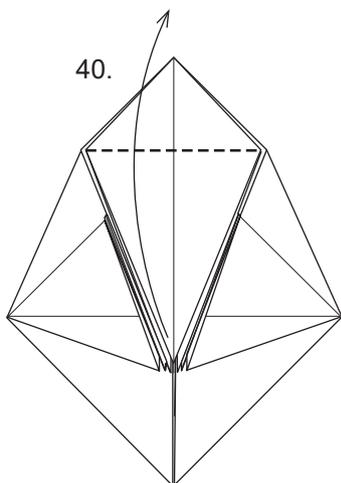
... and this. Now fold the square in the middle diagonally in half, while swivelling the kite-shaped layers at the back to the front.



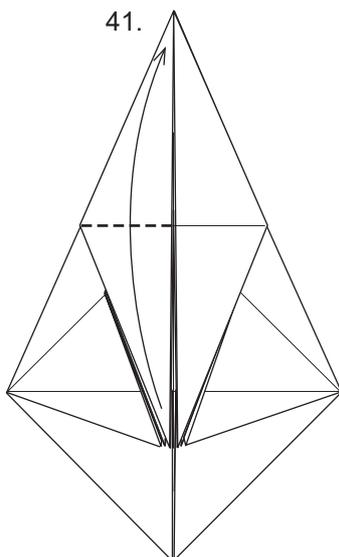
Reverse fold both sides all the way down as illustrated.



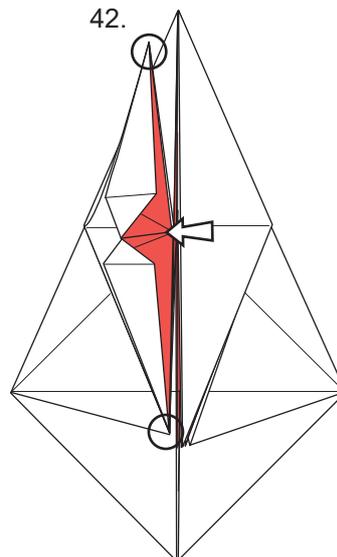
Reverse fold again, on both extensions on each side.



Valley fold one flap up, ...

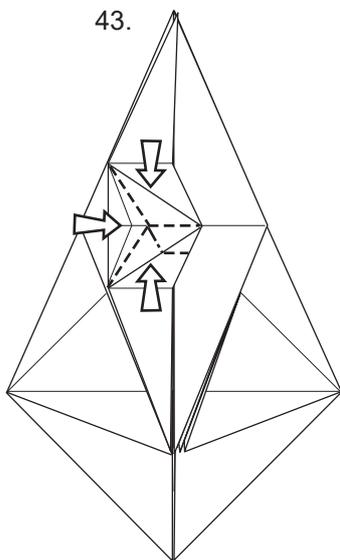


... then lift up one flap on the left ...

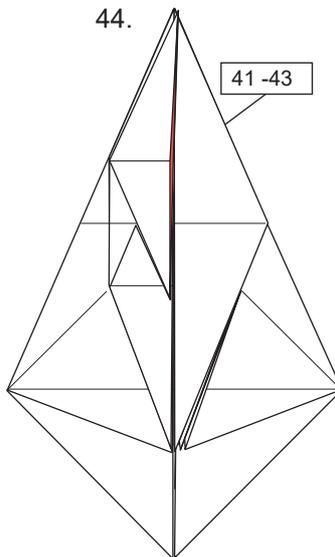


... and stretch this piece by gently pulling the circled points apart while pushing as indicated by the arrow to flatten the middle.

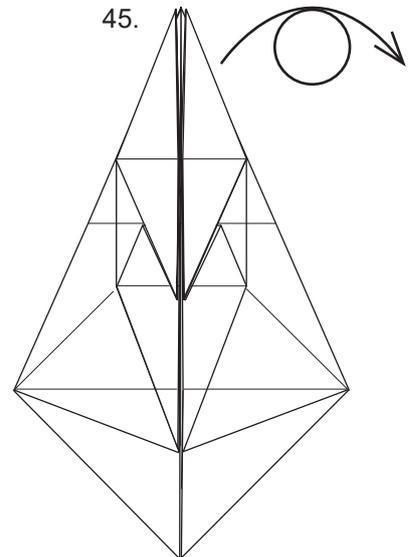




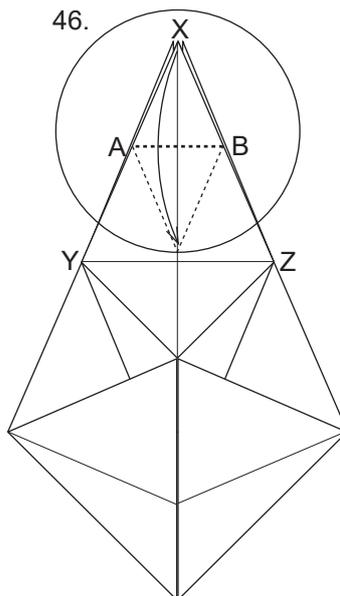
Flatten as shown.



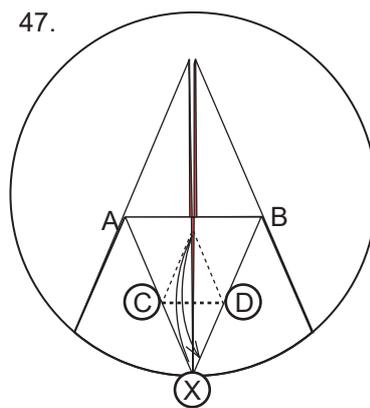
Repeat Steps 41 to 43 on the right.



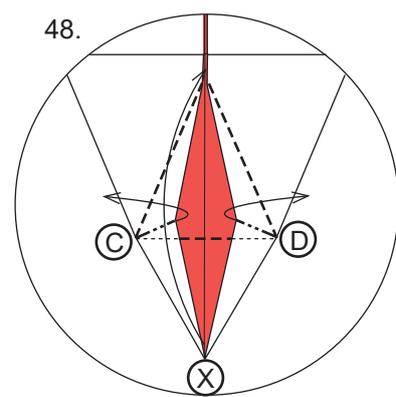
Turn over.



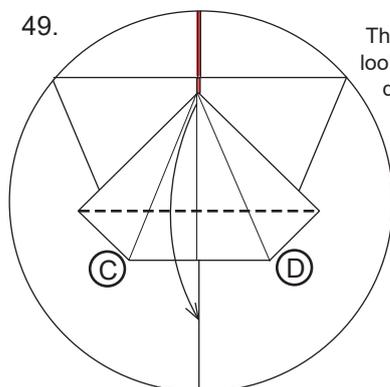
Fold one flap down, bringing the point (X) just short of the horizontal crease line YZ.



Bring point X up again, this time leaving it a little below the edge AB as illustrated. Crease firmly and unfold.

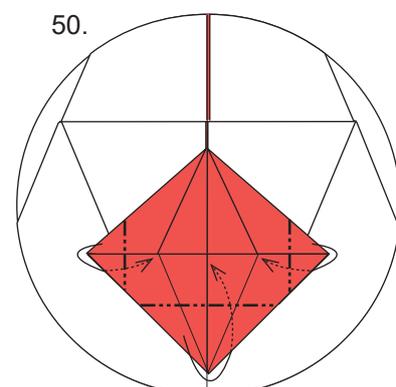


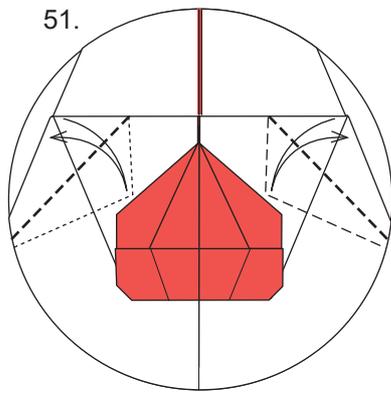
Using the creases made in Step 47, lift out the edges from the centre and open out to each side, while bringing point X up again.



The model should now look like this. Valley fold down, to reveal the coloured side, ...

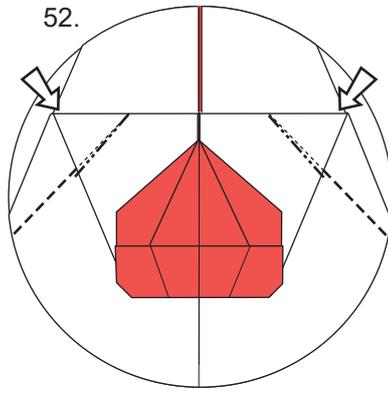
... then mountain fold the three corners under as illustrated. We are now working on the distinctive red cap of the Tancho Oranda.





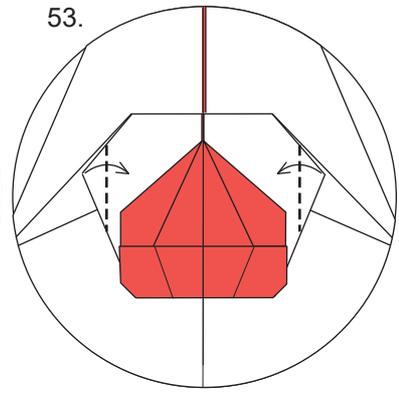
51.

Valley fold both sides, crease firmly, and unfold ...



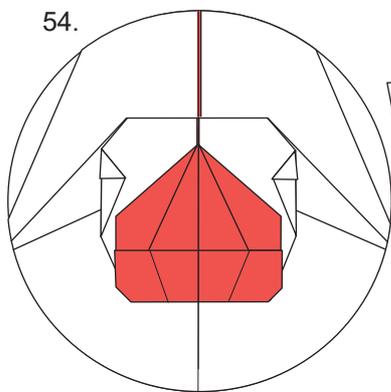
52.

... then reverse fold along the creases made in Step 51.



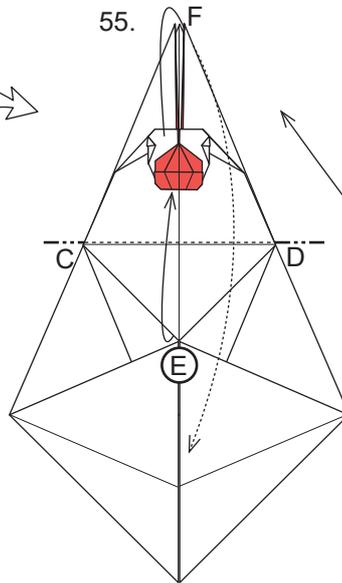
53.

Valley fold both sides again ...



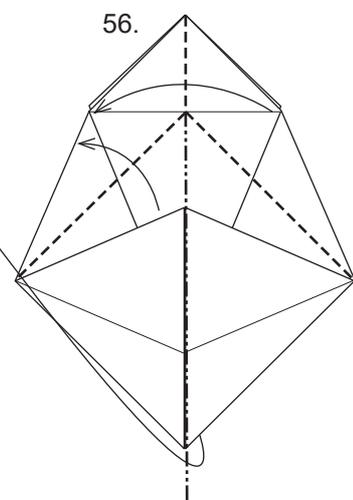
54.

... to form the eyes.



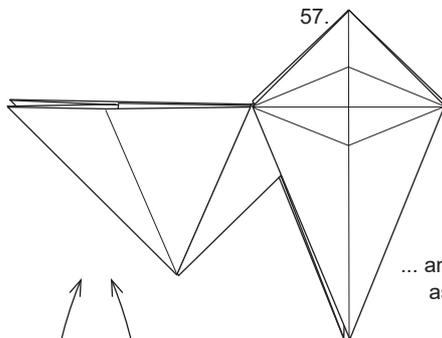
55.

Lift up Corner E of the triangular flap CDE while swivelling the upper section along line CD down and to the back ...



56.

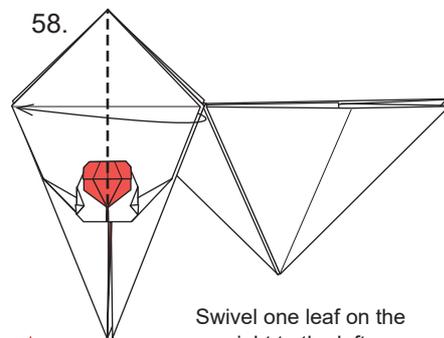
... like this. Collapse along the existing crease lines as illustrated ...



57.

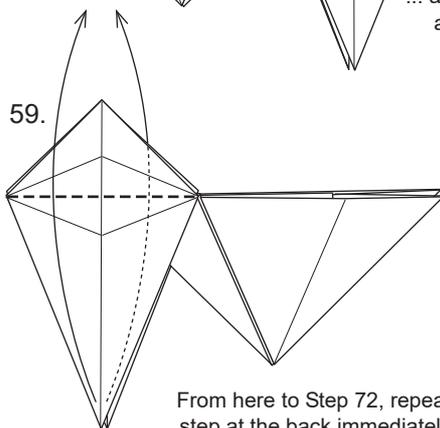


... and position the tail as shown. Turn the model over.



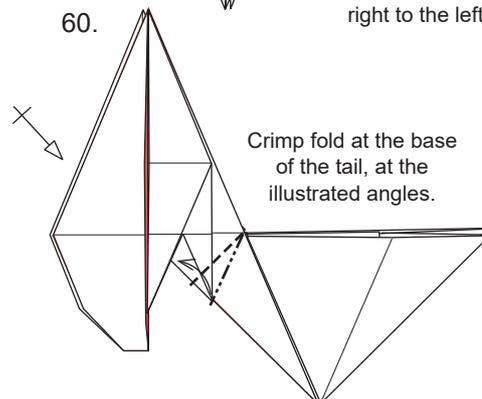
58.

Swivel one leaf on the right to the left.



59.

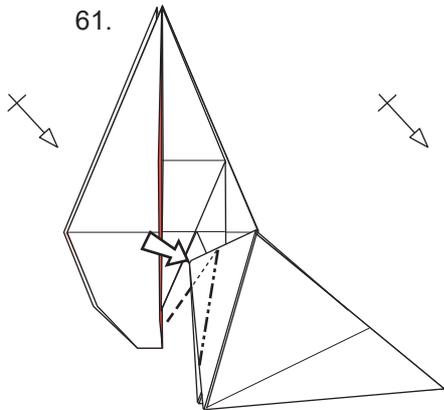
From here to Step 72, repeat each step at the back immediately after completing the fold in front. Valley fold one flap all the way up.



60.

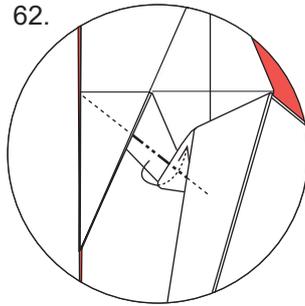
Crimp fold at the base of the tail, at the illustrated angles.





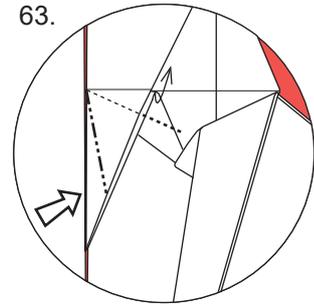
61.

Reverse fold, ...



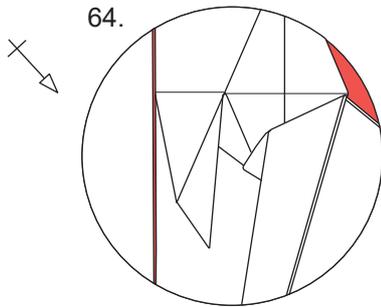
62.

... then mountain fold the stub within the body.



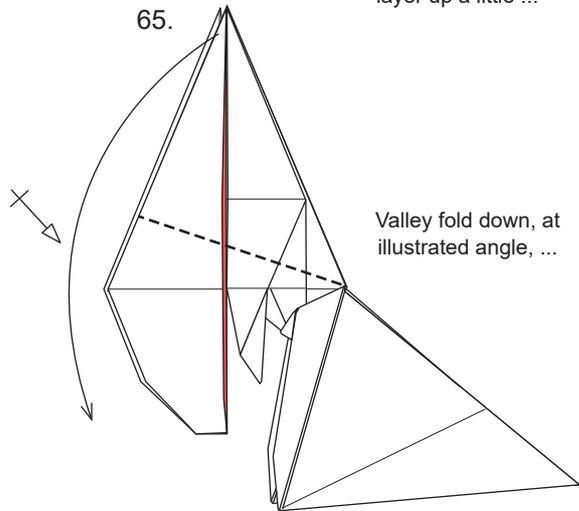
63.

Now reverse fold this point, offsetting it by pulling the underlying layer up a little ...



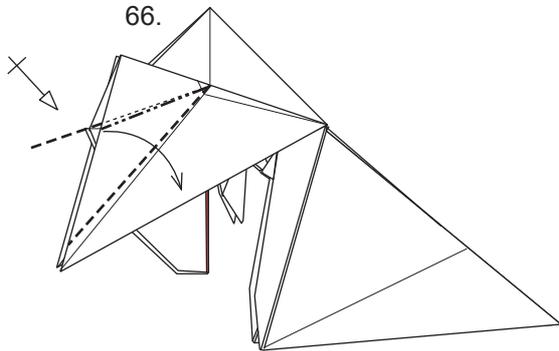
64.

... like this ...



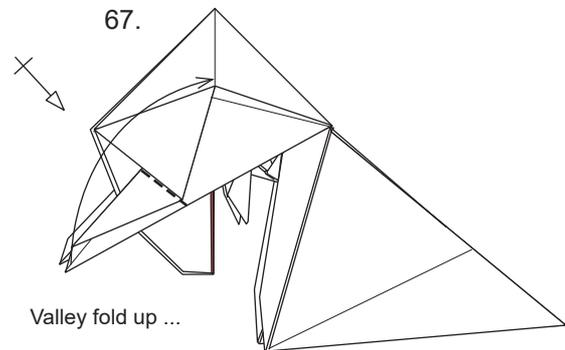
65.

Valley fold down, at illustrated angle, ...



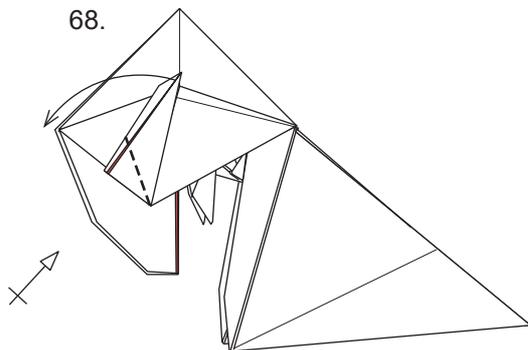
66.

... then do an off-set squash fold as illustrated.



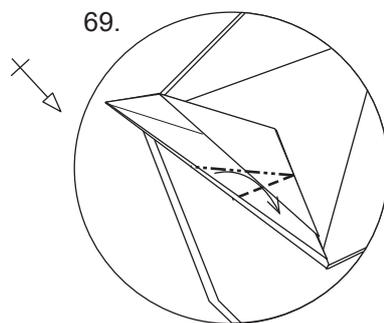
67.

Valley fold up ...



68.

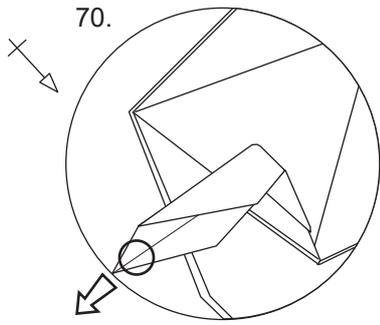
... then down again.



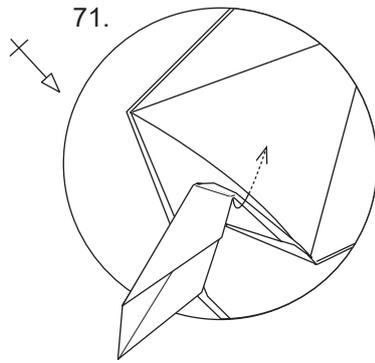
69.

Now crimp fold to bring the fin down at the illustrated angle ...

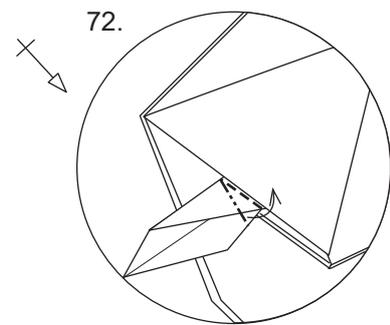




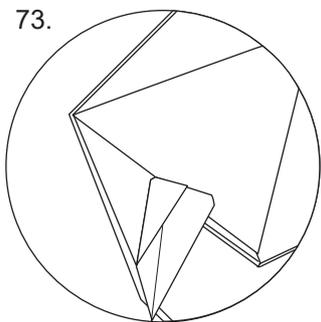
70.
... then hold the circled point and pull this piece gently downwards and to the left ...



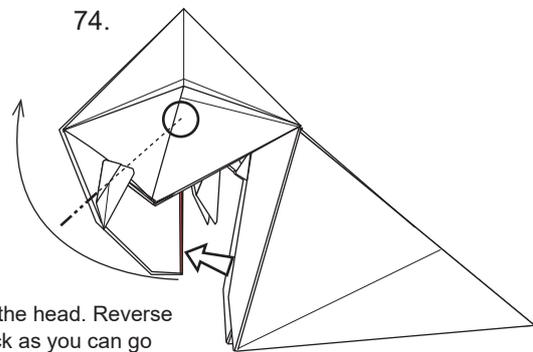
71.
... and tuck its base under the layer directly above ...



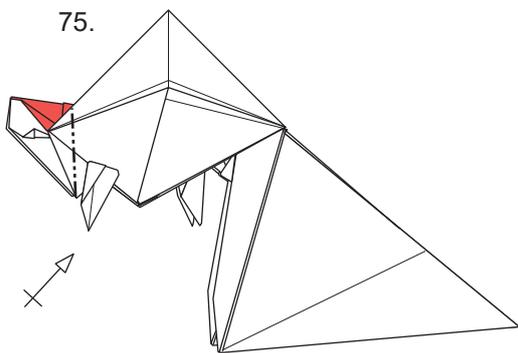
72.
... like this. Crimp fold again as illustrated ...



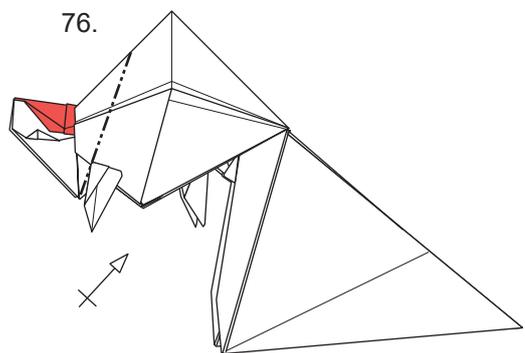
73.
.... like this.



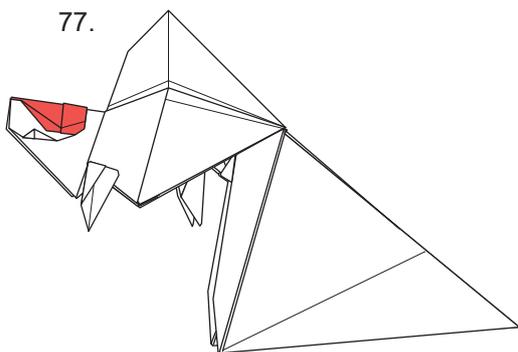
74.
We will now work on the head. Reverse fold from as far back as you can go within the body.



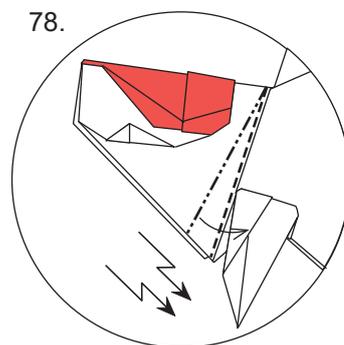
75.
Mountain fold the edges on both sides of the head ...



76.
... and again, as illustrated. Repeat on the other side.



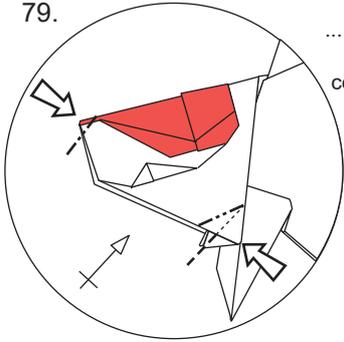
77.
Your model should look like this.



78.
Crimp fold both sides of the head.

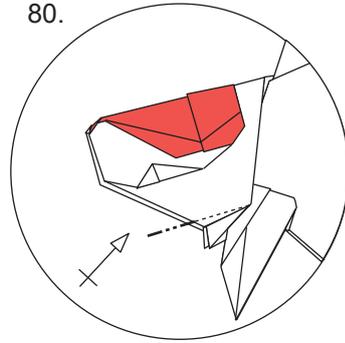


79.



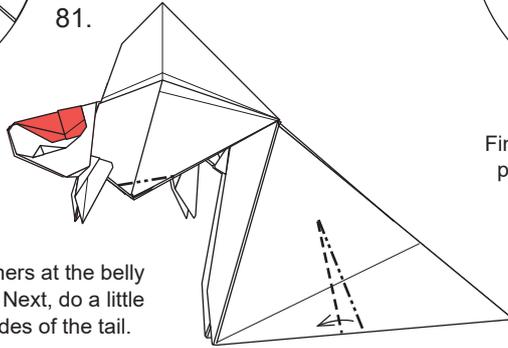
... then reverse fold the tip of the 'nose', and both corners on each side of the head.

80.



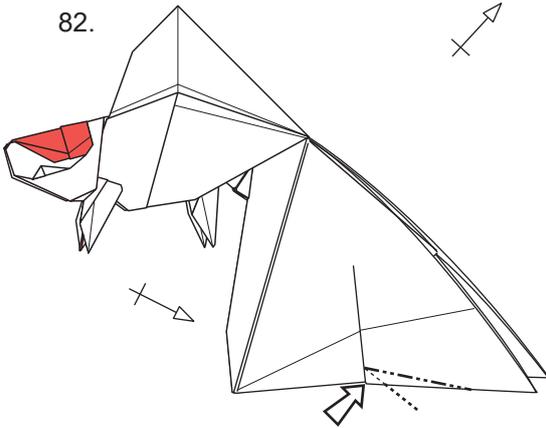
Finally, mountain fold the excess paper on both sides within the head, as far as you can go.

81.



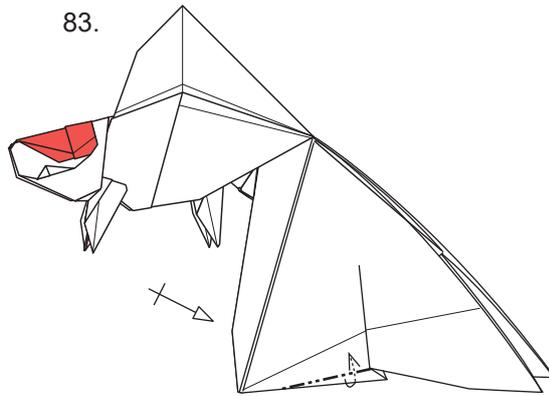
Mountain fold the corners at the belly to complete the body. Next, do a little crimp fold on both sides of the tail.

82.



Reverse fold the corner of the overlapping layers, and mountain fold along the edges of the tail as illustrated.

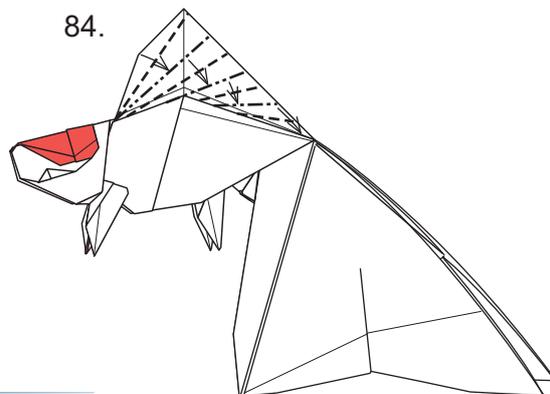
83.



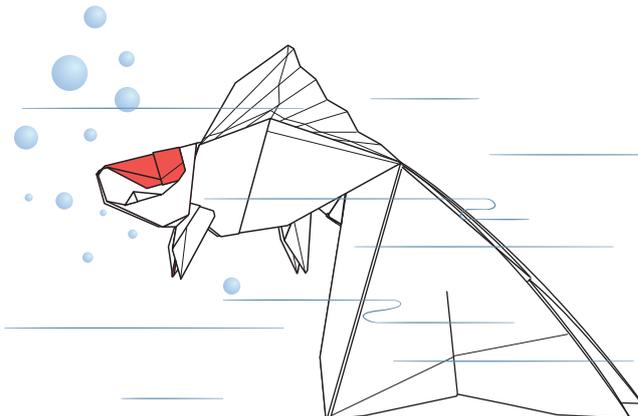
Now mountain fold along the frontal edge of the tail to lock the crimp made in Step 81 in place.

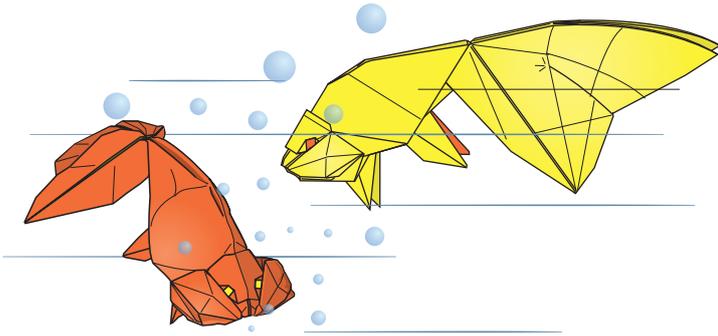
Do a series of mountain and valley folds along the dorsal fins to complete the model.

84.



The Tancho Oranda is characteristically milk-white throughout, except for the crown, which is brilliantly red. Some varieties have a thicker body, more like a typical Oranda.



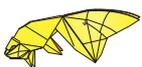
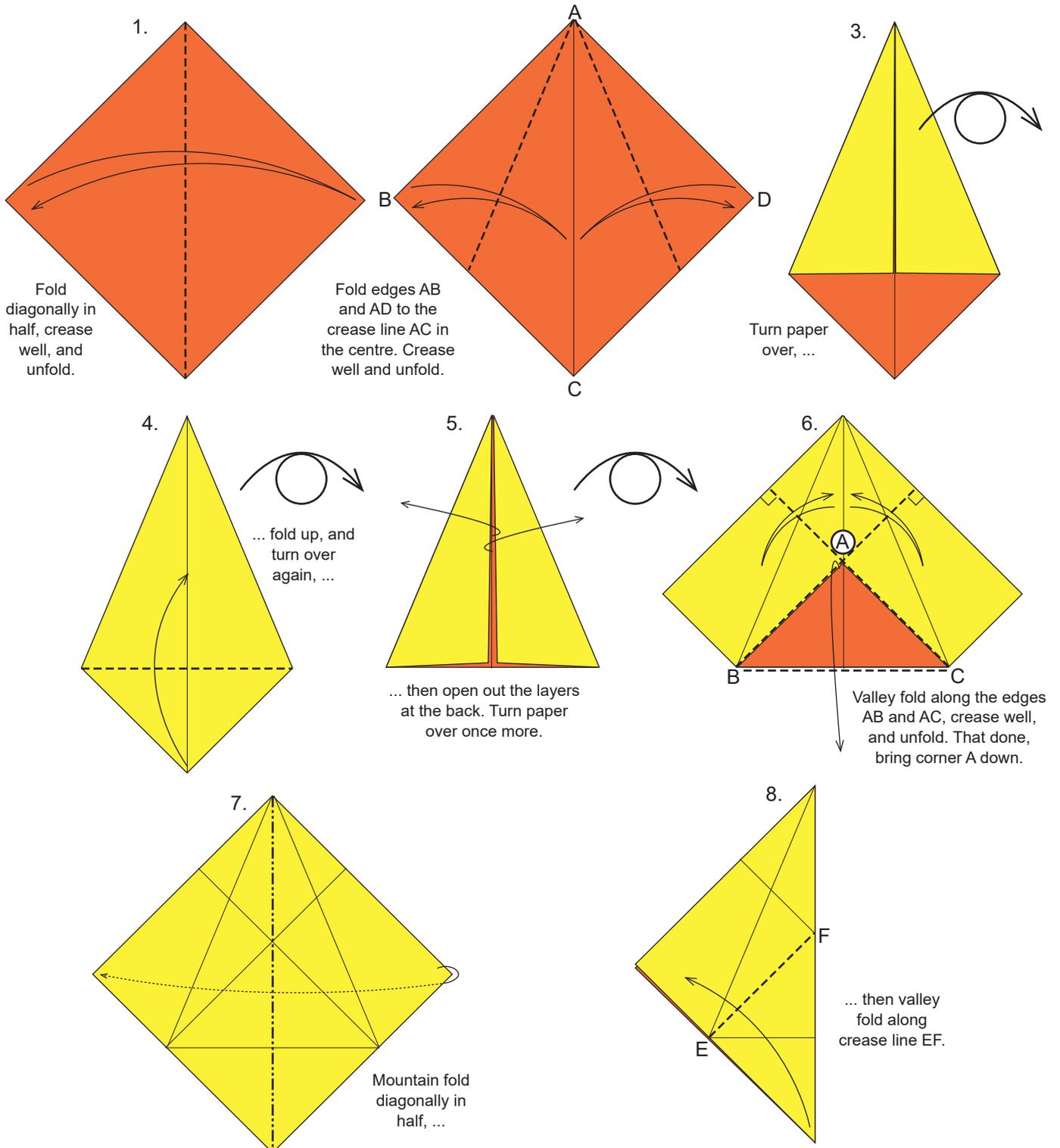


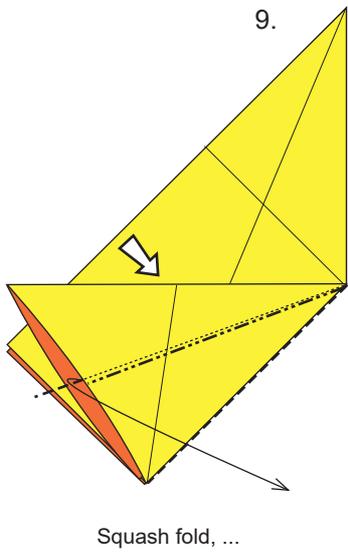
Paper:

- Duo Kami 24x24 cm
- Sandwich 23x23 cm
- Tissue-foil 24x24 cm

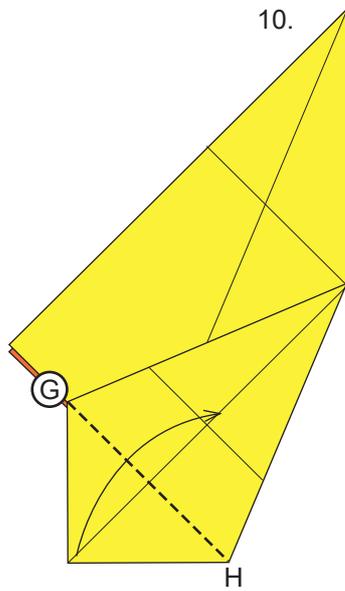
Ratio: 0.56

The Bubble Eye Goldfish, as the name implies, has a sac under each eye and does not have a dorsal fin.

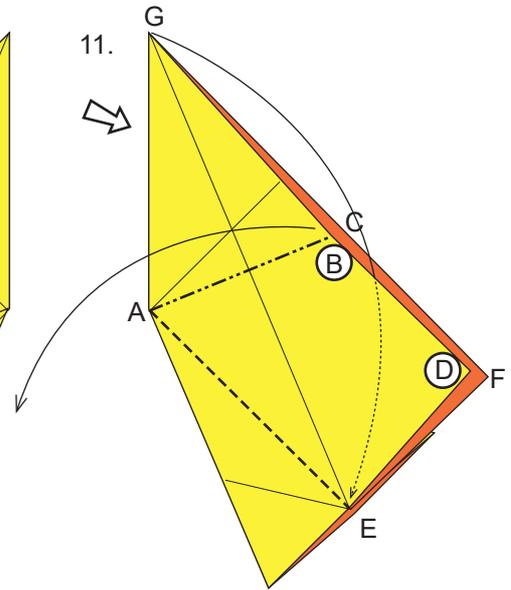




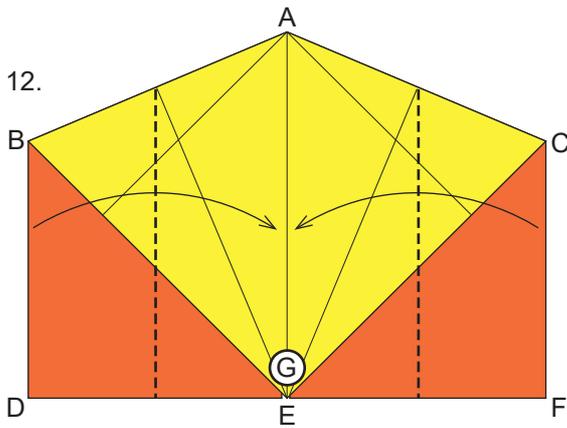
Squash fold, ...



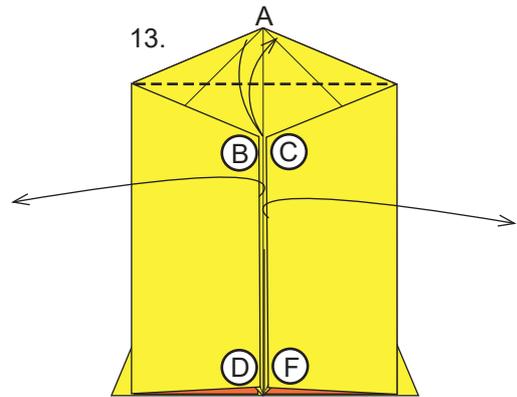
... then valley fold along line GH as shown.



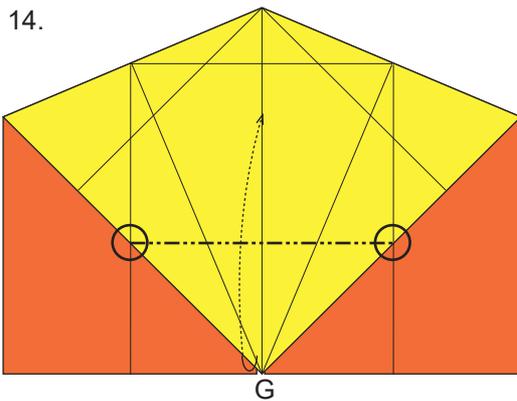
Separate the two edges DG and FG and squash fold, ...



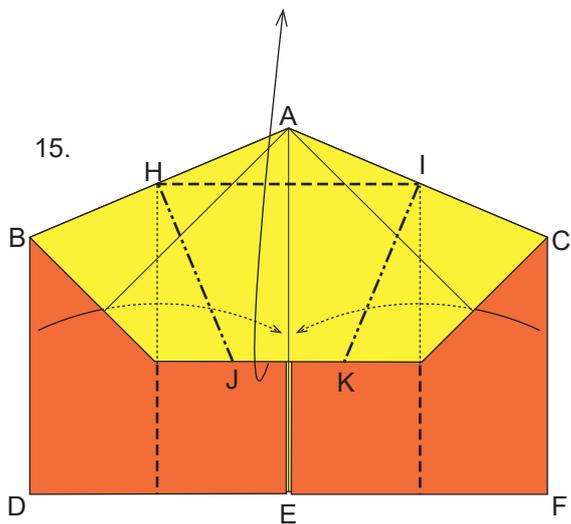
... bringing Corner G all the way down to E. Valley fold edges in the middle.



Valley fold corner A down and unfold as illustrated, creasing firmly. That done, unfold edges BD and CF to the position before Step 12.

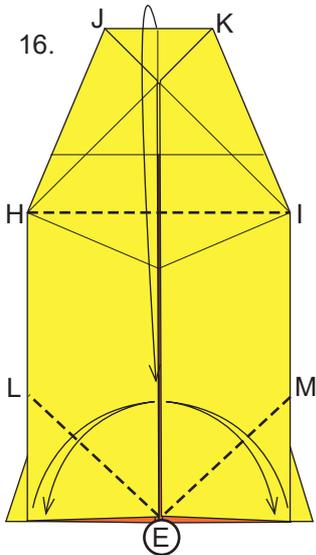


Mountain fold between the circled landmarks to hide Corner G.

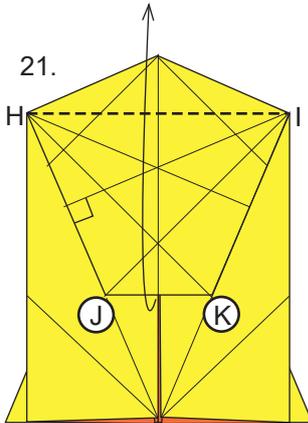


Valley fold edges BD and CF to the centre line AE, while lifting J and K up along line HI, ...

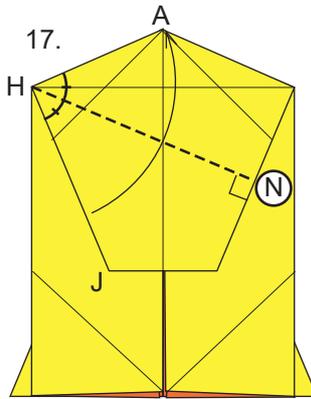




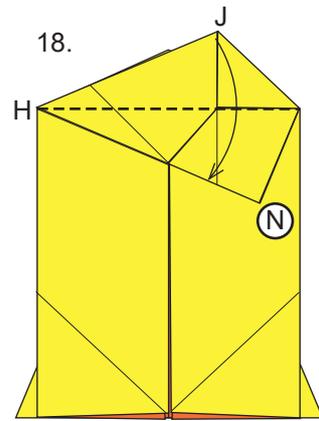
... like this. Fold and unfold along lines LE and LM. Crease firmly. That done, fold edge JK down along line HI.



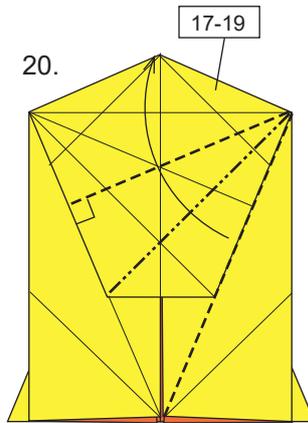
Now fold edge JK up along line HI, ...



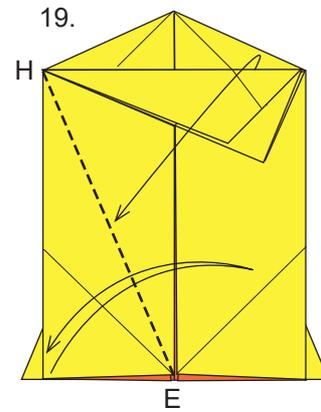
Bring the edge HJ in line with AH and crease firmly.



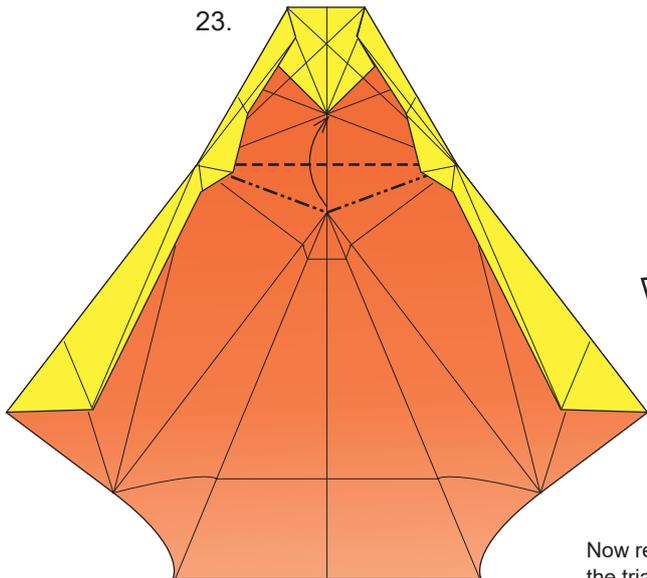
Now bring the edge HJ in line with HN and crease firmly as well.



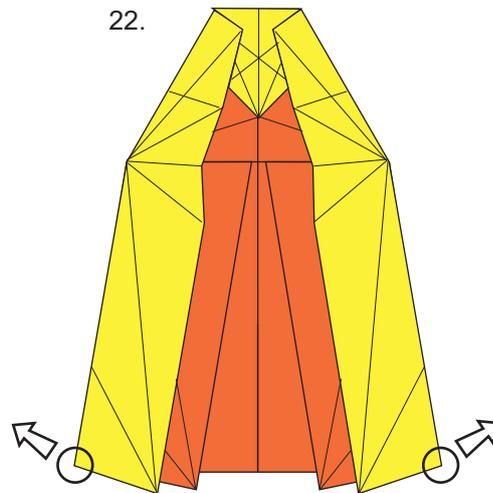
... and repeat Steps 17 to 19 on the right half of the paper.



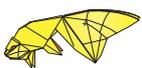
Valley fold along line HE, crease firmly, and unfold. That done, unfold Steps 17 and 18, ...

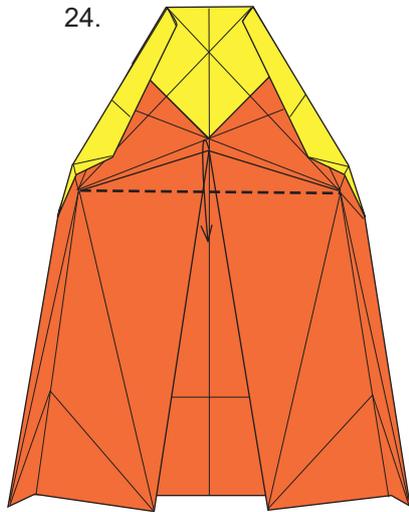


Now reverse the mountain and valley crease lines of the triangular area in the middle by pushing from the back, ...

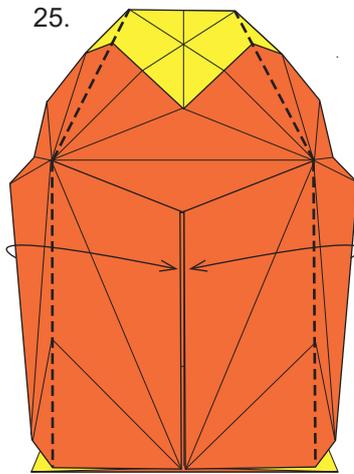


... hold the model at the circled positions and pull to each side to open out temporarily.

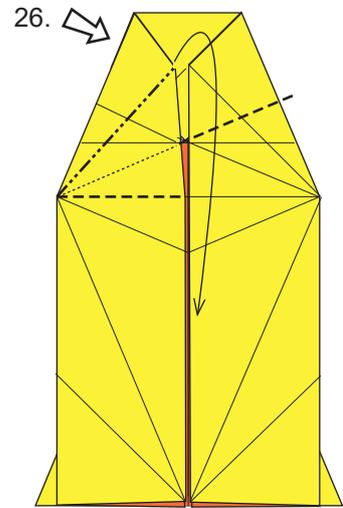




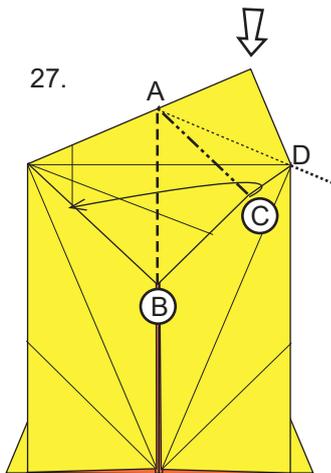
24. ... like this. Fold the resulting triangular tab down, ...



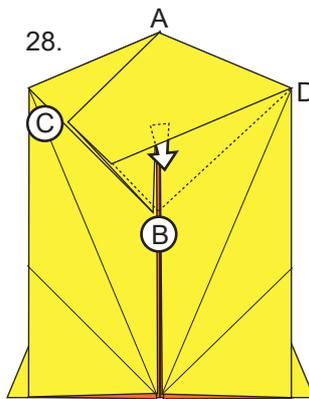
25. ... and return the layers on each side to the original positions before Step 22.



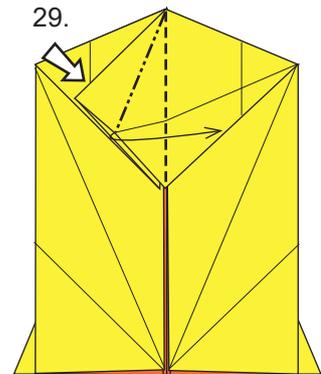
26. Swivel fold as illustrated, along crease lines made previously.



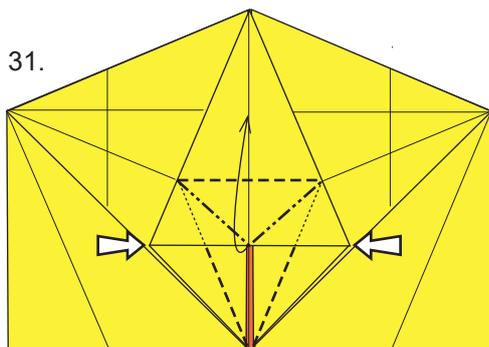
27. Swivel C along line AB to the left with a valley fold along AD, ...



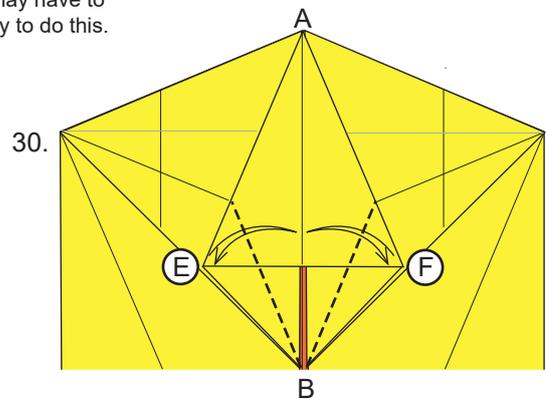
28. ... then lift out the hidden layer to the position as shown. You may have to unfold Step 27 temporarily to do this.



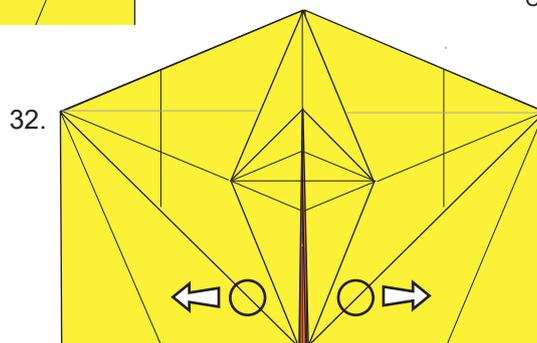
29. Squash fold, ...



31. Petal fold, ...

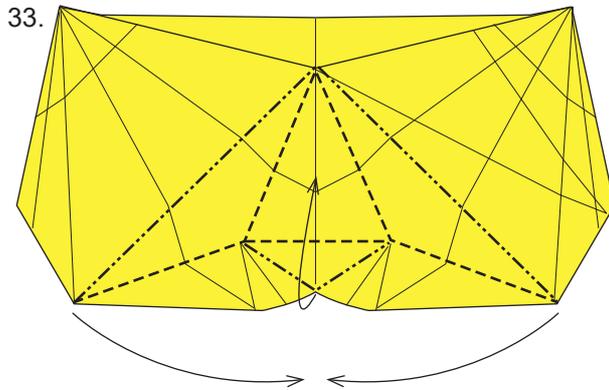


30. ... then valley fold edges BE and BF to centre line AB. Crease firmly and unfold.



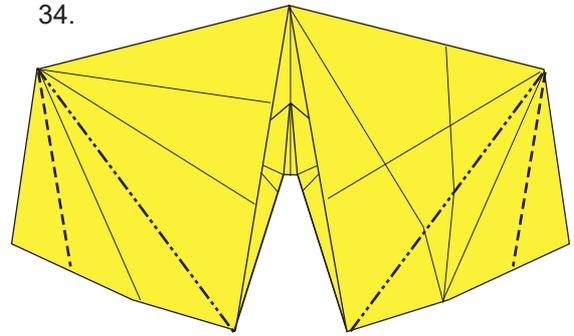
32. ... then hold each side of the top layer at the circled positions and pull gently apart.





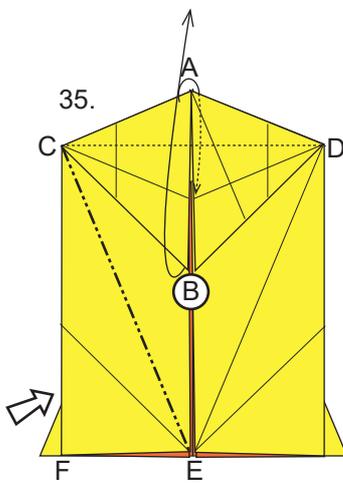
33.

Now change the mountain fold lines to valley folds and vice versa, then gently refold the triangular area underneath as illustrated, ...



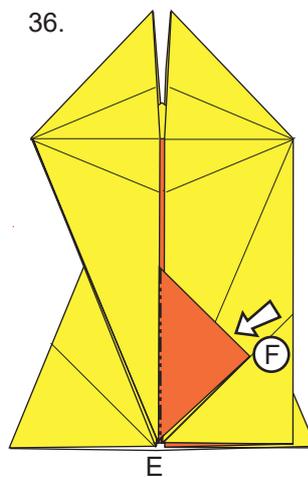
34.

... like this. Complete the sequence.



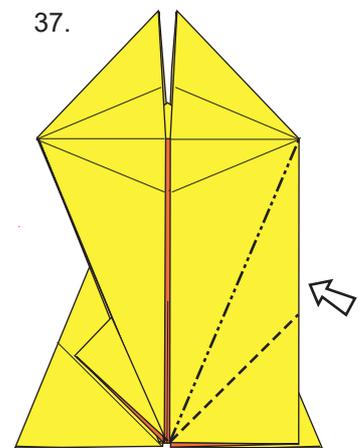
35.

Swivel Corner A behind along CD, bringing the points at B upwards. That done, reverse fold along CE.



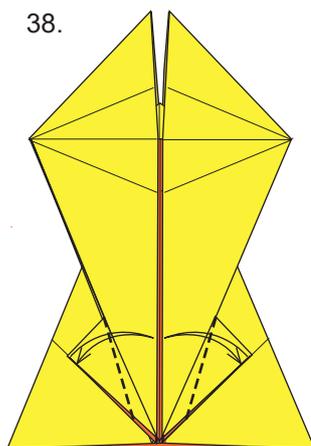
36.

Reverse fold once more ...



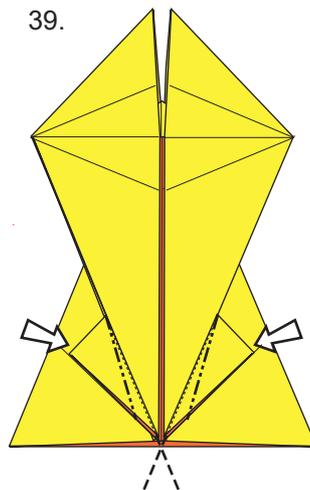
37.

... then repeat the reverse folds in Steps 35 and 36 on the right half of the model.



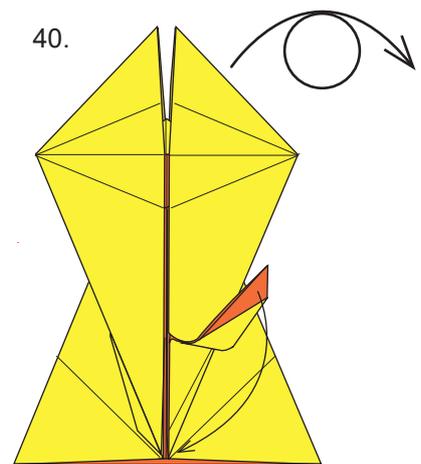
38.

Fold and unfold at the approximate angles shown, creasing firmly.



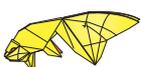
39.

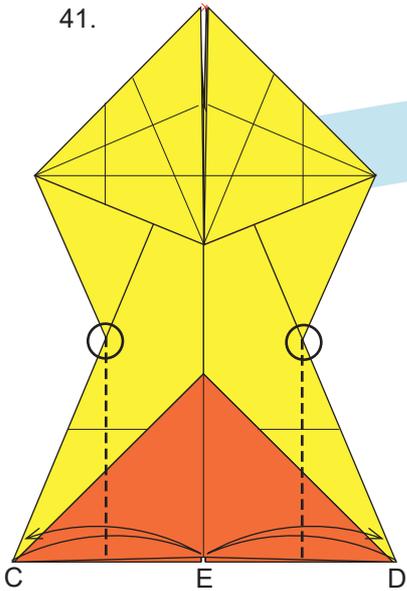
Reverse fold, making use of the crease lines made in Step 38 for the top layer, ...



40.

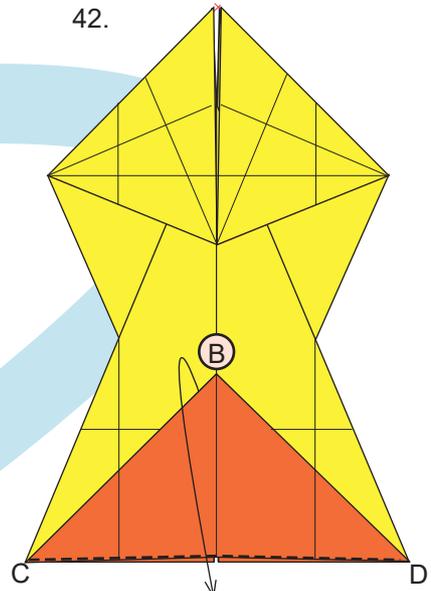
... but with the edge of the second layer going all the way to the vertical edges of the underlying layers in the middle. The flap on the right has been lifted to show what the other side should look like. Turn model over.





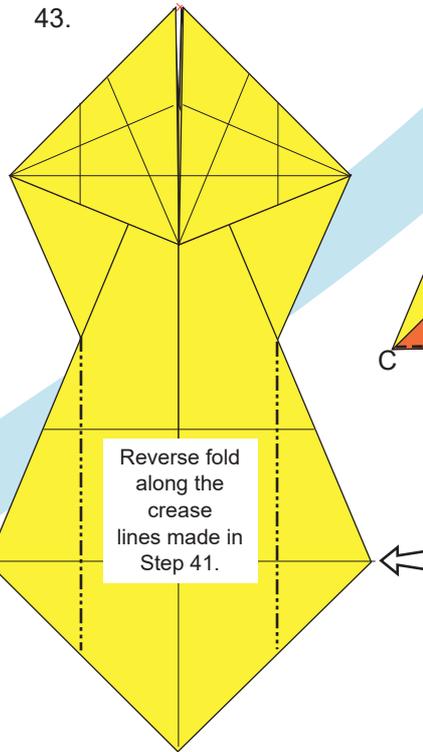
41.

Fold Corners C and D to E. Crease firmly and unfold.



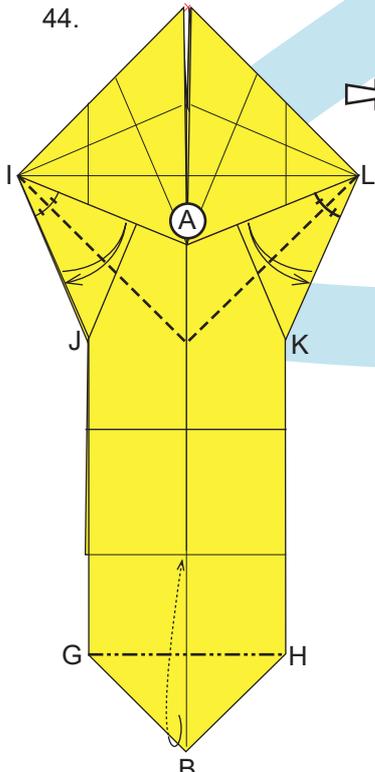
42.

Fold Corner B of the triangle BCD down



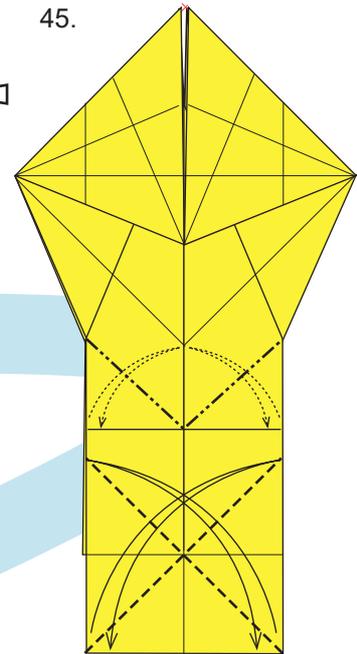
43.

Reverse fold along the crease lines made in Step 41.



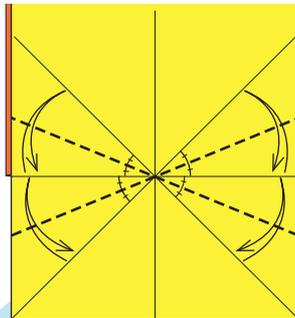
44.

Mountain fold the triangle GBH under. That done, fold the edge IJ to edge IA, crease firmly, and unfold. Repeat the last step with edges LA and LK on the right.



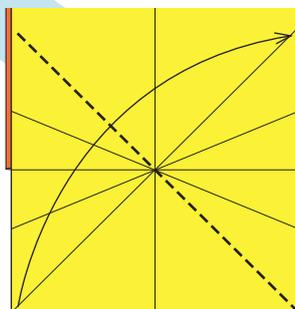
45.

Fold and unfold four times as illustrated, creasing firmly.



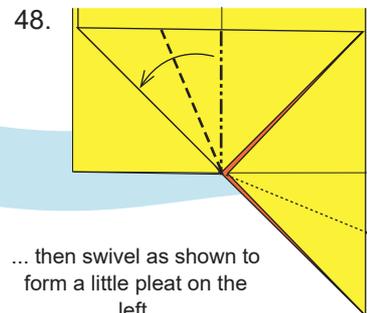
46.

This is a view of the bottom section of the paper. Fold and unfold again, creasing firmly as usual.



47.

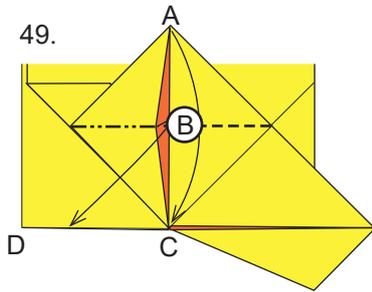
Valley fold diagonally along the existing the crease line, ...



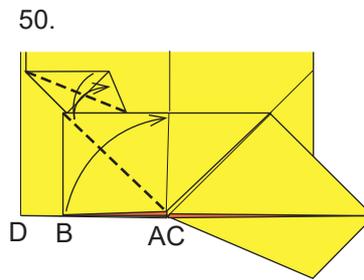
48.

... then swivel as shown to form a little pleat on the left.

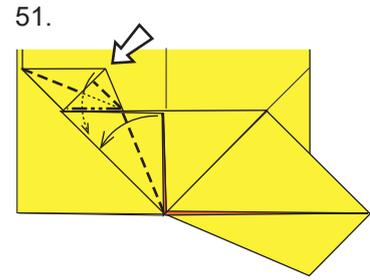




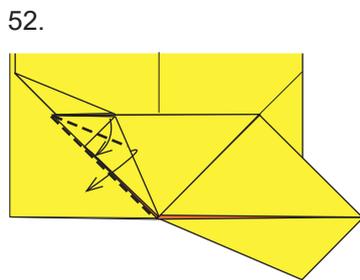
Draw out the first layer on the left and fold edge BC to edge DC, bringing Corner A down to C, ...



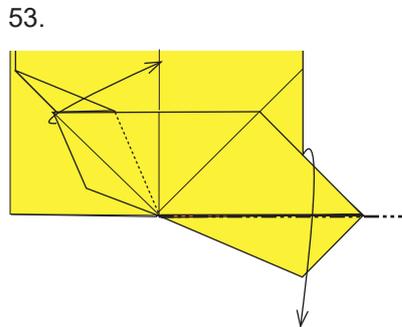
... like this. Valley fold twice as illustrated, creasing firmly. Unfold the upper valley fold.



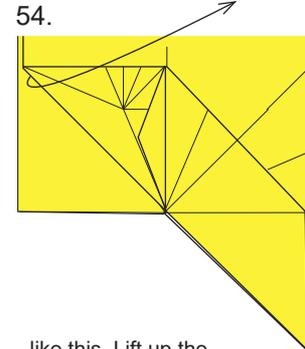
Valley fold at the lower section, and swivel fold the little tab immediately above.



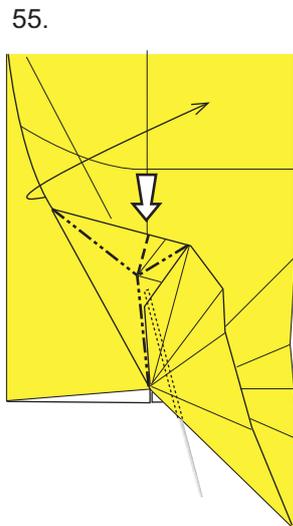
First do the upper valley fold to narrow this tab, then swivel down the entire tab as illustrated.



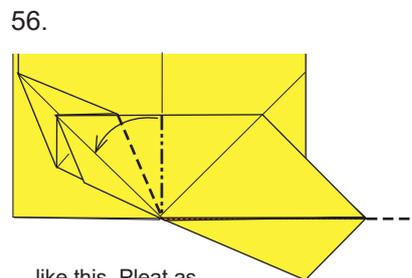
That done, open out the upper layers on the left while swivelling down one layer on the right...



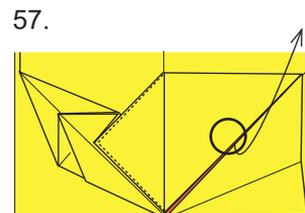
... like this. Lift up the whole of the first layer on the left temporarily, ...



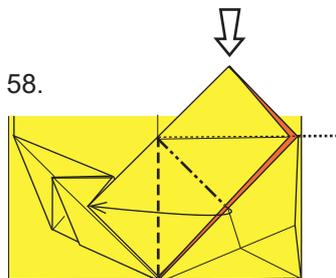
... as far as you can go. That done, insert a toothpick or a pair of tweezers between the folds at the bottom and push up to turn the valley folds on the top layer to mountain folds, then flatten out ..



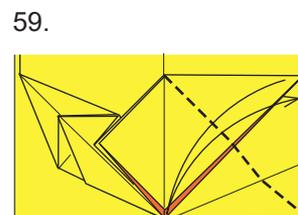
... like this. Pleat as illustrated, swivelling the flap on the right in an anti-clockwise direction.



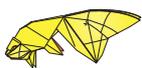
Hold the top layer in the circled position, along the diagonal edge, and pull gently to the right and upwards, to free the loose paper underneath, ...



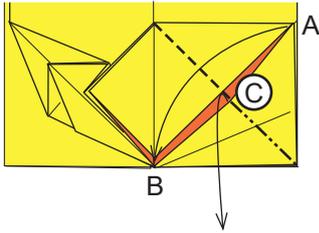
... like this. Collapse as illustrated.



Fold and unfold, creasing firmly.

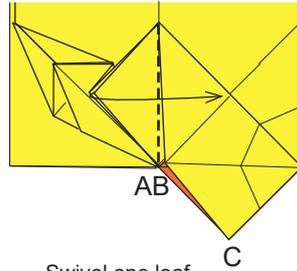


60.



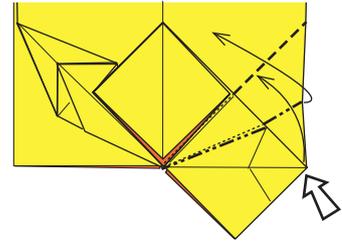
Separate the two layers along AB and mountain fold C down, while valley folding Corner A to B.

61.



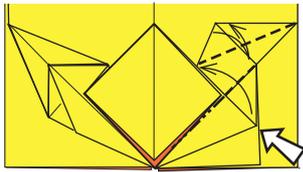
Swivel one leaf to the right, ...

62.



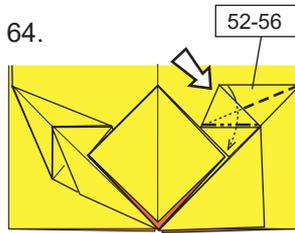
... collapse as shown, along existing crease lines, ...

63.



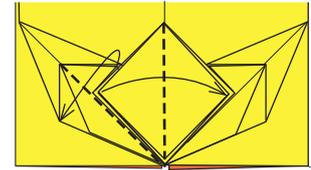
... like this. Fold and unfold the upper tab, then reverse fold the lower one.

64.



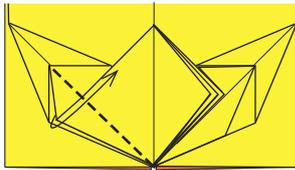
Reverse fold, then repeat Steps 52 to 56 on the right side of this section.

65.



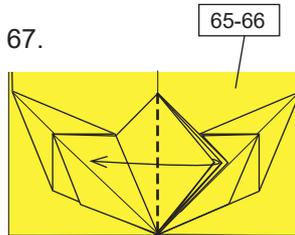
Swivel one flap along the vertical axis from the left to the right, then reverse fold as illustrated on the left.

66.



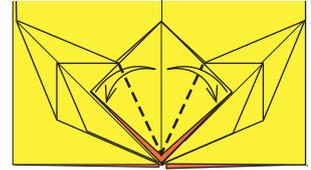
Valley fold, ...

67.



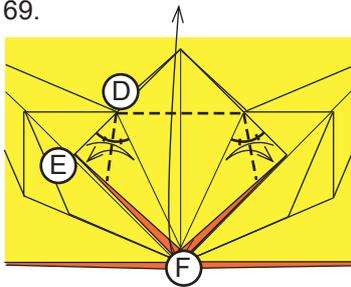
... and repeat Steps 65 and 66 on the right side.

68.



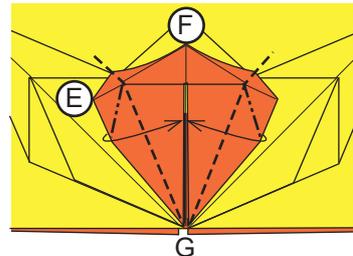
Fold and unfold, creasing firmly.

69.



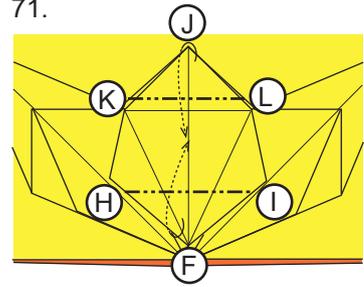
Fold edge DE to line DF, crease well, and unfold. Repeat on the right. That done, lift Corner F temporarily, ...

70.



... and petal fold: all the way towards the vertical edges FG for the lower layer, but along the crease lines made in step 69 for the upper layer (where Corner F is).

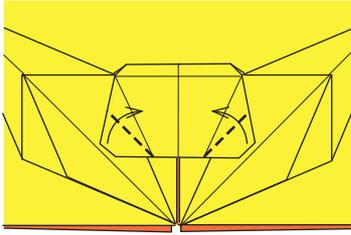
71.



This part of the model should now look like this. Mountain fold along lines HI and KL to hide the Corners F and J respectively.

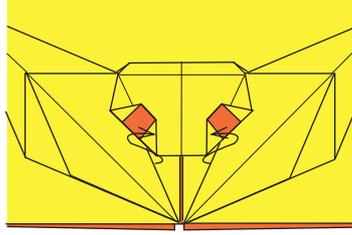


72.



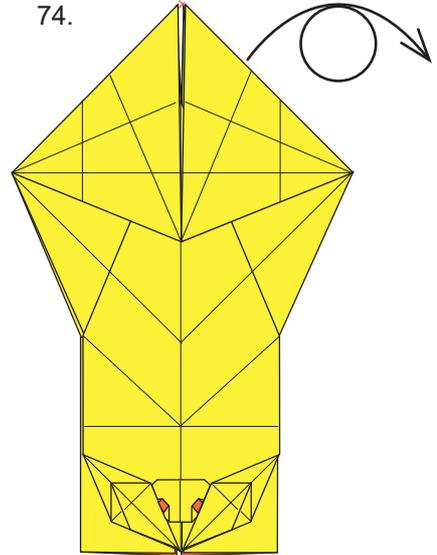
Fold the corners up as illustrated, ...

73.



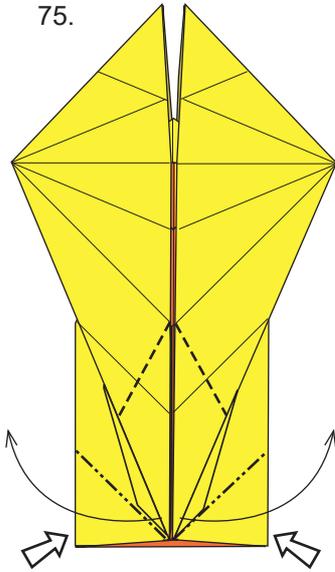
... and you have a pair of eyes. Lift the layers on each side over the layer here the eyes are.

74.



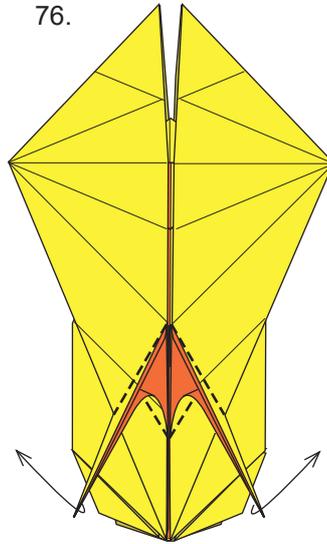
Turn model over.

75.



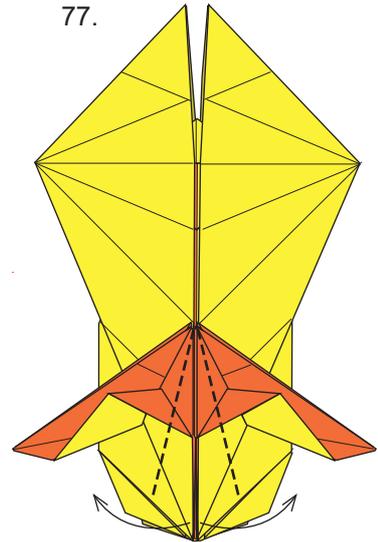
First, reverse fold each of the corners at the bottom. Next, valley fold the two central flaps to the sides, ...

76.



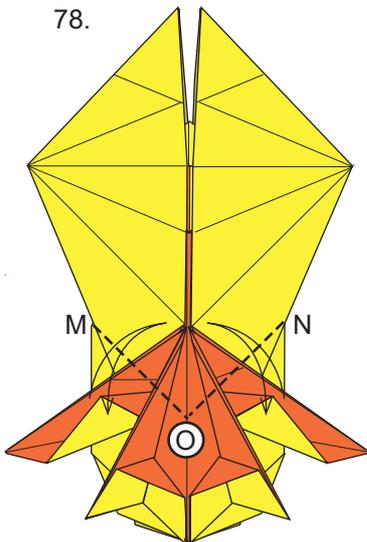
... drawing out the layers underneath as you move along, ...

77.



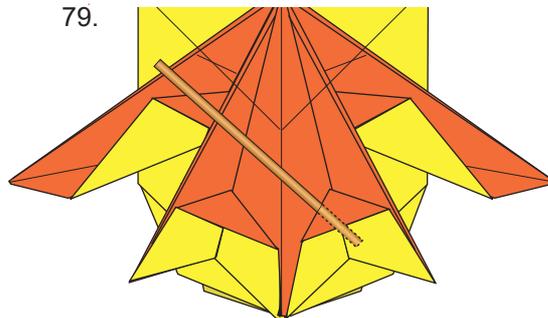
... finally flattening out like this. Valley fold and do the same for the next two flaps on each side.

78.

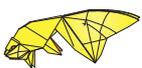


Using the existing valley fold lines, fold and unfold along lines MO and NO. Creasing firmly.

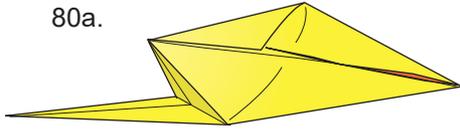
79.



To make the eye sac 3D, insert a matchstick, etc under the second layer and gently push out, ...

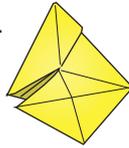


80a.



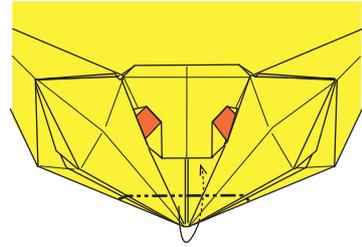
... until the left sac looks like this from the side, ...

80b.



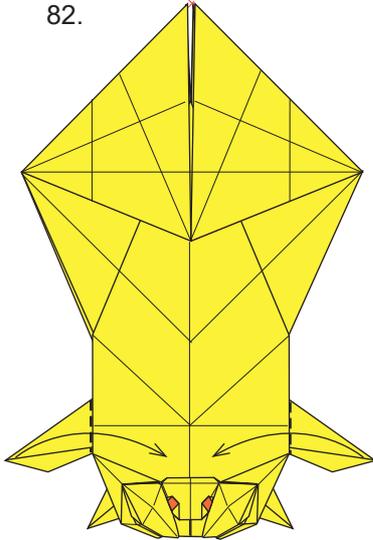
... and like this from the back. Repeat Step 79 on the other side.

81.



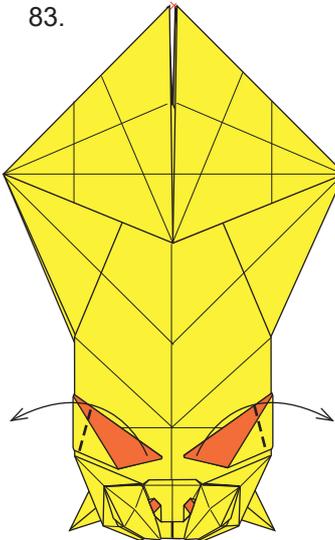
Gently fold this corner of the mouth under, without deflating the sacs.

82.



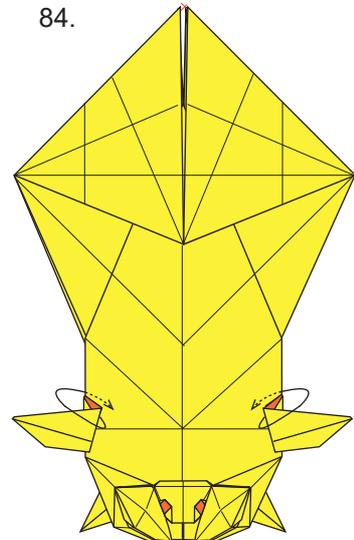
Valley fold each of the larger fin pieces to the middle, ...

83.



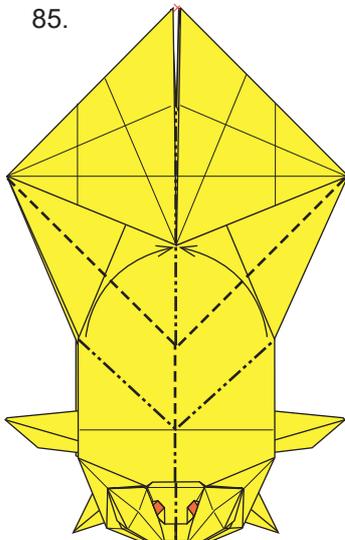
... and outwards to the sides again, at the approximate angles and positions shown.

84.



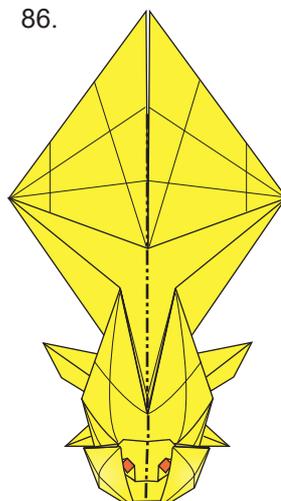
Tuck the base of the fins between the two layers on each side.

85.



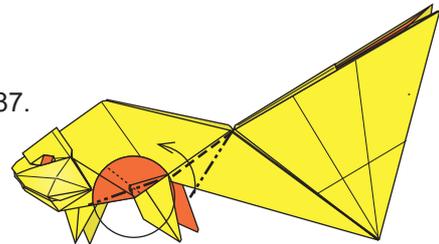
Now collapse as illustrated along existing crease lines as you fold the model in half, ...

86.



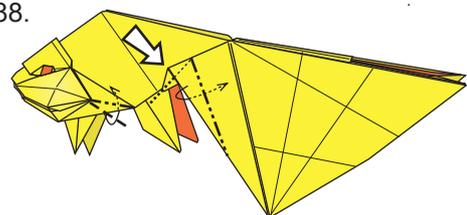
... progressively, like this ...

87.



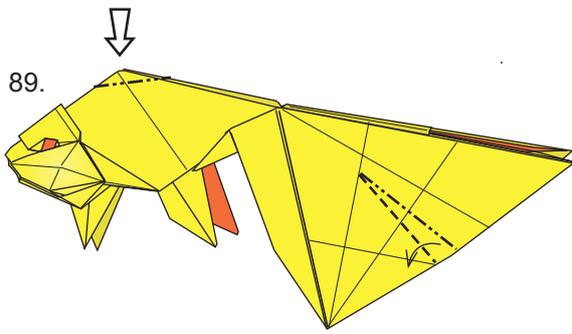
Mountain fold the hidden second layer together with the layers at the base of the fin as shown in the x-ray view, to lock the fin in place. Repeat behind, then crimp fold both sides at the base of the tail as illustrated.

88.

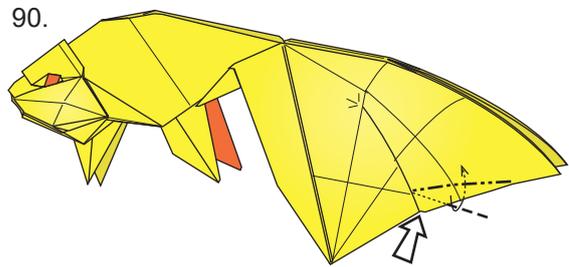


Reverse fold at the base of the tail, and narrow the back of the sac at the eyes as illustrated. Repeat behind.

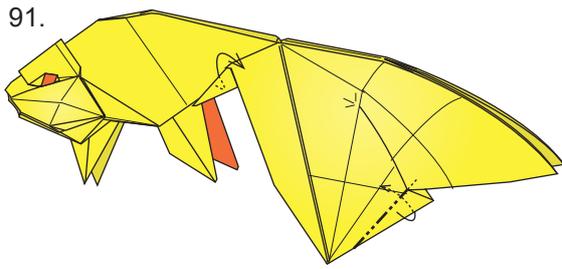




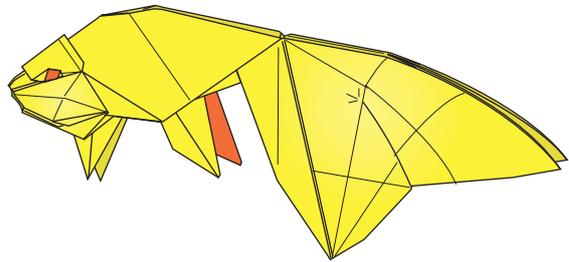
Sink fold the back, then crimp fold the tail as illustrated. The area where the mountain and valley fold lines meet should be convex. (A pair of tweezers will be a great help). Repeat behind.



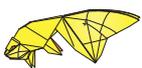
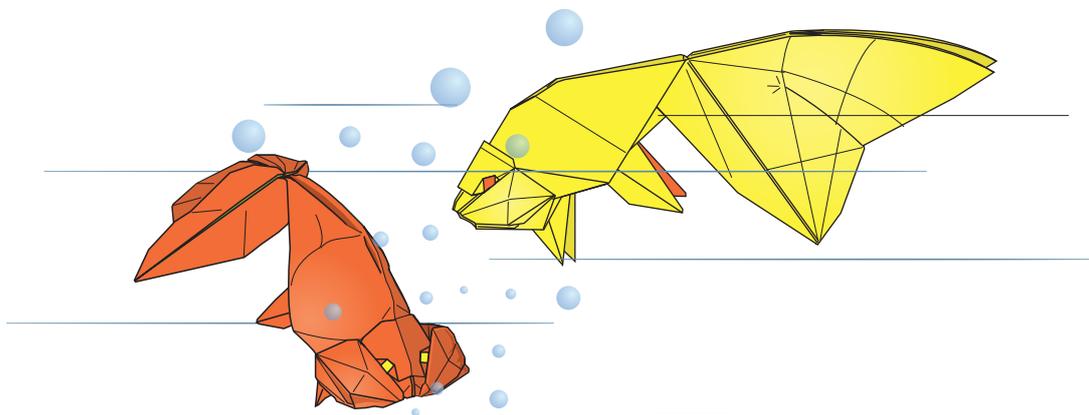
Reverse fold as shown ...

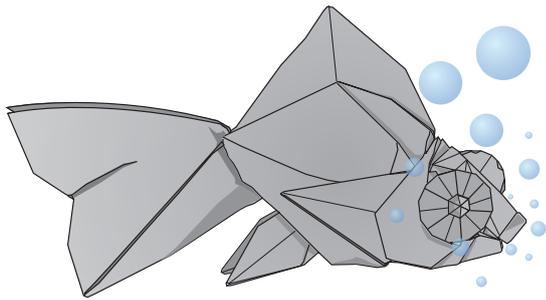


Mountain fold at the tail to lock the edge in place as shown, then lift one layer of the body over the crimped layers at the body and tail joint. Repeat behind, and ...



... and you're all done!



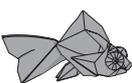
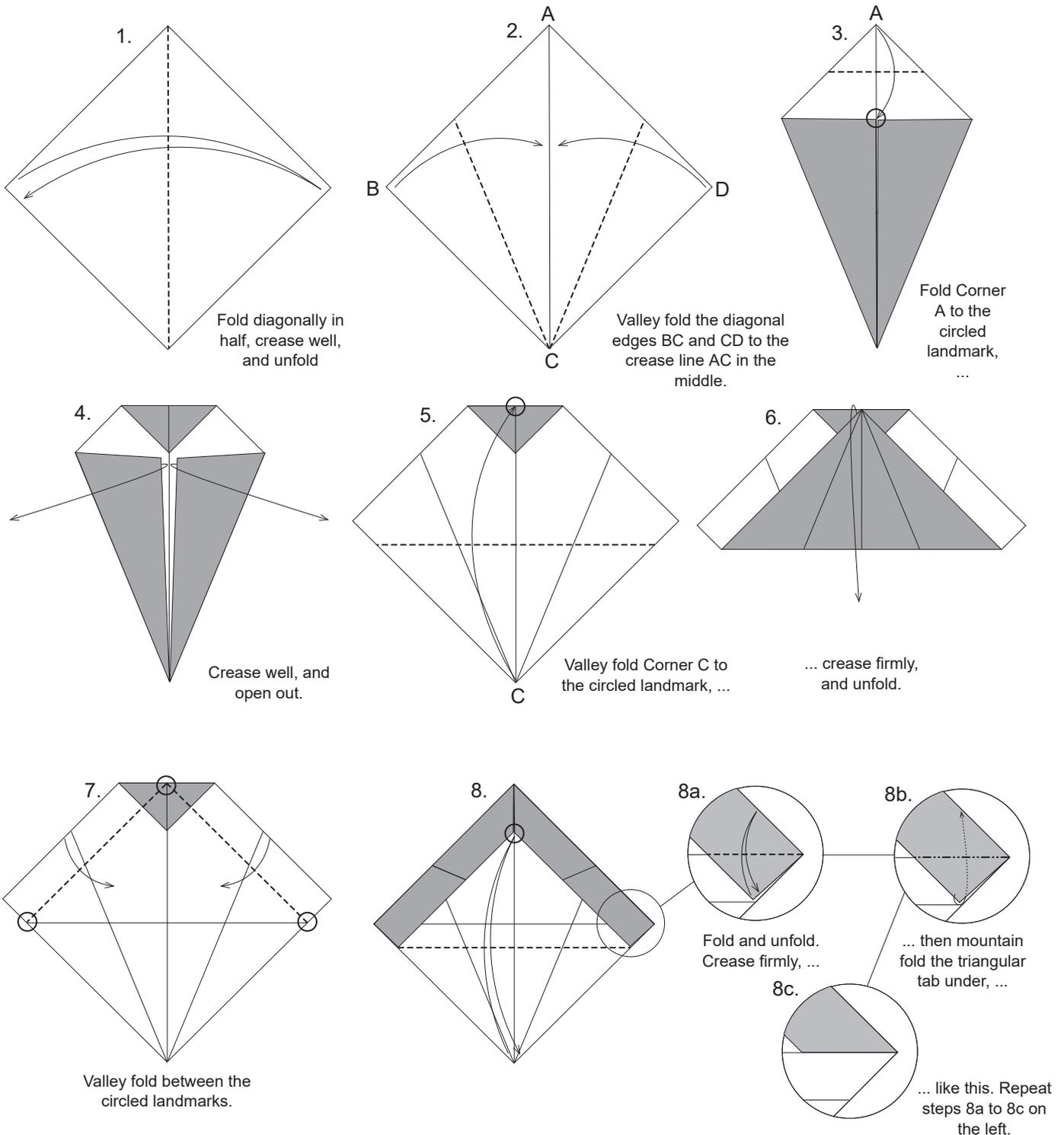


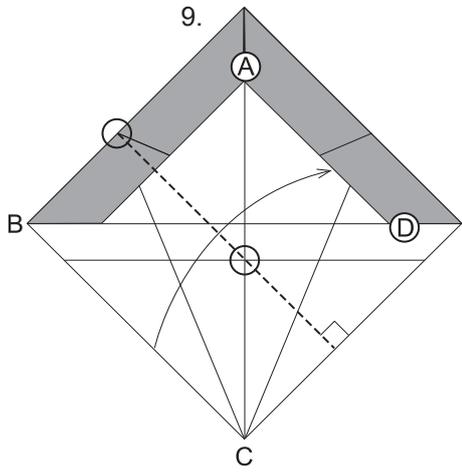
Paper:

- Duo Kami 30x30 cm
- Sandwich 23x23 cm
- Tissue-foil 30x30 cm
- Biotope 35x35 cm

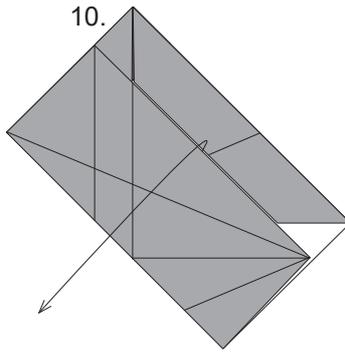
Ratio: 0.44

The Blackmoor is best wet-folded or folded with tissue foil, though it can be folded satisfactorily with standard origami paper. Use a black sheet of paper.

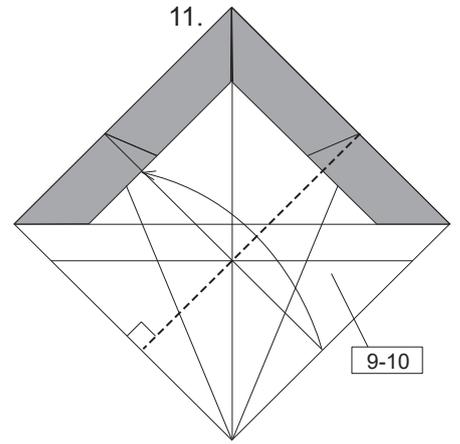




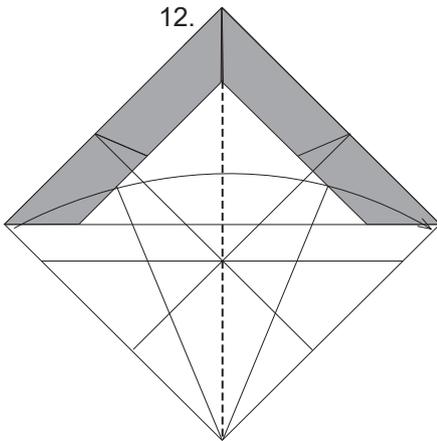
Valley fold through the circled landmarks, such that edge BC meets edge AD exactly, ...



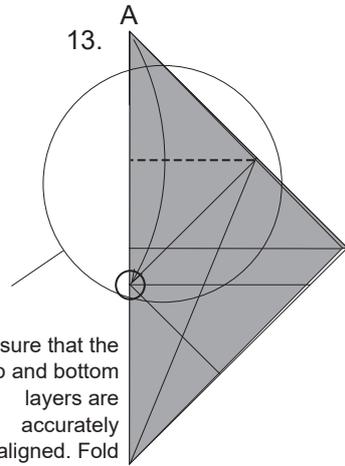
... like this. Unfold, ...



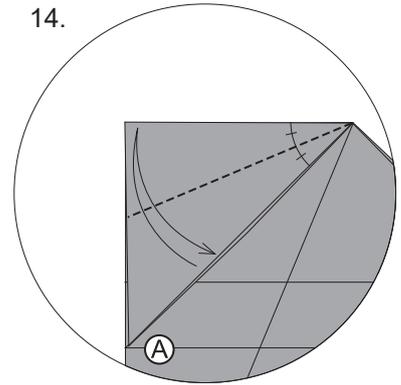
Repeat Steps 9 and 10 in the opposite direction.



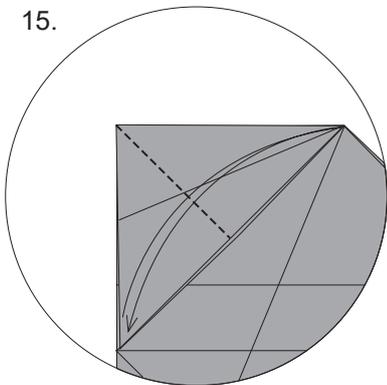
Fold diagonally in half.



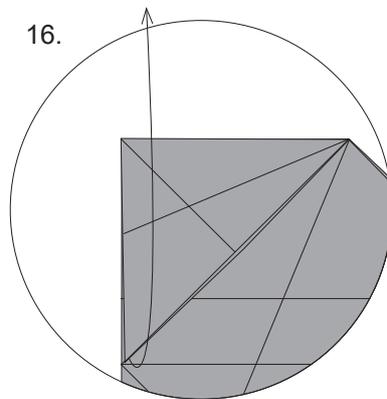
Ensure that the top and bottom layers are accurately aligned. Fold Point A to the circled landmark.



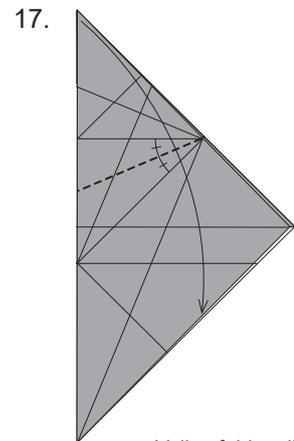
Fold and unfold as illustrated. Crease firmly.



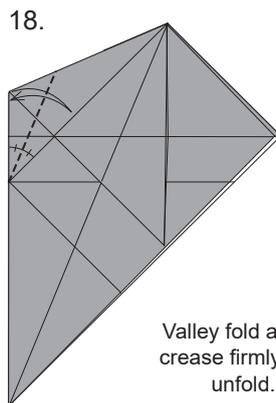
Fold and unfold again, creasing firmly as before.



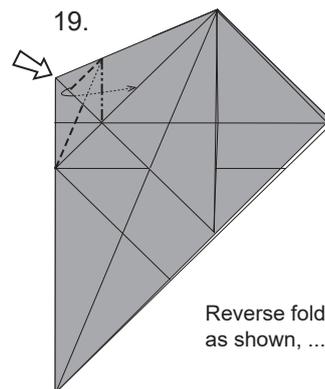
Unfold.



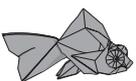
Valley fold as illustrated. Crease firmly again.



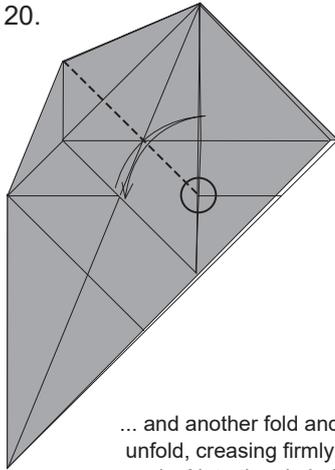
Valley fold again, crease firmly, and unfold.



Reverse fold as shown, ...

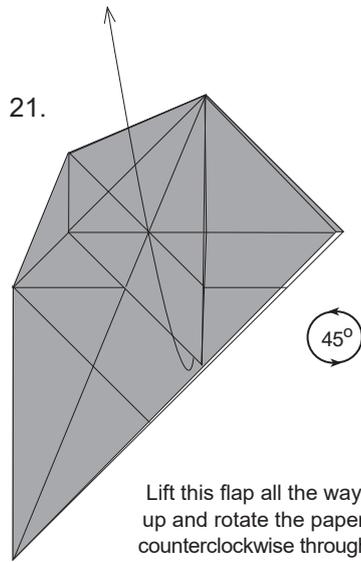


20.



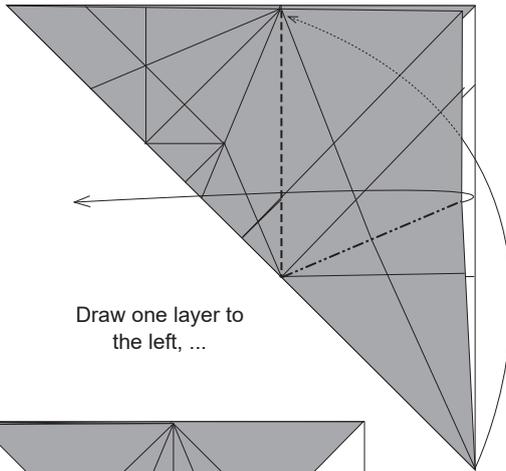
... and another fold and unfold, creasing firmly again. Note the circled landmark on the right.

21.



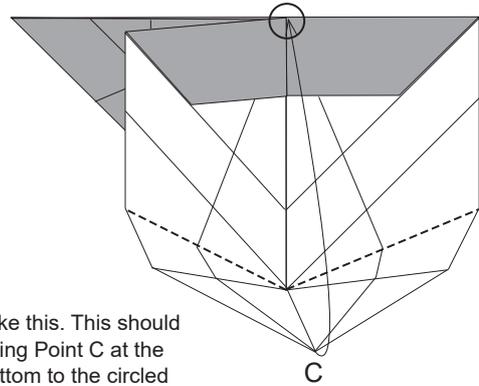
Lift this flap all the way up and rotate the paper counterclockwise through 45 degrees.

22.



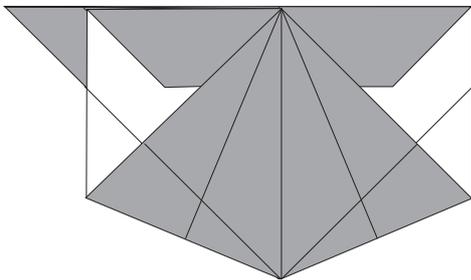
Draw one layer to the left, ...

23.



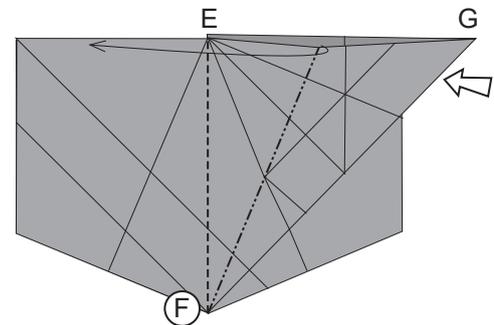
... like this. This should bring Point C at the bottom to the circled landmark, ...

24.



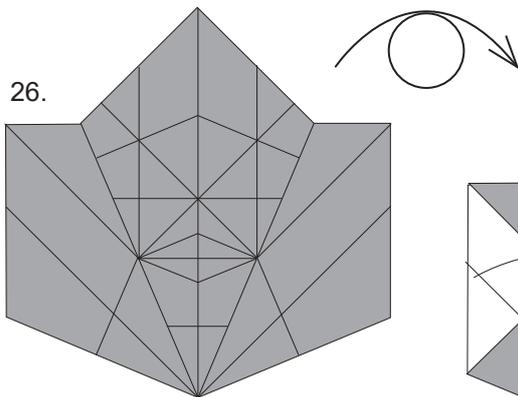
... in a squash fold as shown. Turn paper over ...

25.



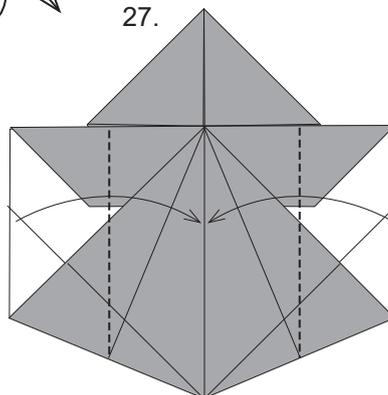
Separate one layer of the triangular flap EFG along its horizontal edge EG and squash fold.

26.

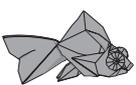


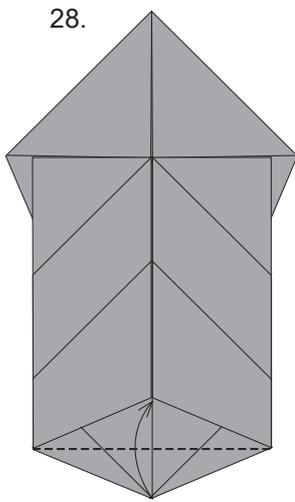
Turn paper over again.

27.

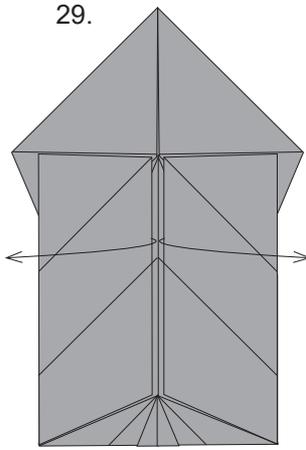


Valley fold the vertical edges on each side to meet the crease line in the middle.

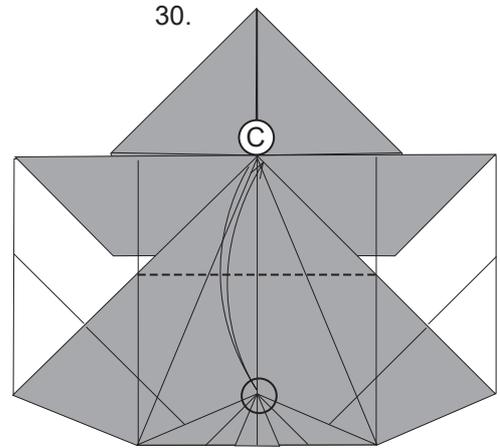




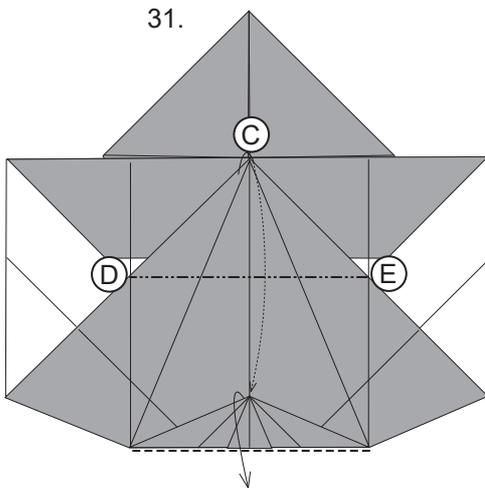
Fold up, ...



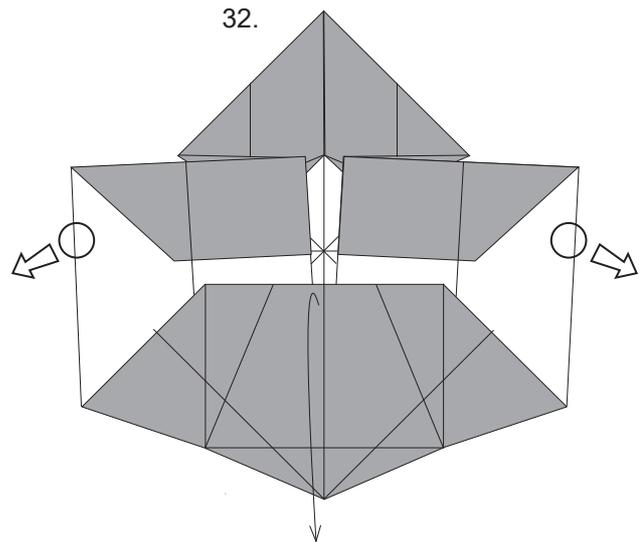
... then unfold Step 27.



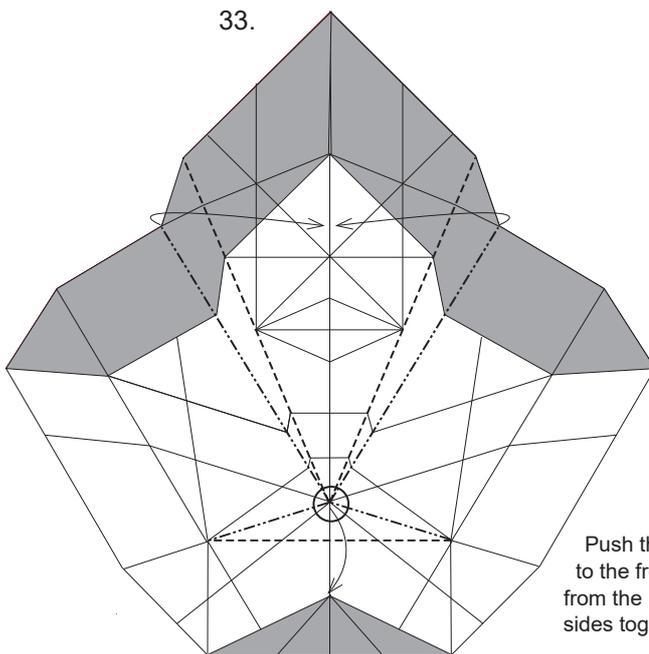
Fold Corner C to the circle landmark, crease firmly, and unfold.



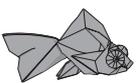
Mountain fold to hide triangle CDE.

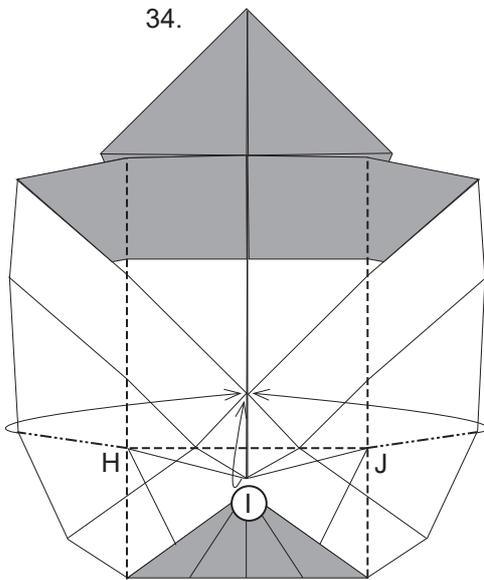


Hold the paper at the circled positions and pull to the sides to open out.

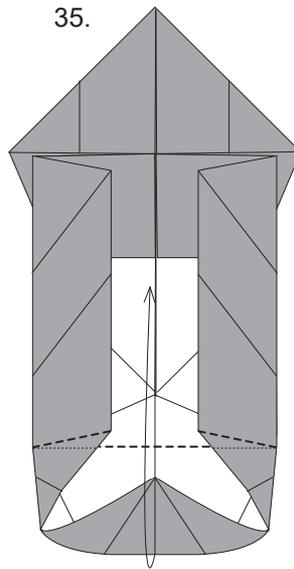


Push the circled area of the paper to the front, by pushing towards you from the back. That done, collapse the sides together again along the existing fold lines, ...

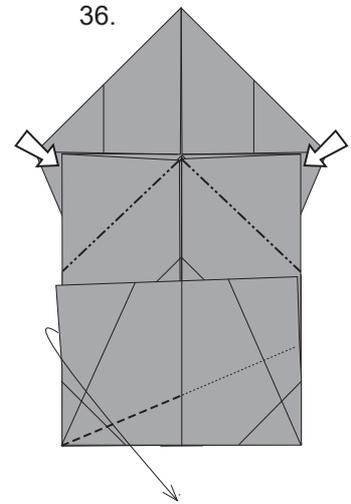




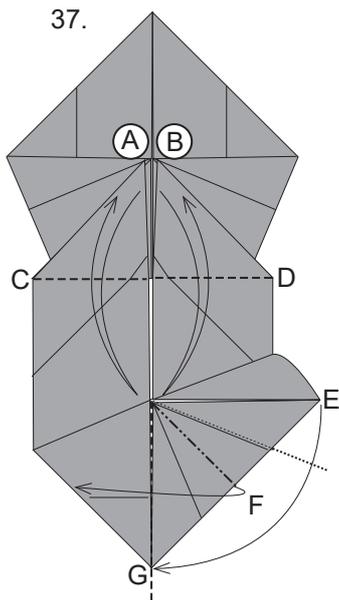
34. First, fold the triangle HIJ up, then valley fold the two sides to the centre, ...



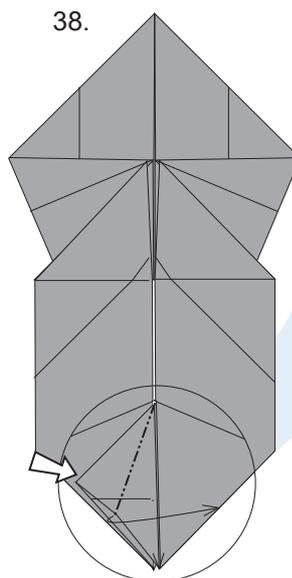
35. ... as you bring up the rectangular section at the bottom, ...



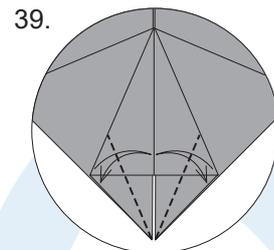
36. ... like this. Reverse fold the corners on each side, then valley fold on the left, as far down as the paper will go.



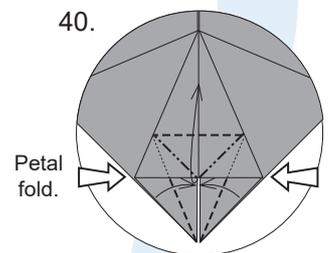
37. Fold Points A and B down along line CD, crease firmly, and unfold. Next, draw mid-point F to the left, while bringing Corner E to Corner G, ...



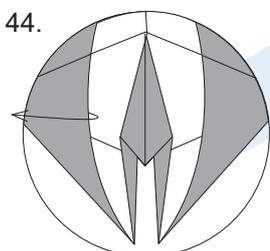
38. ... like this. Squash fold.



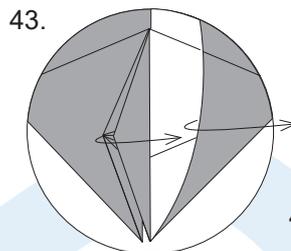
39. Fold the lower diagonal edges to the centre, crease firmly, and unfold.



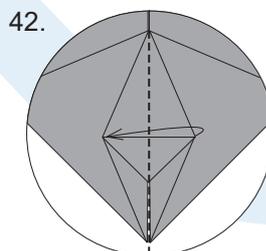
40. Petal fold.



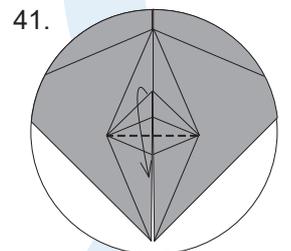
44. Now free the first layer on the left, ...



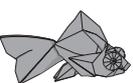
43. ... and lift to free the first layer on the right, then swivel the two flaps in the middle a little more than 90 to the right.

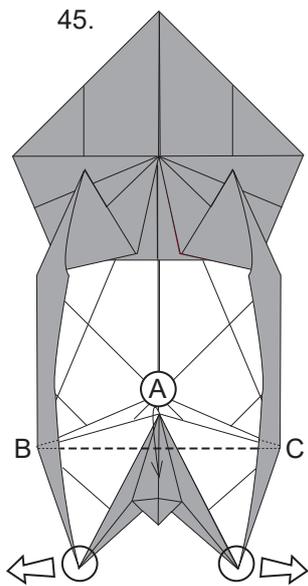


42. Swivel the flap on the right to the left, ...

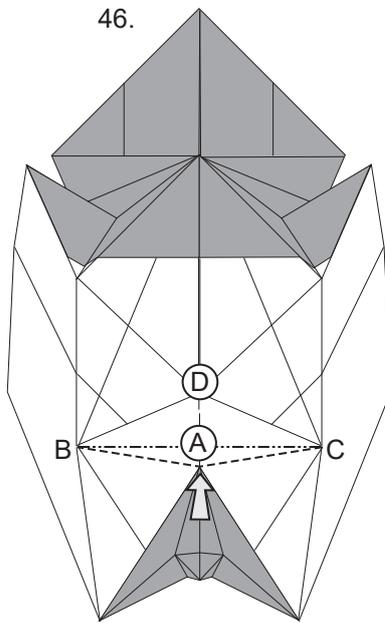


41. Fold the little tab down, ...

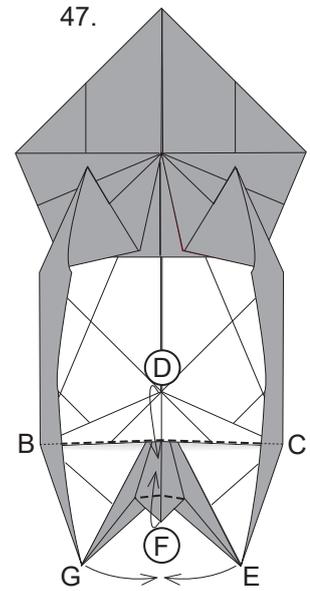




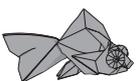
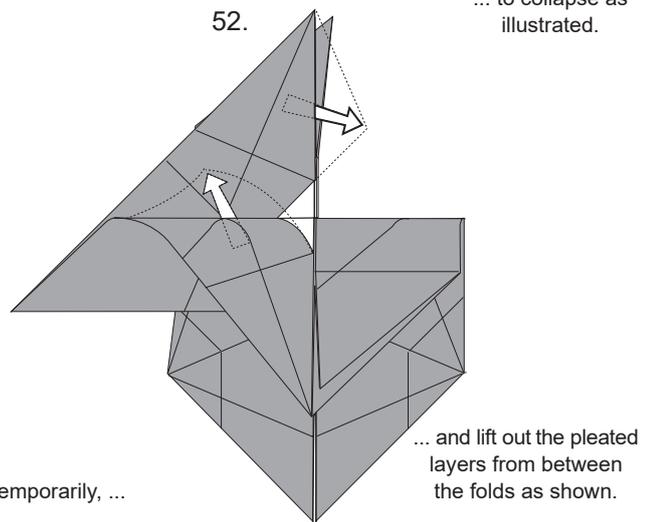
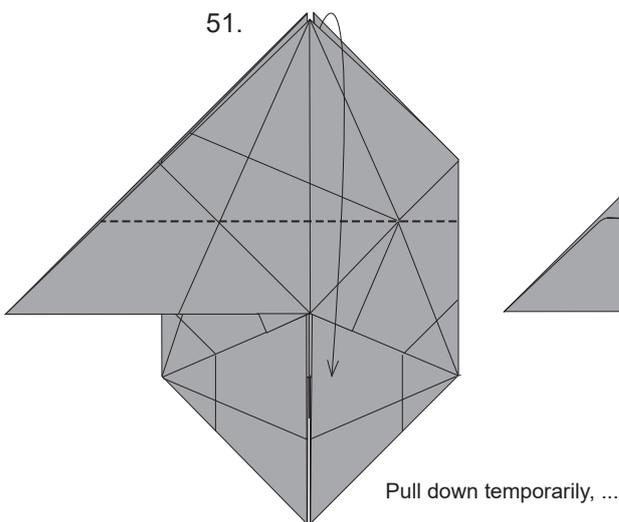
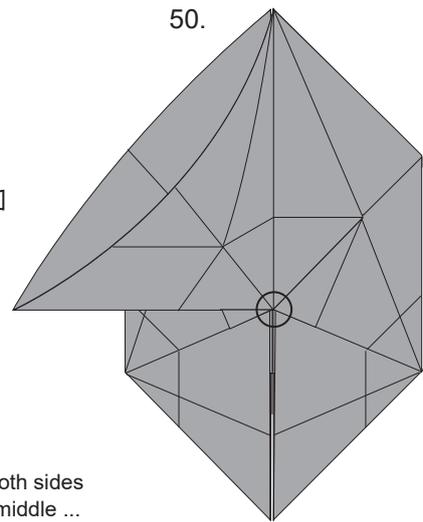
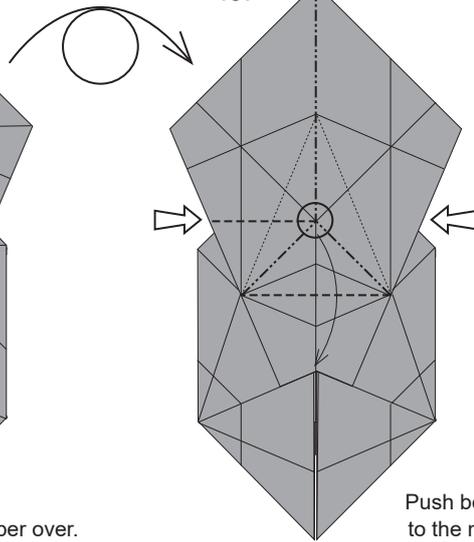
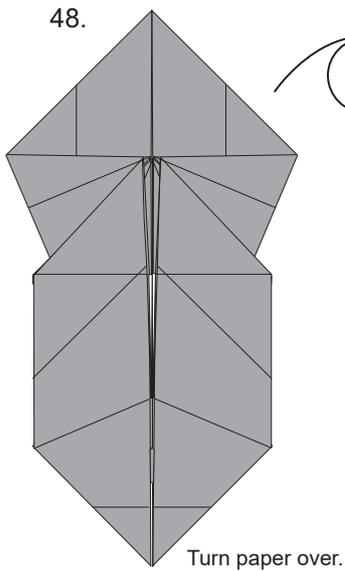
Grasp the circled points and pull gently to each side to open out, then swivel Point A down along line BC, ...

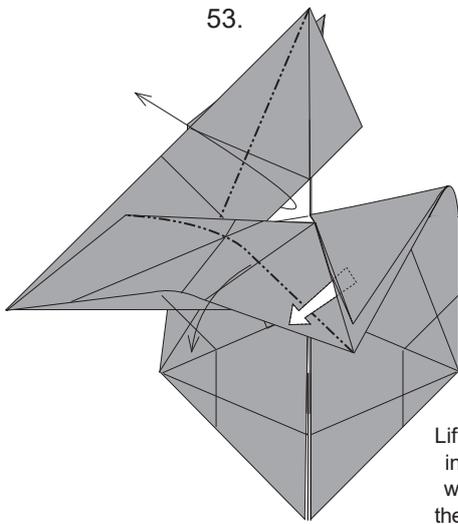


... like this. Push Point A under and upwards behind the mountain fold line BC (closed sink - See final position in Figure 48).



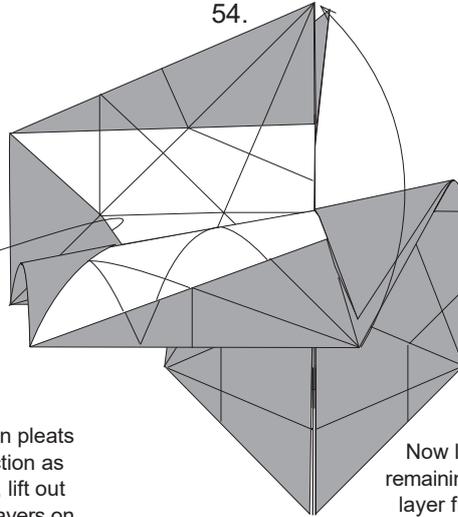
Swivel Point D of the next triangular tab down, and Point F of the smaller tab up. That done, bring Points G and E together to close up.





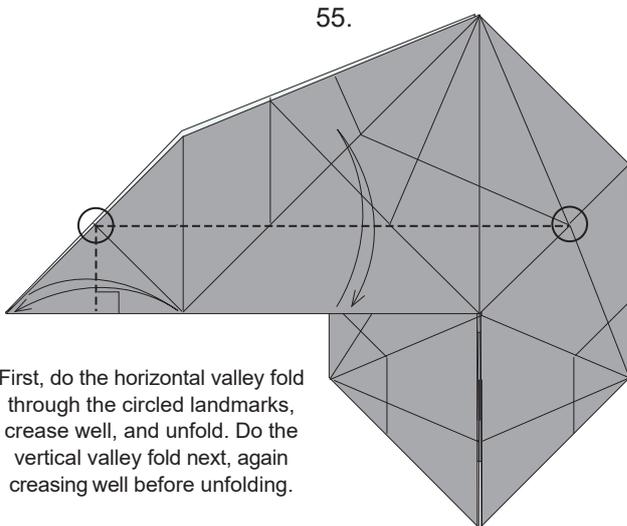
53.

Lift out the hidden pleats in the lower section as well. That done, lift out the overlapping layers on both surfaces as shown.



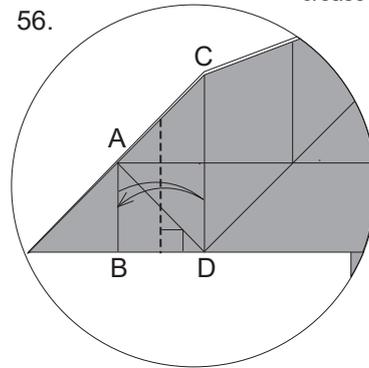
54.

Now lift out the remaining triangular layer from within and flatten paper along existing crease lines.



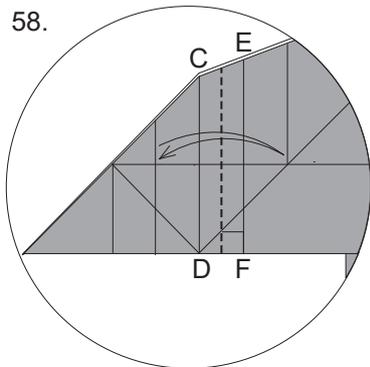
55.

First, do the horizontal valley fold through the circled landmarks, crease well, and unfold. Do the vertical valley fold next, again creasing well before unfolding.



56.

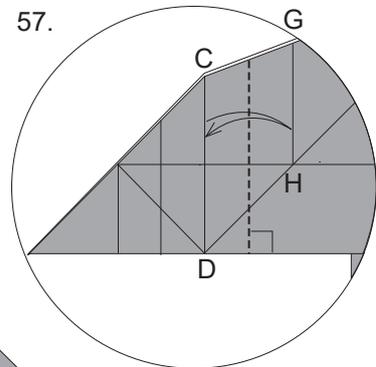
Valley fold to place line AB directly on line CD, crease firmly, and unfold again.



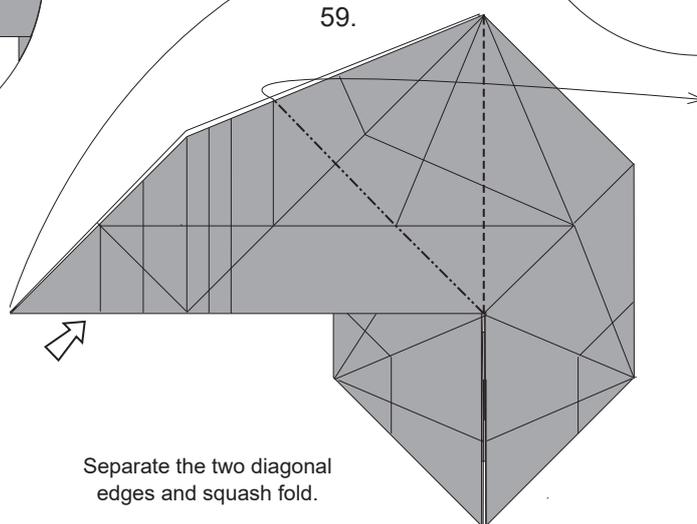
58.

... and again with lines CD and EF.

Repeat Step 56 with lines CD and GH, ...

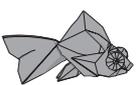


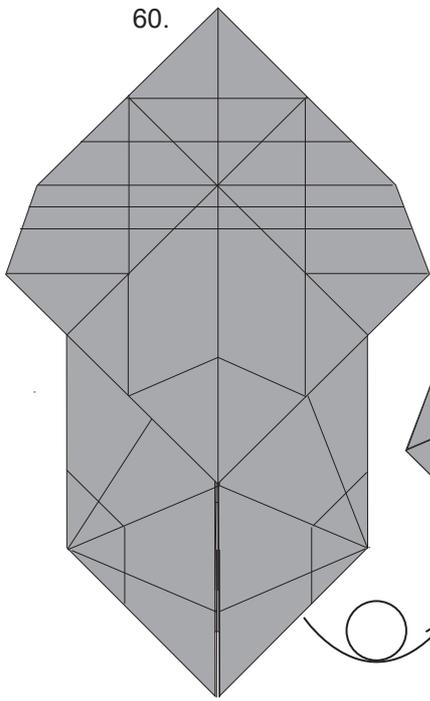
57.



59.

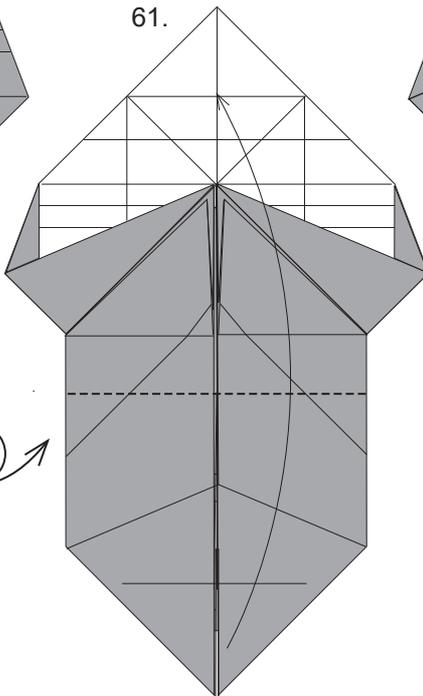
Separate the two diagonal edges and squash fold.



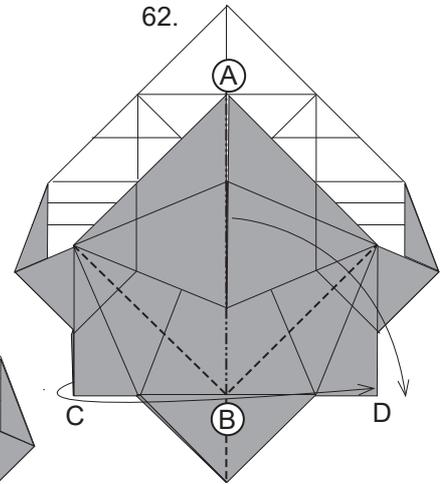


60.

Valley fold up, swivelling along the base of the triangular protrusion at the back.



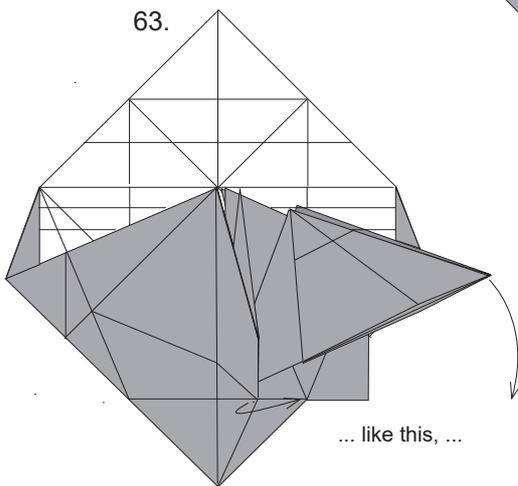
61.



62.

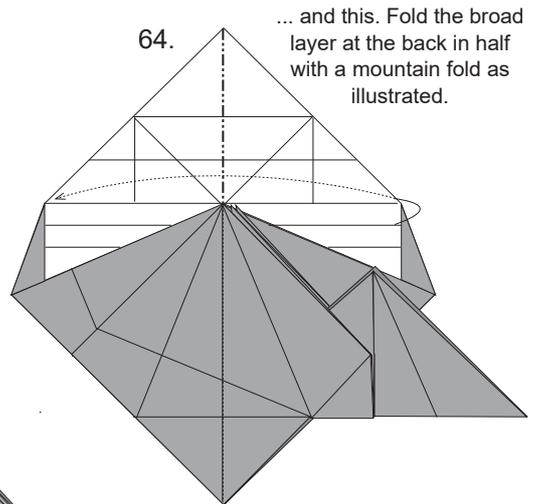
Draw the mountain fold line AB to the right of horizontal edge CD, while swivelling one leaf on the left to the right, ...

Turn paper over.



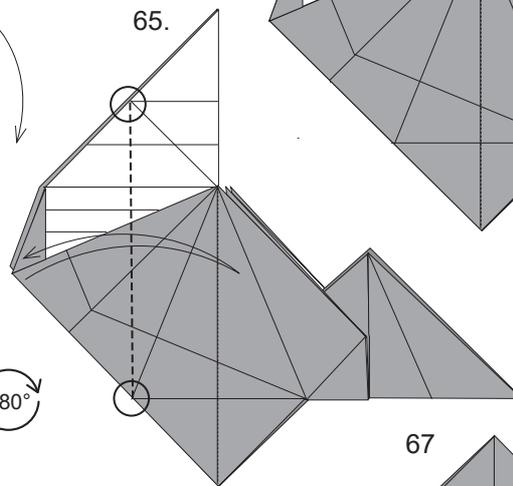
63.

... like this, ...



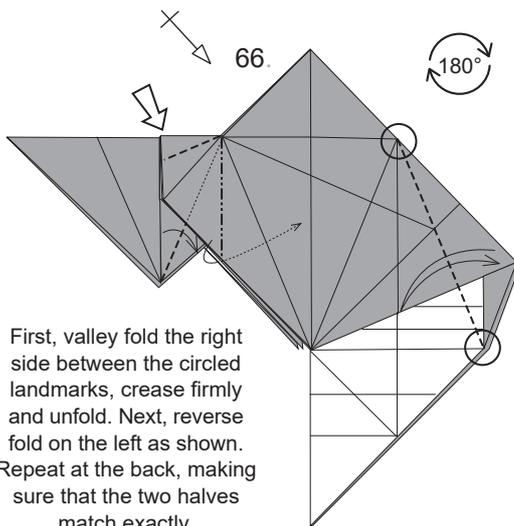
64.

... and this. Fold the broad layer at the back in half with a mountain fold as illustrated.



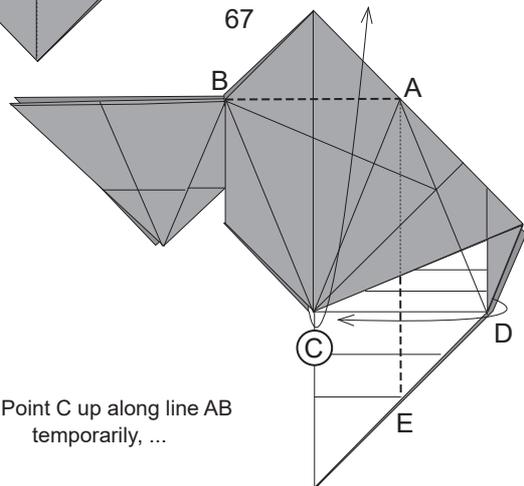
65.

Fold and unfold between the circled landmarks. Crease firmly. Repeat at the back and rotate the paper 180 degrees.



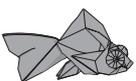
66.

First, valley fold the right side between the circled landmarks, crease firmly and unfold. Next, reverse fold on the left as shown. Repeat at the back, making sure that the two halves match exactly.

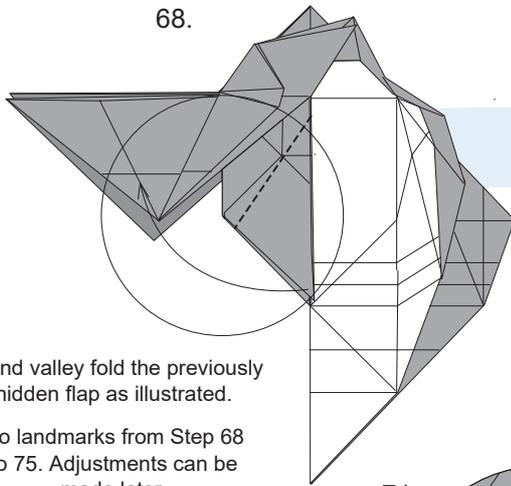


67.

Lift Point C up along line AB temporarily, ...



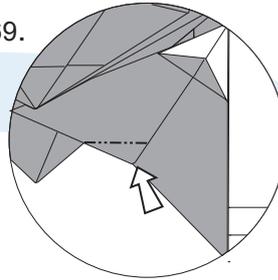
68.



... and valley fold the previously hidden flap as illustrated.

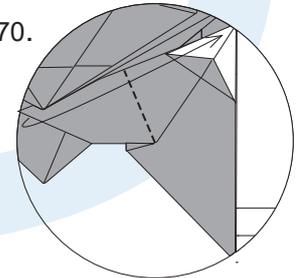
No landmarks from Step 68 to 75. Adjustments can be made later.

69.



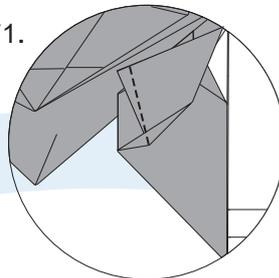
Reverse fold, ...

70.



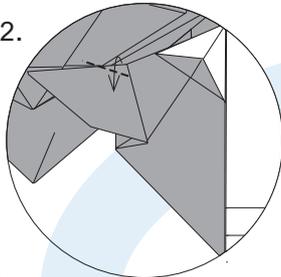
... then valley fold to the right, ...

71.



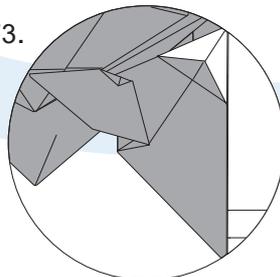
... and to the left again.

72.



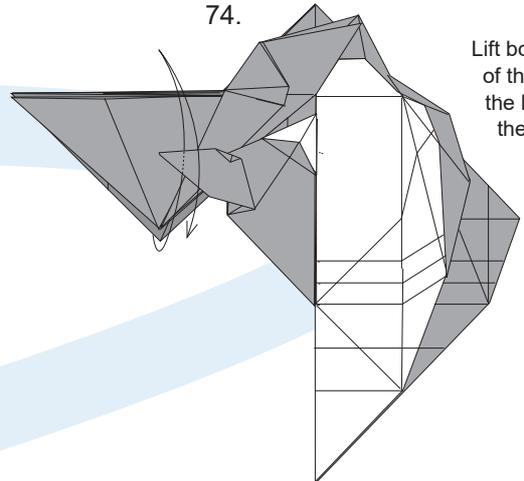
Fold the corner down to lock this piece in place, ...

73.



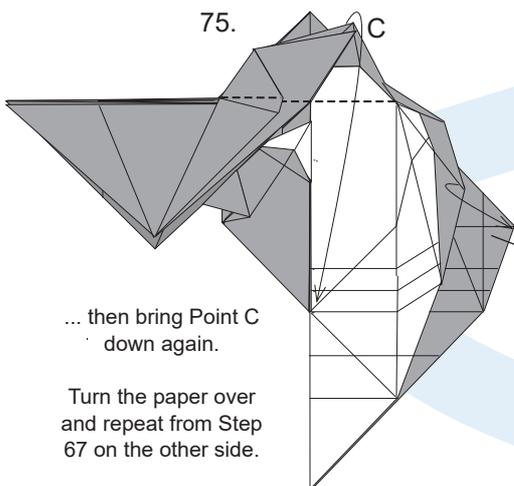
... like this, to form a fin.

74.



Lift both layers of the tail on the left over the fin, ...

75.

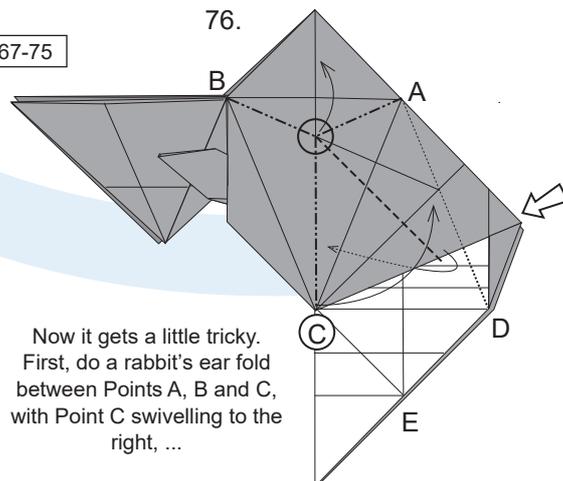


... then bring Point C down again.

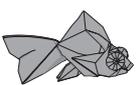
Turn the paper over and repeat from Step 67 on the other side.

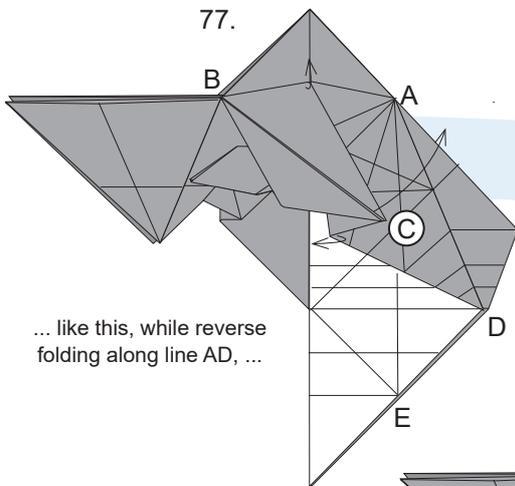
67-75

76.

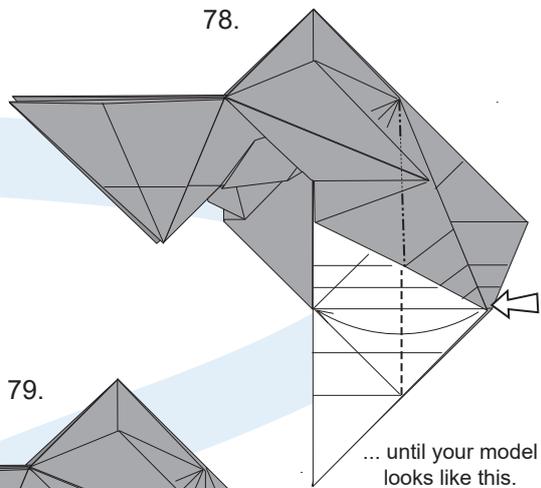


Now it gets a little tricky. First, do a rabbit's ear fold between Points A, B and C, with Point C swivelling to the right, ...

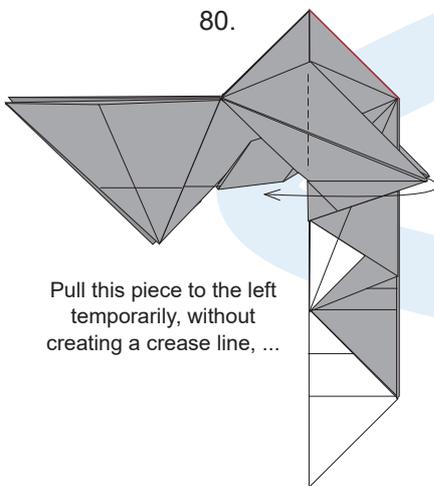




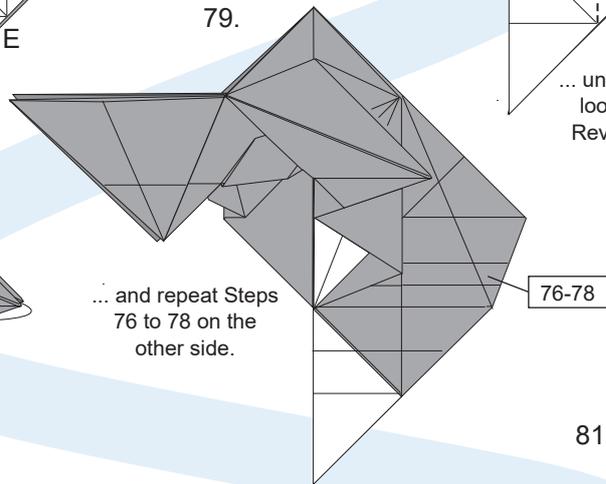
... like this, while reverse folding along line AD, ...



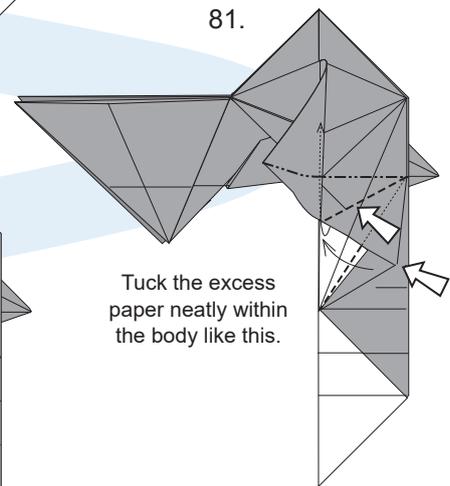
... until your model looks like this. Reverse fold, ...



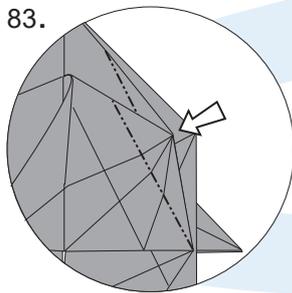
Pull this piece to the left temporarily, without creating a crease line, ...



... and repeat Steps 76 to 78 on the other side.

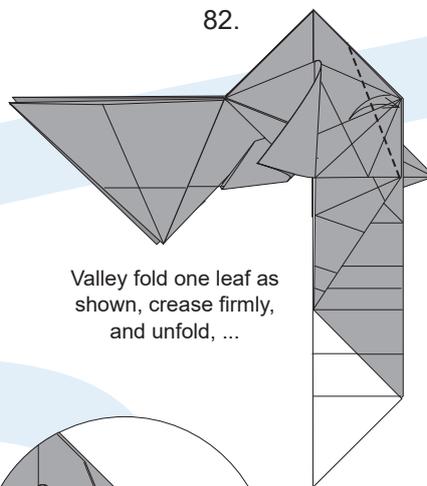


Tuck the excess paper neatly within the body like this.



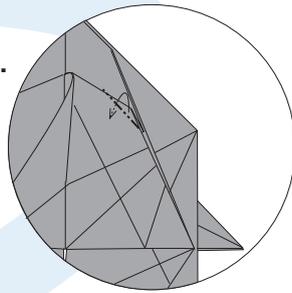
83.

Valley fold one leaf as shown, crease firmly, and unfold, ...



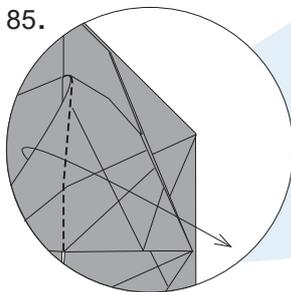
82.

... then do an open sink fold as shown.



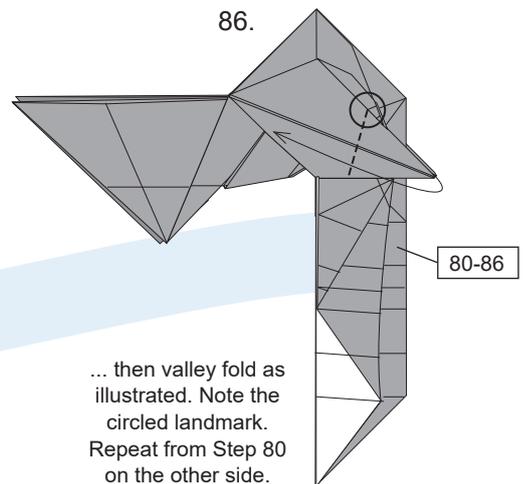
84.

Mountain fold.

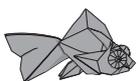


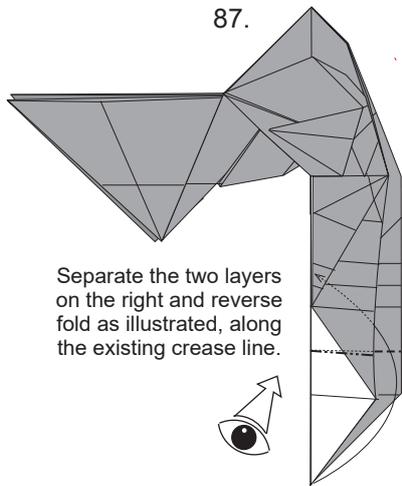
85.

Now swivel the flap in the middle to the right, ...

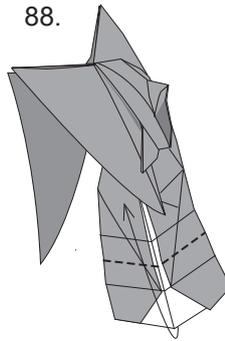


... then valley fold as illustrated. Note the circled landmark. Repeat from Step 80 on the other side.

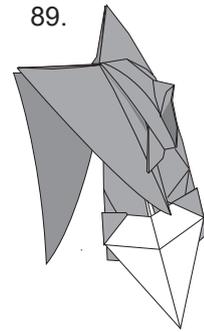




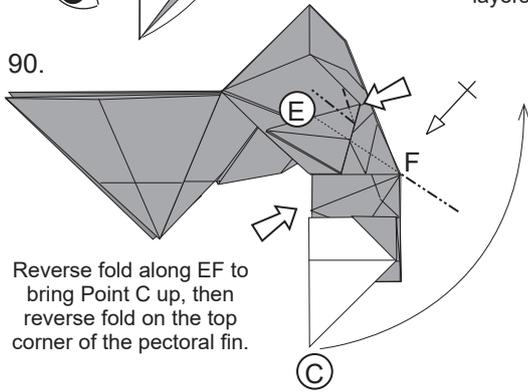
87. Separate the two layers on the right and reverse fold as illustrated, along the existing crease line.



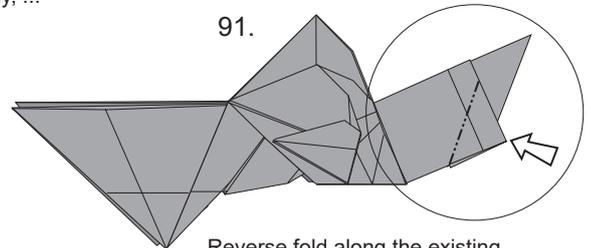
88. This is the view from the tail end of the goldfish. Valley fold the first two layers only, ...



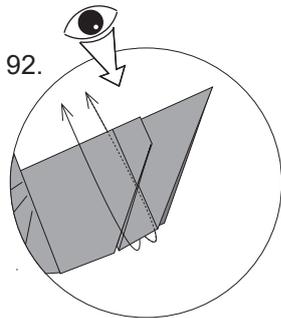
89. ... like this.



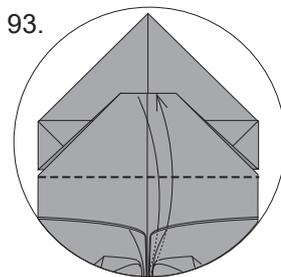
90. Reverse fold along EF to bring Point C up, then reverse fold on the top corner of the pectoral fin.



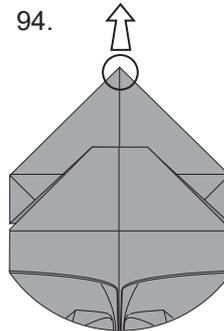
91. Reverse fold along the existing crease line. Repeat behind.



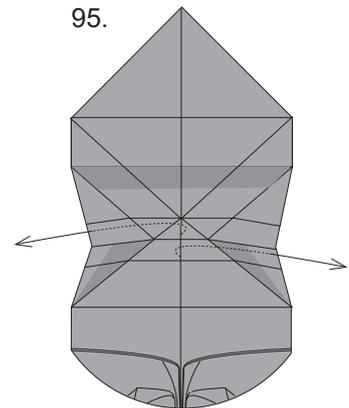
92. Separate the two halves and flatten out, ...



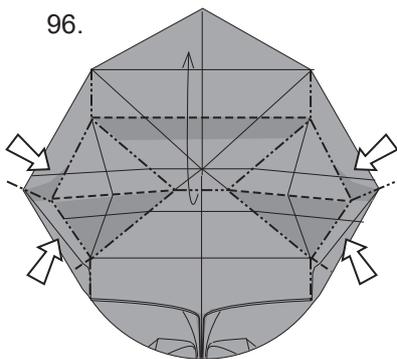
93. ... like this. Valley fold, crease firmly, and unfold.



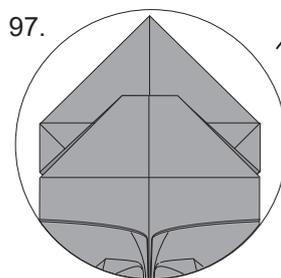
94. Now hold the circled corner and pull gently upwards to open out the layers, ...



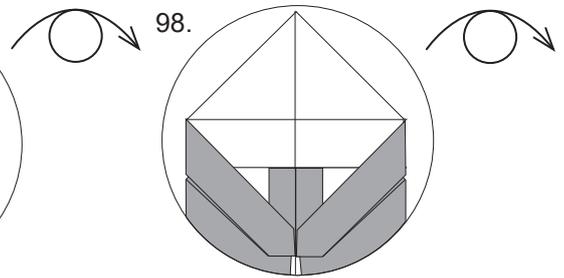
95. ... lift out the layers from below, ...



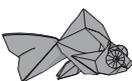
96. ... and refold as illustrated along the existing crease lines.

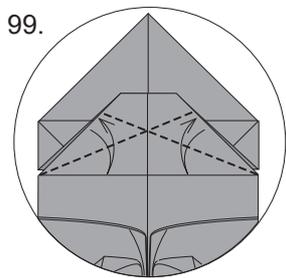


97. This is how your model should now appear from the top, ...

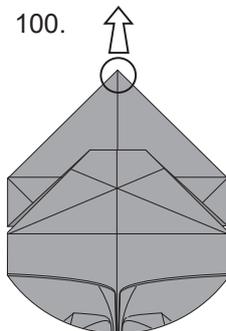


98. ... and from the bottom. Turn over again.

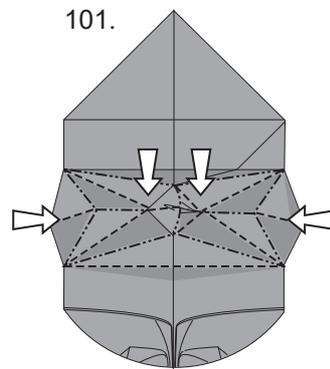




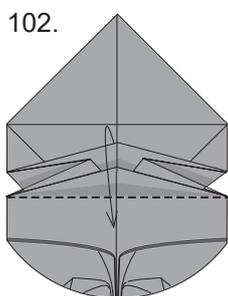
99. Valley fold on the left as shown, crease firmly, and unfold. Repeat on the right.



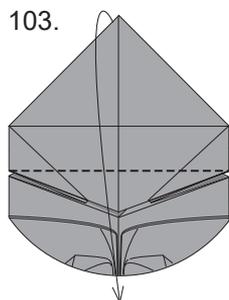
100. Now take hold of the circled portion once more and pull gently upwards again, ...



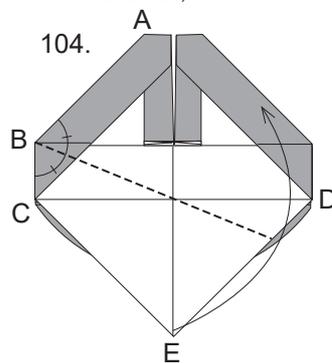
101. ... and collapse the layers along the crease lines made in Step 99 as illustrated, ...



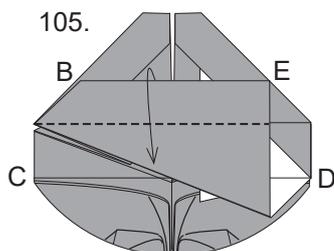
102. ... like this, flattening completely.



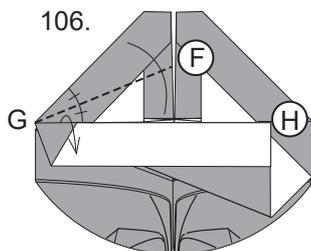
103. Fold one layer down, ...



104. ... then up again, bringing the vertical edge BC in line with the diagonal edge AB immediately above.

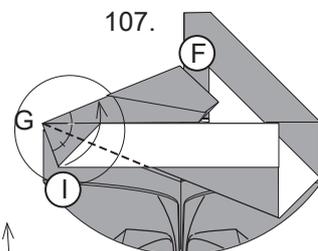


105. Fold edge BE to line CD.

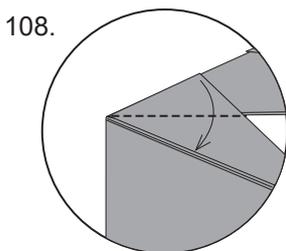


106. Unlock the trapped flap. Then fold along the angle bisector.

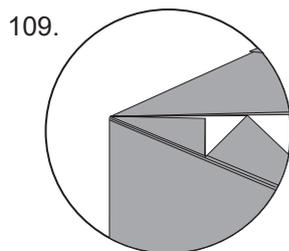
Note: the triangle CDE will be lying against the front of the dorsal fin and will not appear as in the above illustration.



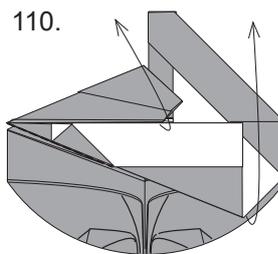
107. Valley fold edge GI to edge GF, ...



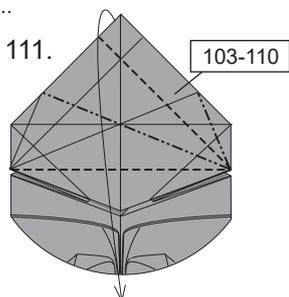
108. ... then down once more, ...



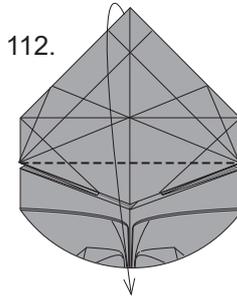
109. ... like this.



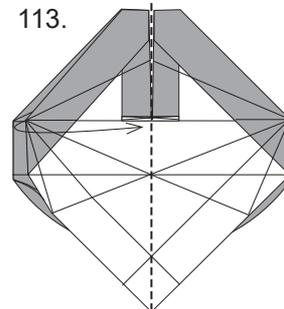
110. Unfold entirely to the position at the start of Step 103.



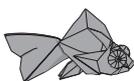
111. Repeat Steps 103 to 110 on the right side.

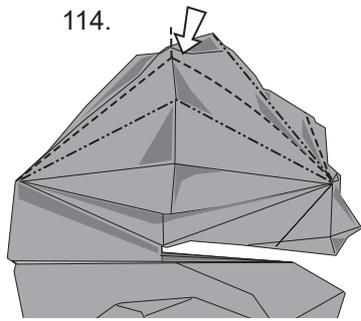


112. Fold down again.



113. Swivel one flap to the right, ...

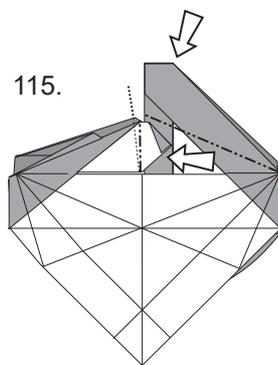




114.

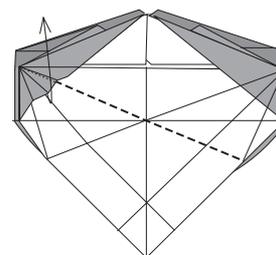
This is a view of the left side.

Sink fold along the crease lines made in Step 106. When complete, the paper should appear similar to the left half of figure 102.



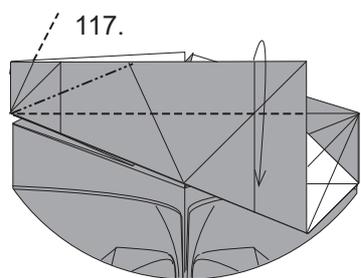
115.

Reverse fold the tip to complete the left side, then repeat Step 114 on the right. This time, the tip of the right tab should be inserted between the layers of the left tab.



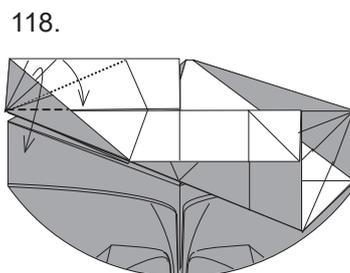
116.

Valley fold along the existing crease line, separating and drawing out the coloured layer on the upper left as you proceed.



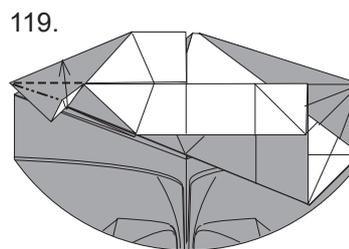
117.

Fold along existing crease lines as illustrated, ...



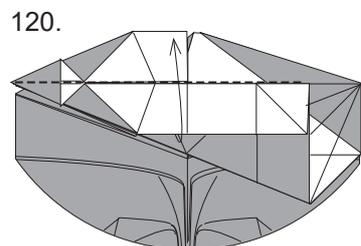
118.

... like this,



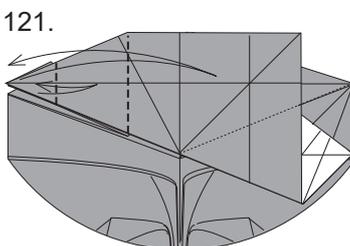
119.

... with a squash fold here.



120.

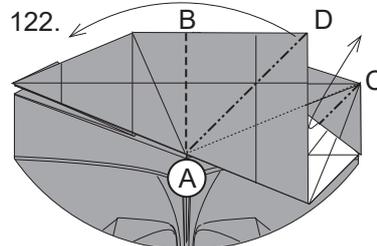
Fold this flap up.



121.

Make two valley folds on the left as shown, creasing firmly through all layers before unfolding.

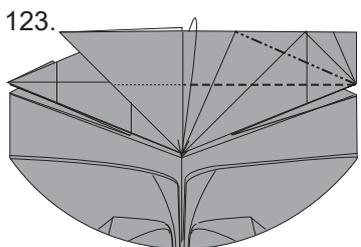
The shorter fold on the left should be along an existing crease, while the long fold should be at the base of the tab, as far as it can swivel to the right.



122.

And now for the right side.

Lift up the coloured layer at C, then swivel point D to the left with a valley fold along AB. This will result in another valley fold along AC on the underlying layer, ...

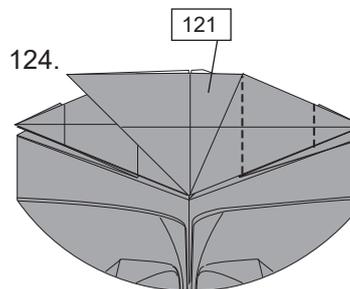


123.

... like this.

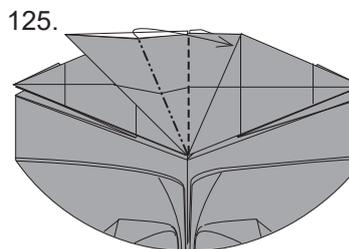
Valley fold down, opening the triangular tab in the centre temporarily.

Repeat from Step 117 on the right, ...



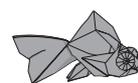
124.

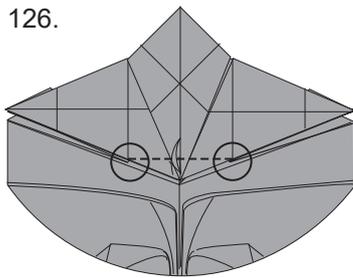
... then repeat Step 121.



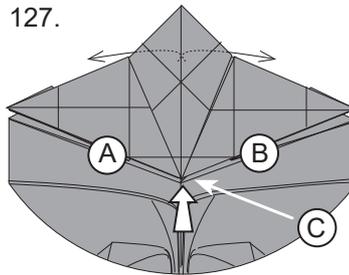
125.

Squash fold.

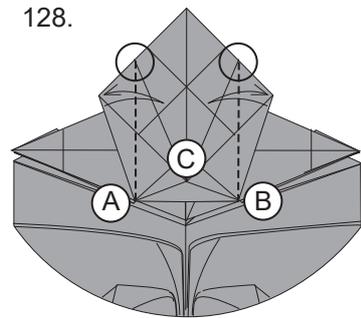




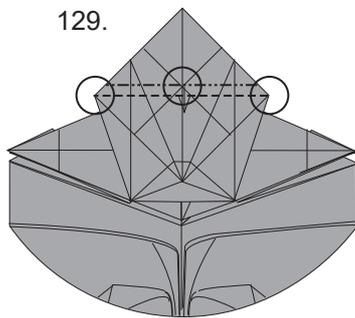
Valley fold between the circled landmarks, crease firmly, and unfold.



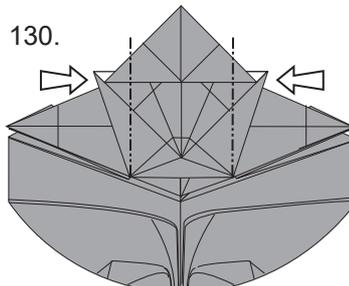
Now flatten out the triangle ABC while opening out the underlying layers at the top, ...



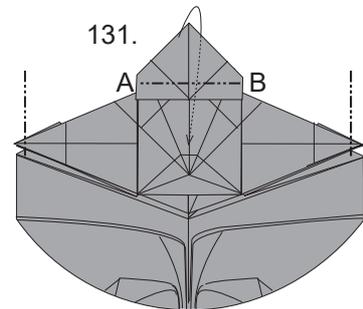
... like this. Fold between the circled landmarks and Points A and B respectively. Crease firmly and unfold.



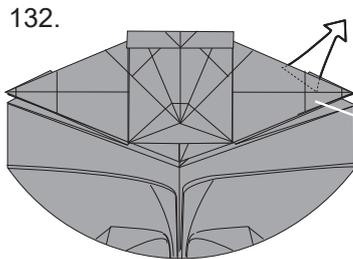
Crimp fold. Note the three circled landmarks for the valley and mountain folds.



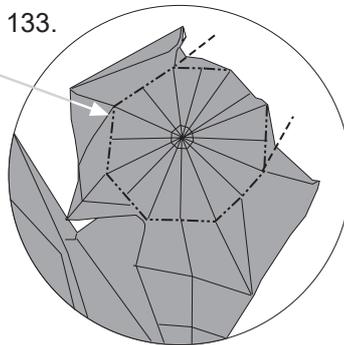
Reverse fold along the crease lines made in Step 128.



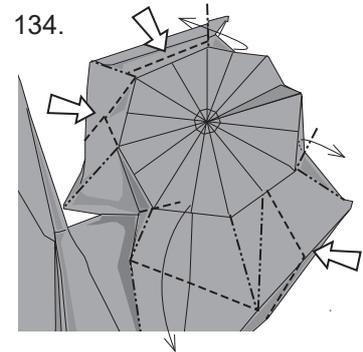
Mountain fold along line AB. Fold and unfold the tips on each side. Crease firmly



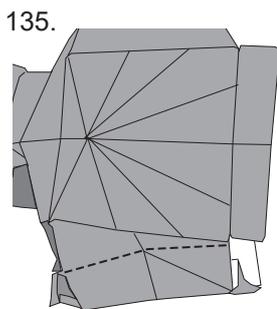
Open out entirely, ...



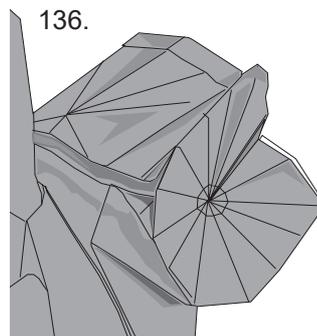
... and mountain fold along the existing octagonal crease lines.



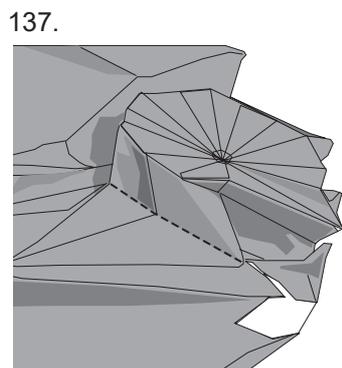
Now lift out the layers on each side of the upper right side side of the octagon and flatten the surrounding paper as shown.



This is a view of the top of the head, ...

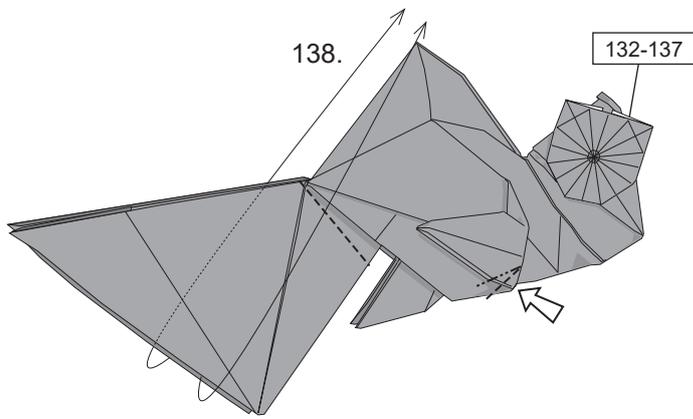


... a view from the left side, a little to the top,...

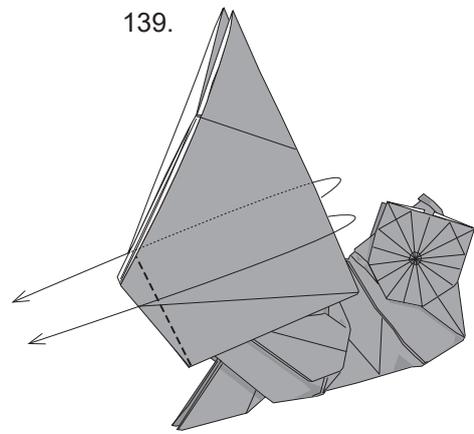


... and the bottom, a little to the front.

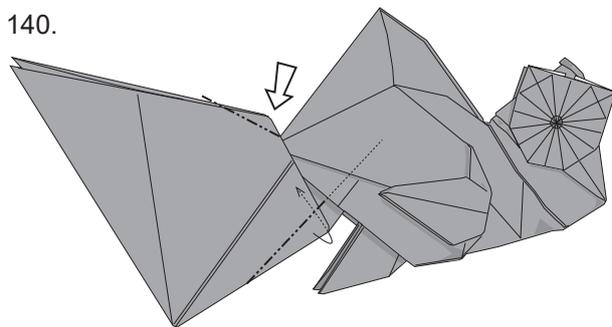




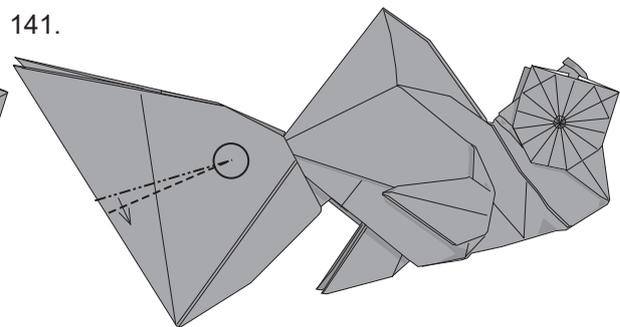
The Blackmoor should now look like this. Repeat from step 132 on the other eye. Reverse fold the base of the pectoral fin, then outside reverse fold the tail at the illustrated angle.



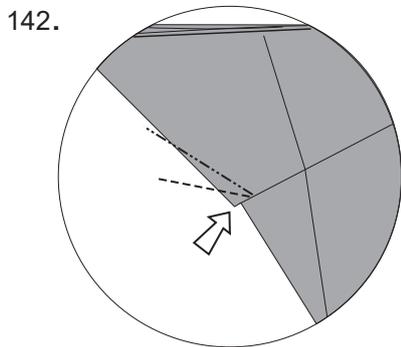
Outside reverse fold the tail once more, again noting the angle.



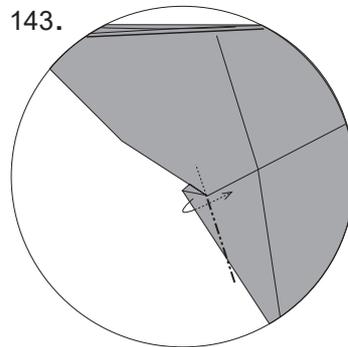
Mountain fold the base of the tail, and repeat on the other side. Next, sink the little protrusion as shown.



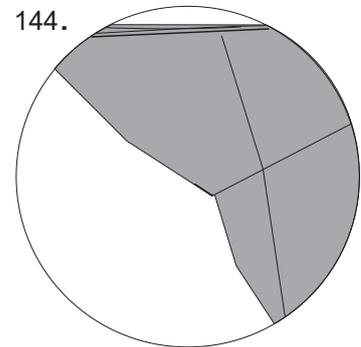
Crimp fold the tail. The circled area should protrude outwards.



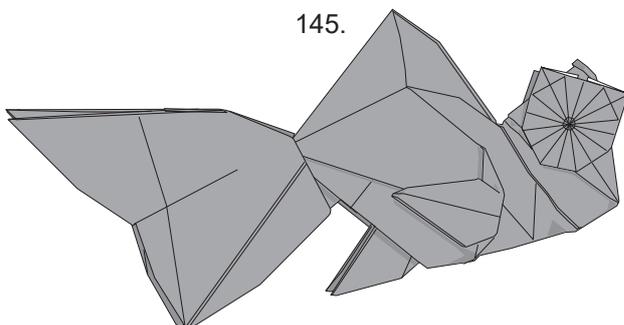
This is a close up of the crimp fold in Step 141. Reverse fold, ...



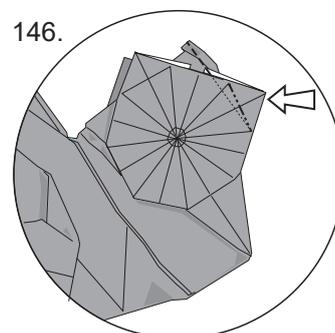
... then mountain fold, ...



... to lock the crimp in place like this.

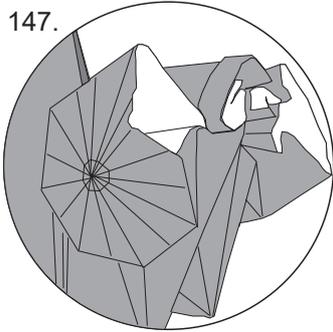


Now for the eyes and head.

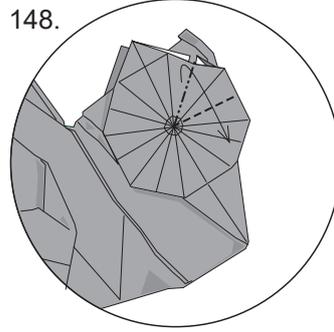


Reverse fold along the existing crease lines, ..

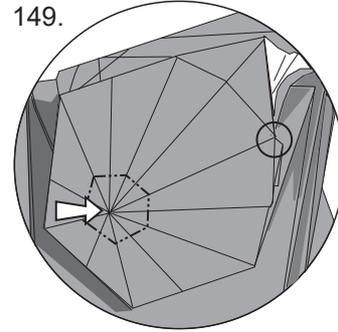




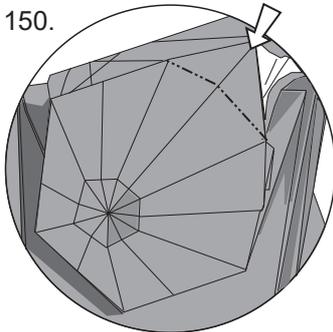
... like this.



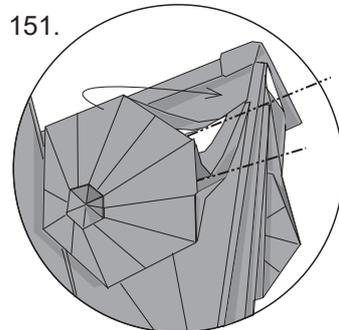
Lift along the mountain fold line and swivel 1/8 of the octagon to the right, with the centre protruding forward.



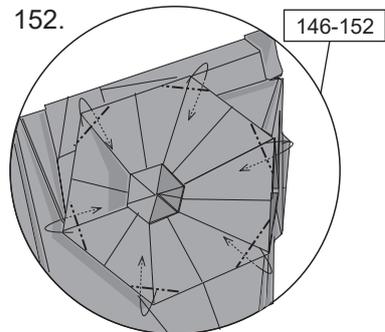
Now sink the centre along the crease lines made in Step 131 while holding the layers together at the circled area. This is delicate - a pair of tweezers will help a great deal.



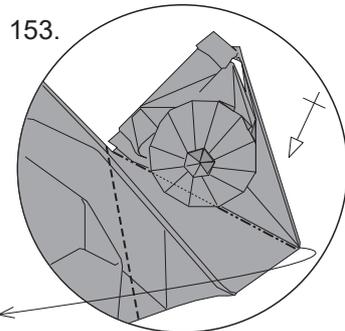
Now reverse fold along the existing crease lines on this side.



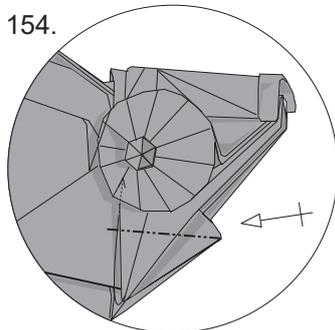
Press the edge of the eye as much as you can against the head. Some wet folding at this point would be useful.



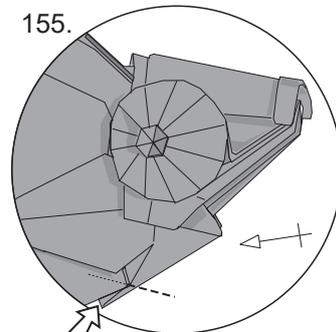
Now fold the corners behind to round off the eye. Repeat from Step 146 on the other side to complete the eyes.



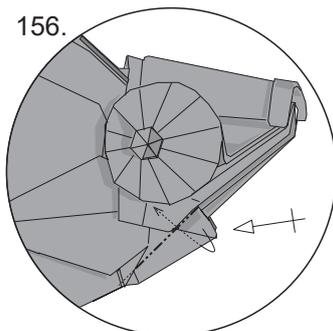
Crimp fold both sides as illustrated.



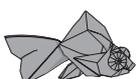
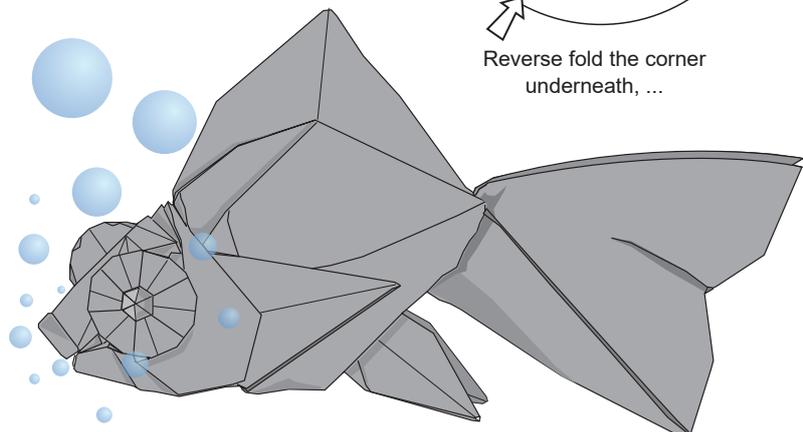
Mountain fold under. Repeat behind

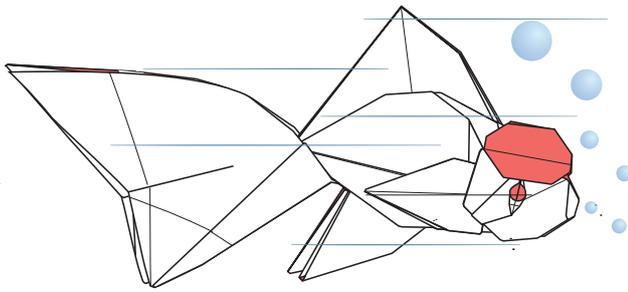


Reverse fold the corner underneath, ...



... then mountain fold the excess paper within the head. Repeat behind to complete the Blackmoor.



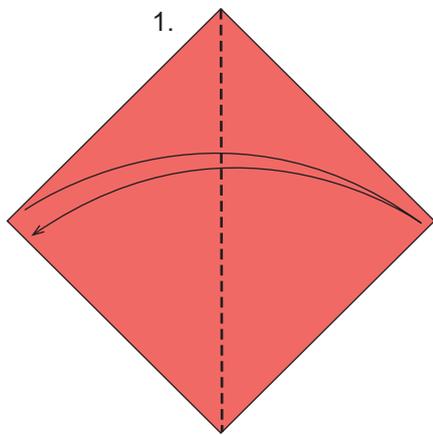


Paper:

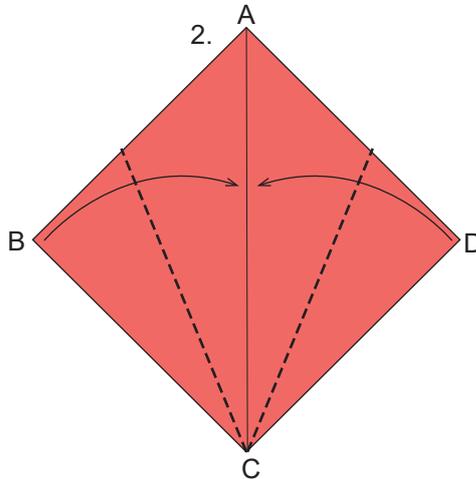
- Duo Kami 30x30 cm
- Sandwich 23x23 cm
- Tissue-foil 30x30 cm
- Duo Thai 30x30 cm

Ratio: 0.44

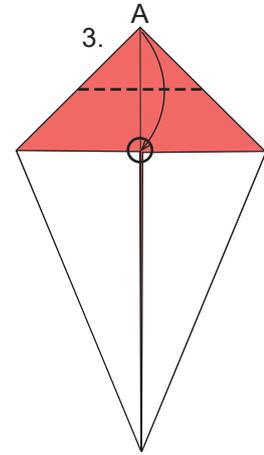
The Tancho Oranda is a goldfish that has a body that is characteristically milk-white, capped with a generous, bright red plume. This ornamental goldfish is best wet-folded or folded with tissue foil, though it can be folded satisfactorily with standard origami paper. Use a sheet of paper that is white on one side and red on the other.



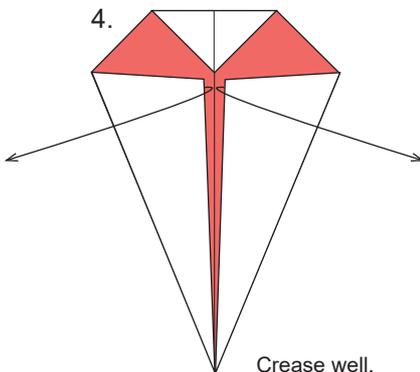
1. Begin with the red side facing you. Fold diagonally in half, crease firmly, and unfold.



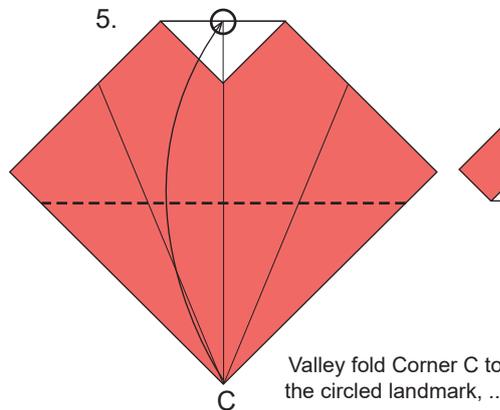
2. Valley fold the diagonal edges BC and CD to the crease line AC in the middle.



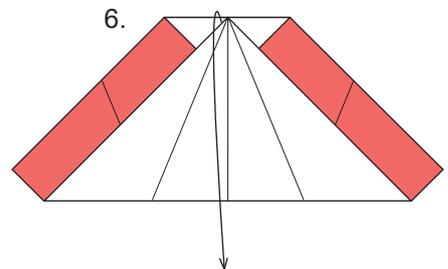
3. Fold Corner A to the circled landmark, ...



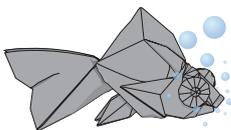
4. Crease well, and open out.



5. Valley fold Corner C to the circled landmark, ...



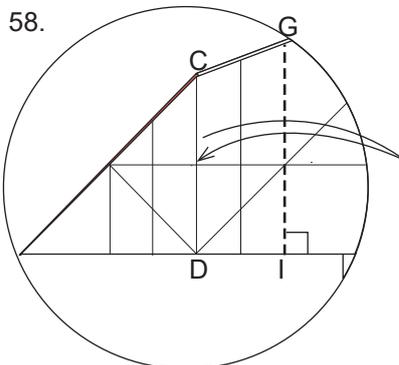
6. ... crease firmly, and unfold.



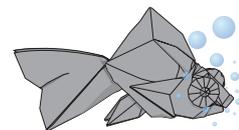
7 - 57

Page 81

Continue with the folding sequence of the Blackmoor Goldfish from step 7 to step 57 page 81.



58. Valley fold along line GI. Crease firmly and unfold.

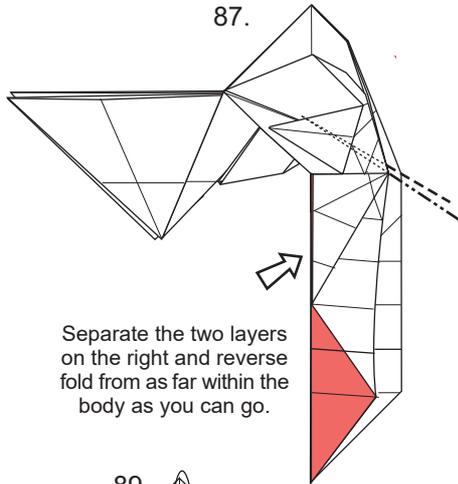


59 - 86

Page 87

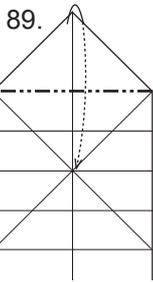
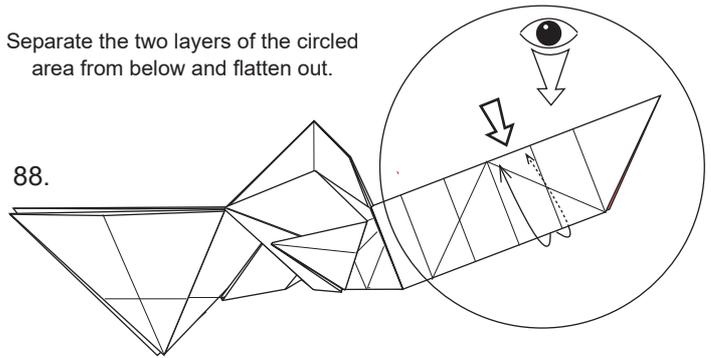
Continue with the folding sequence of the Blackmoor Goldfish from step 59 to step 86 page 87.



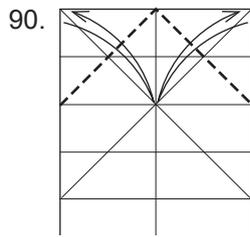


Separate the two layers on the right and reverse fold from as far within the body as you can go.

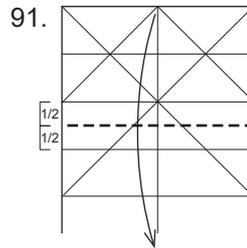
Separate the two layers of the circled area from below and flatten out.



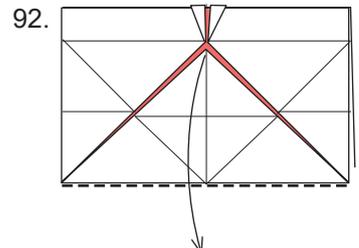
Mountain fold behind.



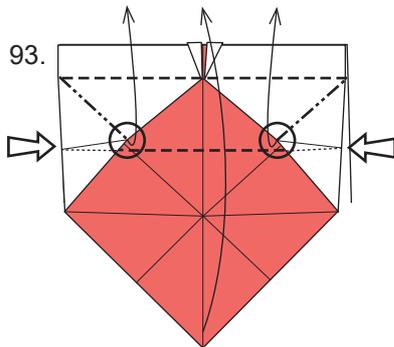
Fold and unfold. Crease firmly.



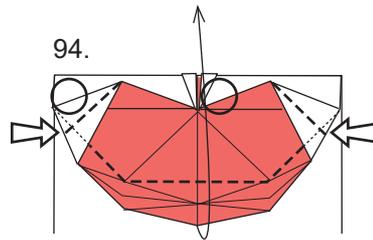
Fold down as illustrated, ...



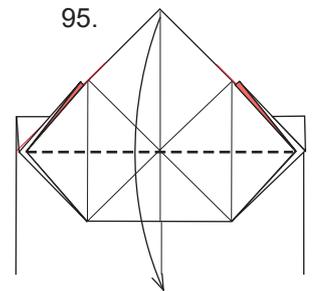
... then bring down this triangular layer.



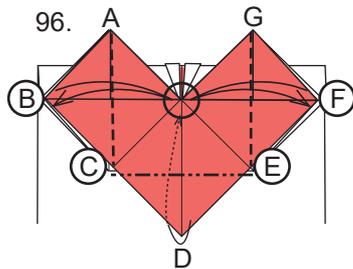
The coloured portion of the paper will be lying partially against the front of the dorsal fin and will not appear as illustrated above. Push in from the sides while lifting the circled areas up, ...



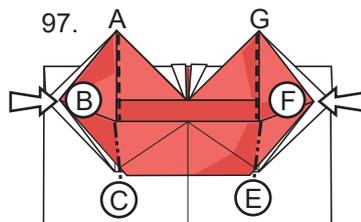
... like this, in progress, while bringing the bottom corner of the coloured portion up, ...



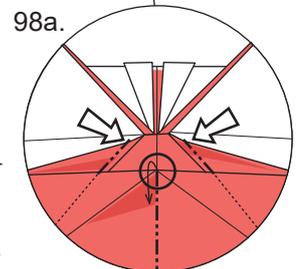
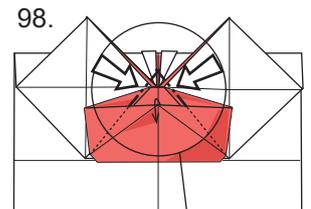
... to flatten completely as shown. Fold down the triangular section.



Mountain fold Corner D under. The mountain fold line should be slightly below the landmarks C and E. That done, fold Corners B and F to the circled landmark in the centre, crease firmly, and unfold.

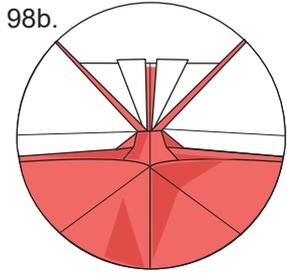


Reverse fold Corners B and F along the crease lines made in Step 96.

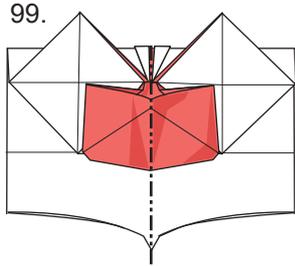


Push from the back of the layer on each side as indicated, bringing the circled area of the horizontal edge towards you, ...



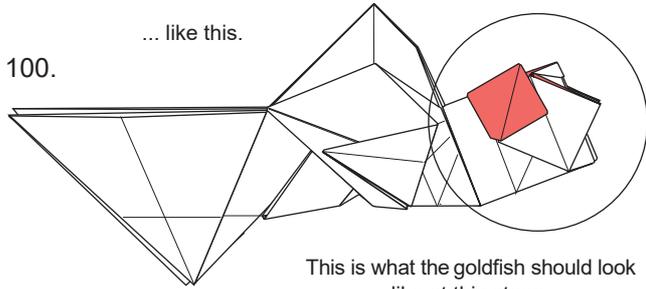


98b.



99.

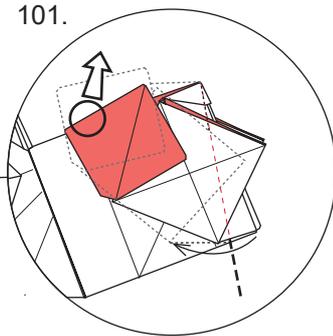
Now mountain fold vertically in half.



... like this.

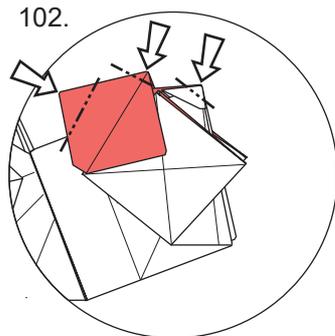
100.

This is what the goldfish should look like at this stage.



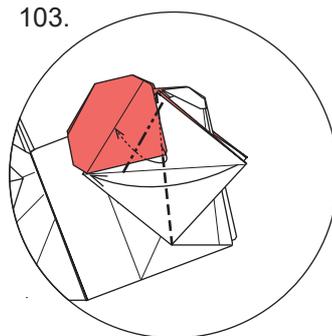
101.

Hold firmly at the circled area and pull upwards, swivelling the paper to the new position indicated by the dotted lines.



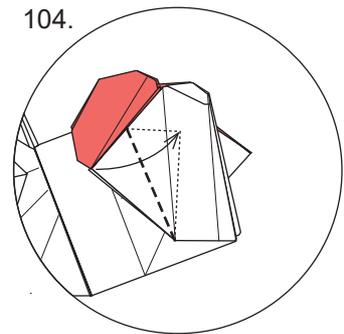
102.

Sink fold each of the three corners as illustrated.



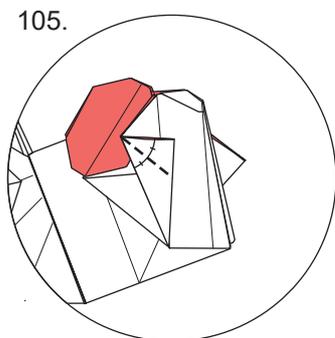
103.

First, mountain fold the coloured triangular bit under, then swivel the white flap to the left.



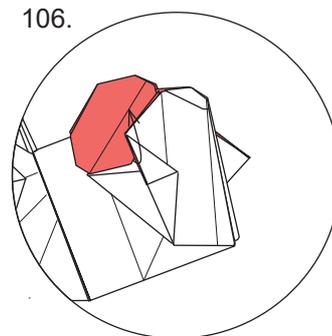
104.

Valley fold, to the position indicated by the dotted outline.



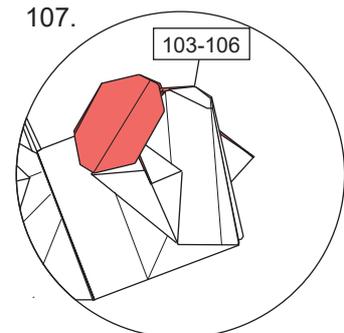
105.

Another valley fold, ...



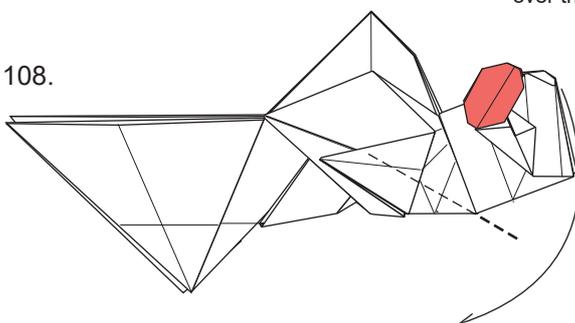
106.

... then lift the coloured edge over the white, ...



107.

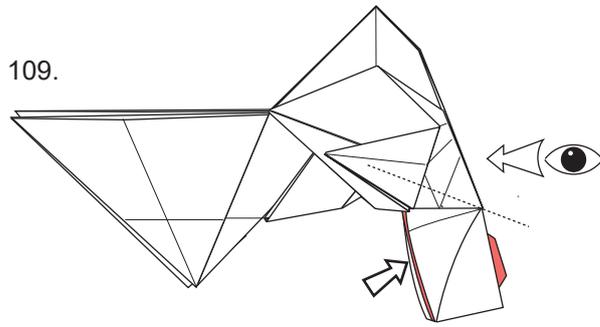
... like this. Repeat from Step 103 on the other side.



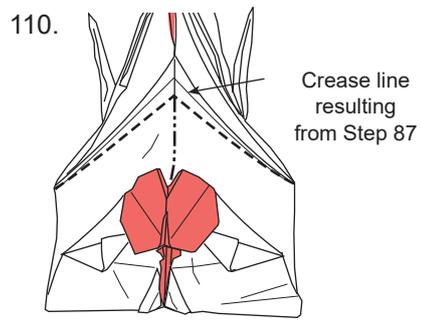
108.

Reverse fold the head piece, reverting to the same position before the start of Step 87.

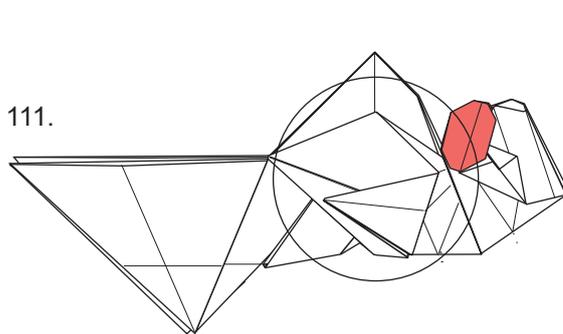




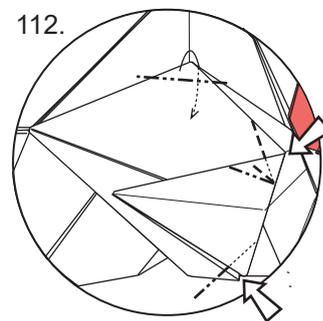
Have a look at Diagram 111 before doing this step. Do another inside reverse fold, starting at a slightly lower point than in Step 87, ...



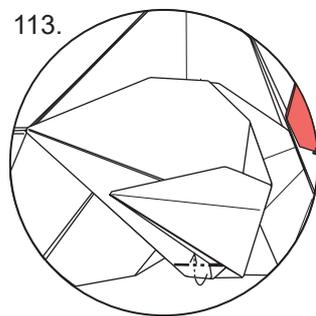
... as illustrated in this view from the front, ...



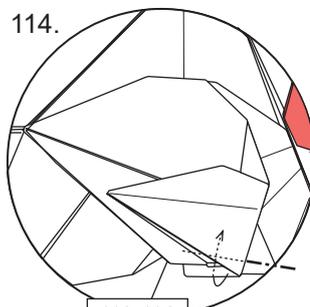
... to bring the crown of the head against the front of the dorsal fin. We will now work on the body.



Mountain fold at the top, and reverse fold on the right. Reverse fold the inner layer only at the bottom.



Mountain fold this corner only, leaving the layer immediately behind untouched.

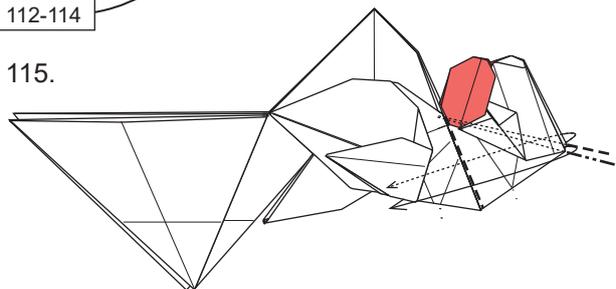


Now mountain fold the layer immediately behind, dragging the corner at the base of the pectoral fin under as well.

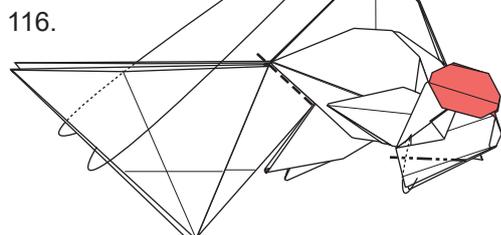
Check out Diagram 115 for the eventual position. Repeat from step 112 on the other side.

112-114

115.



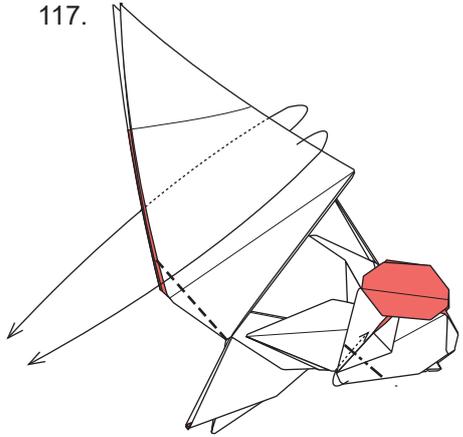
Crimp fold both sides of the head exactly as illustrated. This is important for the head to be positioned correctly.



Mountain fold both sides of the cheeks, then do an outside reverse fold on the tail.

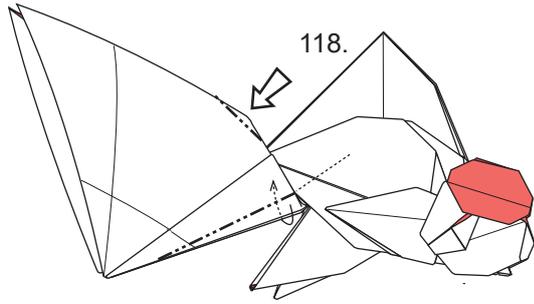


117.



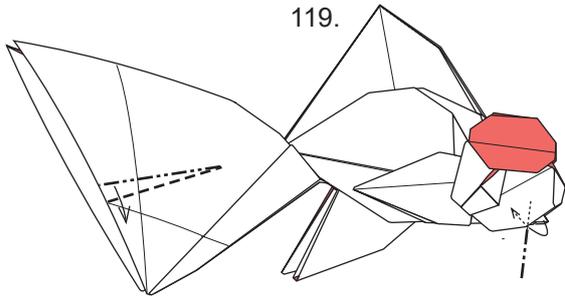
Outside reverse fold the tail once more and mountain fold the corner on both sides of the head.

118.



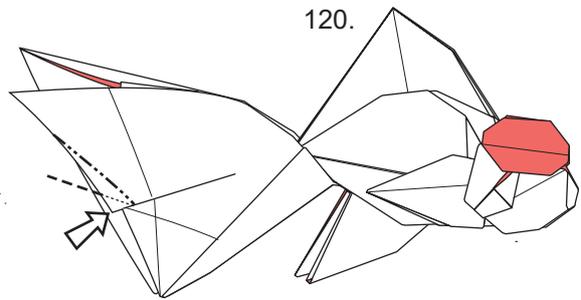
Sink the corner at the top, then mountain fold the bottom edges on both sides of the tail, extending within the hidden layers of the body.

119.



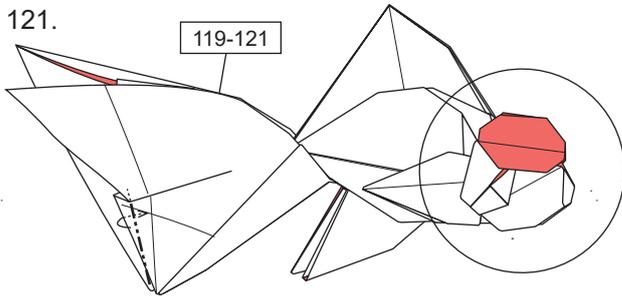
Hide the pointed bits near the mouth with mountain folds, then crimp fold this side of the tail, ...

120.



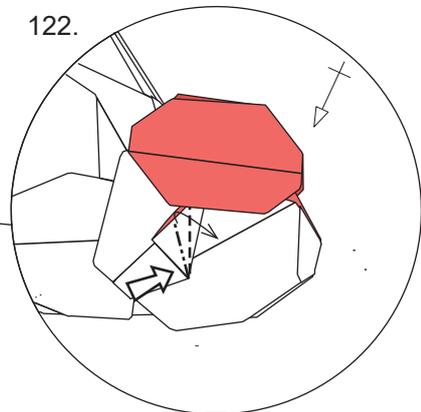
... reverse fold, ...

121.



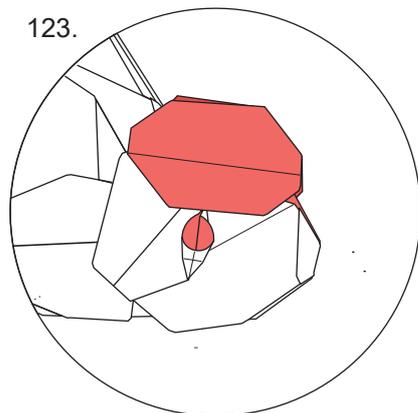
... and mountain fold to complete this side of the tail. Repeat from step 119 on the other side.

122.

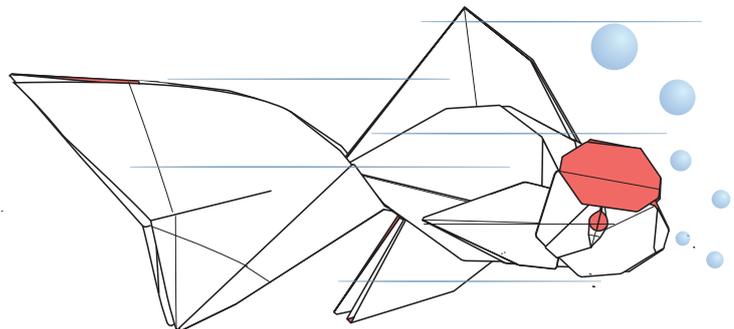


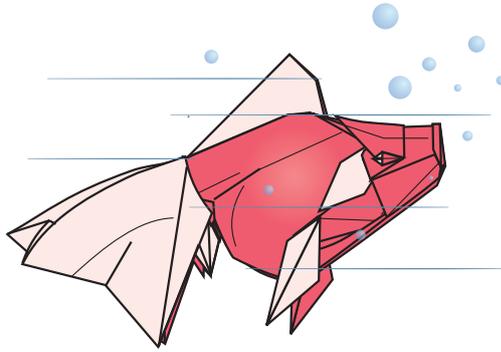
Separate the two layers and flatten the bottom half of this piece as shown, ...

123.



... like this.



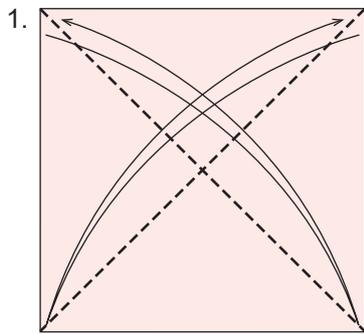


Paper:

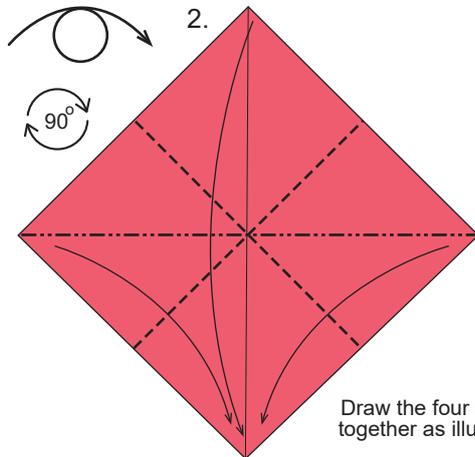
- Duo Kami 30x30 cm
- Sandwich 23x23 cm
- Tissue-foil 30x30 cm
- Duo Thai 30x30 cm

Ratio: 0.4

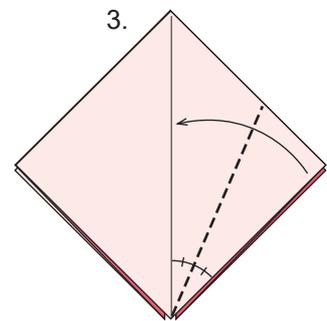
With its contrasting white tail and fins, this version of the Ryukin can be folded with a sheet of standard origami paper. Start with the white side of the paper facing up.



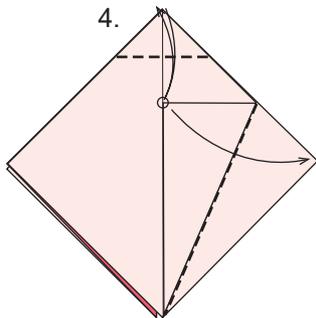
1. Fold and unfold in both directions before turning the paper over.



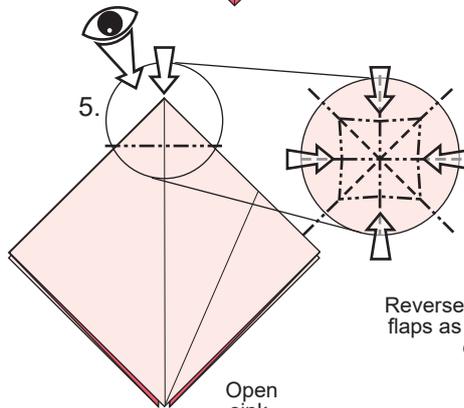
2. Draw the four corners together as illustrated.



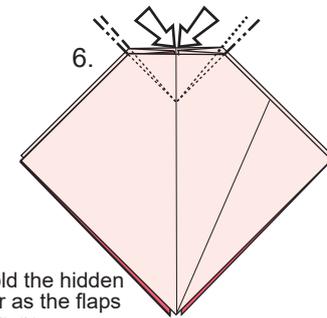
3. Valley fold. Crease firmly.



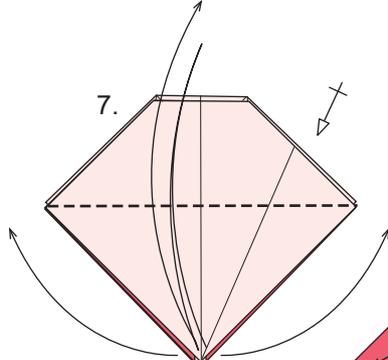
4. Fold and unfold at the top. Crease firmly through all layers. Unfold on the right.



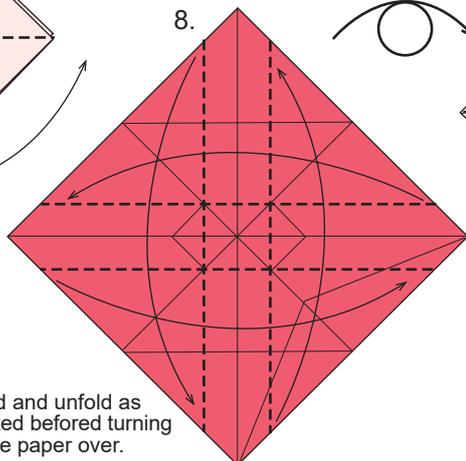
5. Open sink.



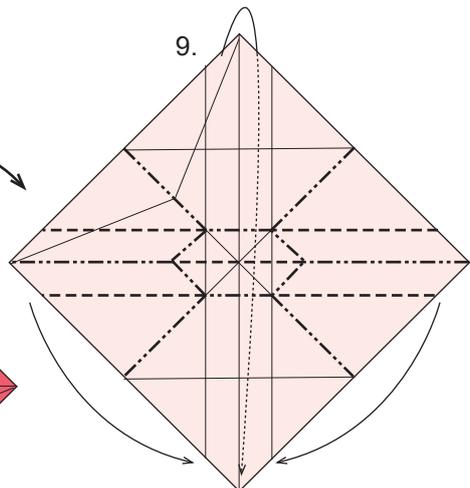
6. Reverse fold the hidden flaps as far as the flaps can go.



7. Fold and unfold. Repeat at the back before opening out fully.

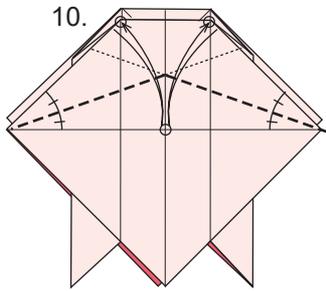


8. Fold and unfold as illustrated before turning the paper over.

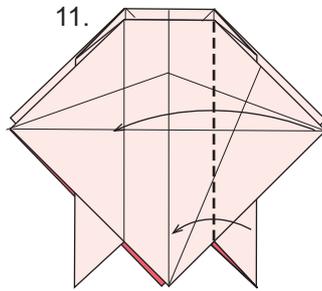


9. Refold according to the mountain and valley folds as illustrated.

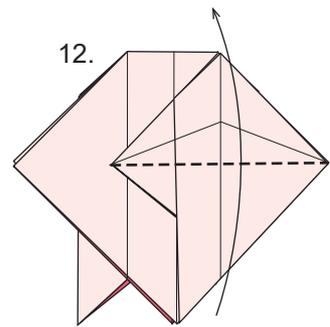




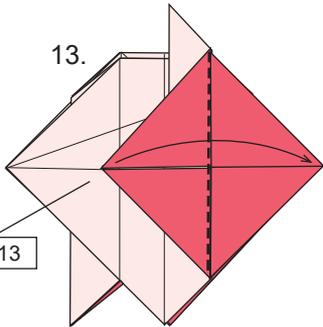
10. The paper should look like this at this stage. Fold and unfold through all layers.



11. Swivel two flaps to the left.

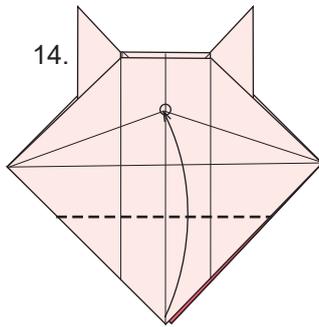


12. Valley fold upwards, ...

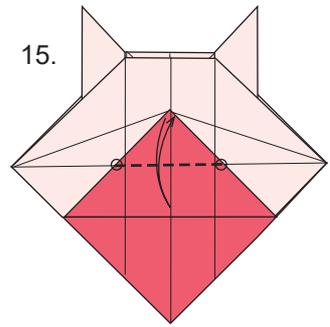


11 - 13

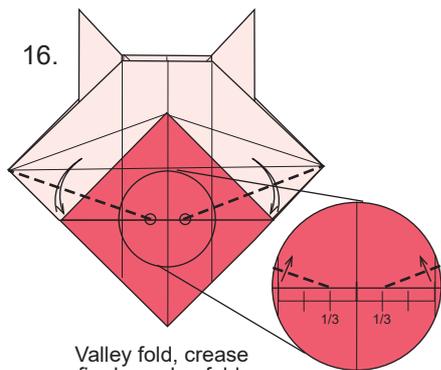
... then to the right. Repeat Steps 11 to 13 on the left side.



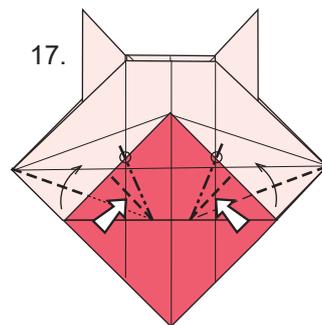
14. Valley fold the bottom corner to the circled reference point.



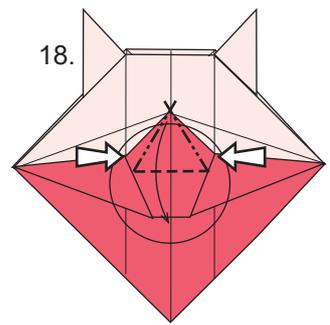
15. Align the valley fold with the crease line of the underlying layer, crease firmly, and unfold.



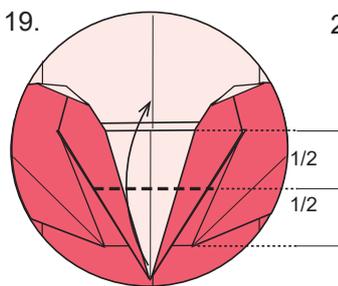
16. Valley fold, crease firmly, and unfold.



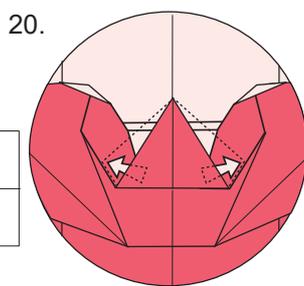
17. Mountain and valley as illustrated.



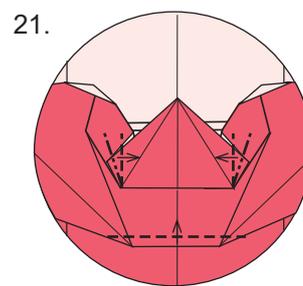
18. The paper should look like this at this stage. Valley fold along the crease line made in Step 15, creating mountain folds, ...



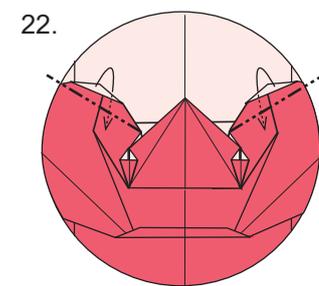
19. ... like this. Valley fold, ...



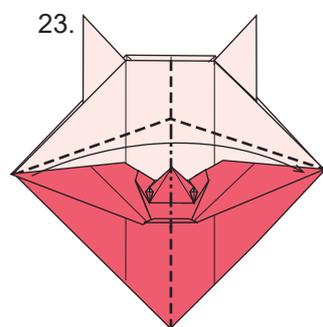
20. ... draw out the hidden layers to the position indicated to the dotted lines, ...



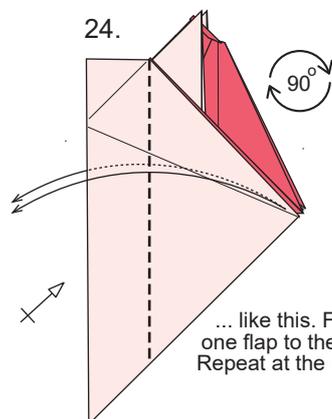
21. ... and squash fold at the sides to form the eyes. Valley fold to form the upper lip.



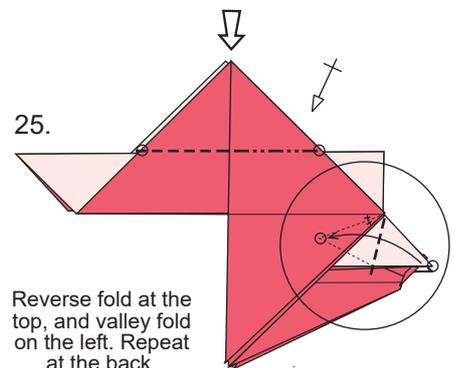
22. Mountain fold the corners under.



23. Lift up the head and flatten the flap to the right, ...

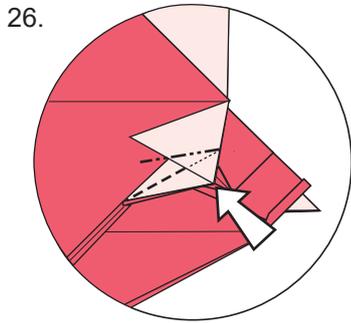


24. ... like this. Fold one flap to the left. Repeat at the back.

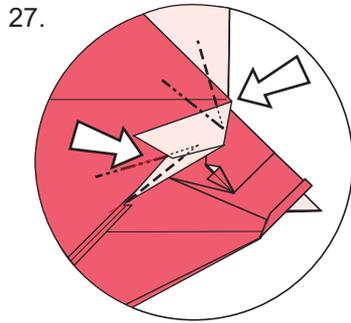


25. Reverse fold at the top, and valley fold on the left. Repeat at the back.

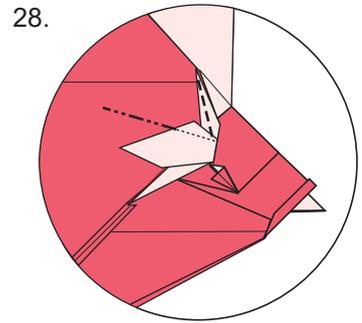




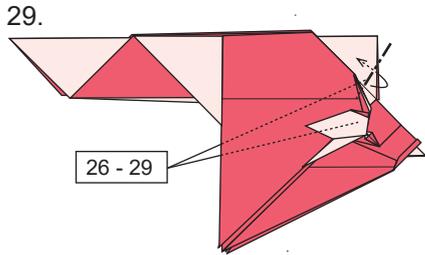
Reverse fold again, ...



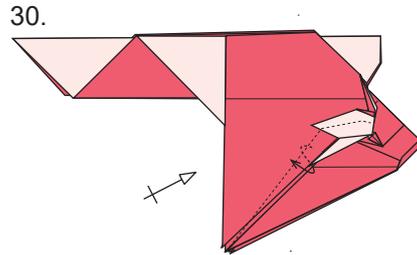
... and again ...



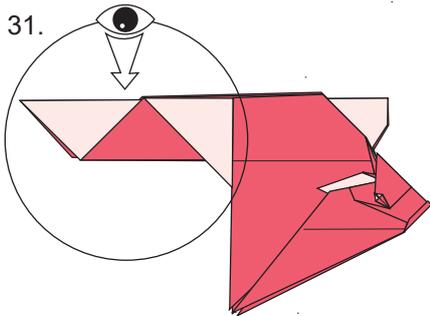
... and again, but reverse folding just the top layer this time.



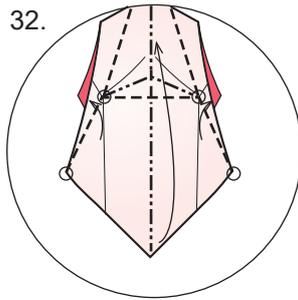
Mountain fold. Repeat steps 26 to 29 on the other side.



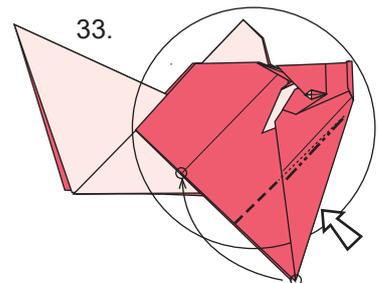
Lift out the partially hidden layer on the left over the pectoral fin. Repeat on the other side.



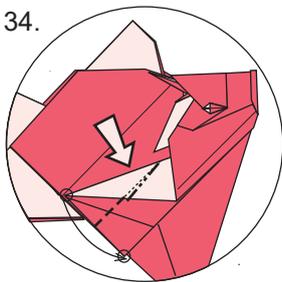
The Ryukin should look like this at this stage. Step 32 is a view from the top of the circled area with the three innermost edges partially parted.



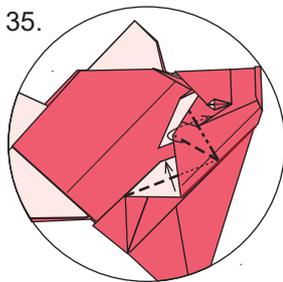
The circled reference points are on both sides of the crease line made in step 7. Collapse according to the mountain and valley folds, ...



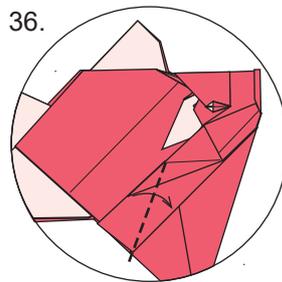
... to get this. Reverse fold.



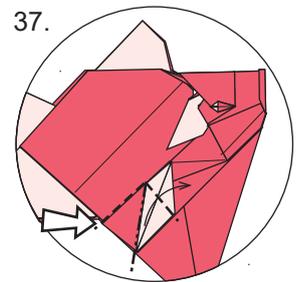
Reverse fold again.



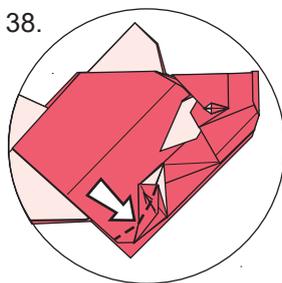
Valley fold and tuck the excess paper under to the left, ...



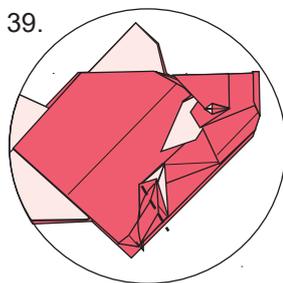
... like this. Valley fold to reveal the white side of the paper.



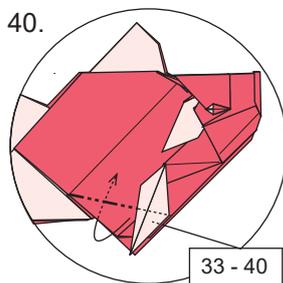
Reverse fold and swivel the fin to the right.



Separate and free the layers to allow you do a valley fold, ...

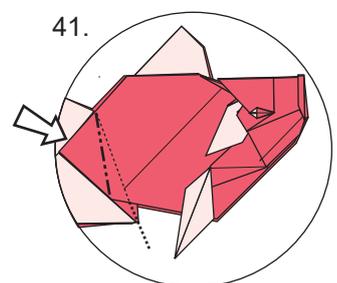


... like this. Valley fold to return the fin to its original position.



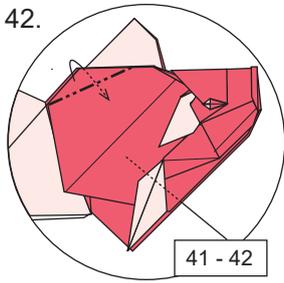
33 - 40

Mountain fold the excess paper within the body. Repeat steps 33 to 40 on the other side.

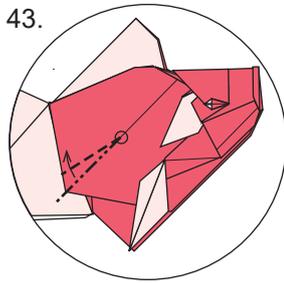


Reverse fold.

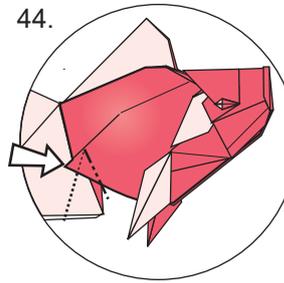




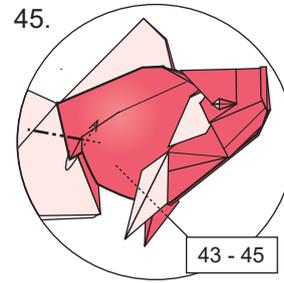
Mountain fold, then repeat steps 41 to 42 on the other side.



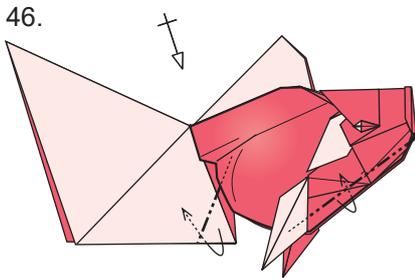
Crimp fold, with the circled area of the body convexed towards you.



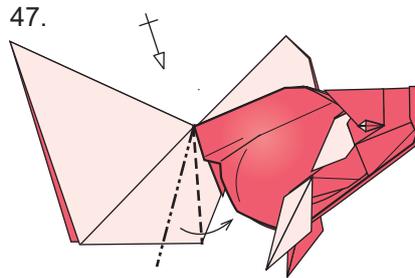
Reverse fold, ...



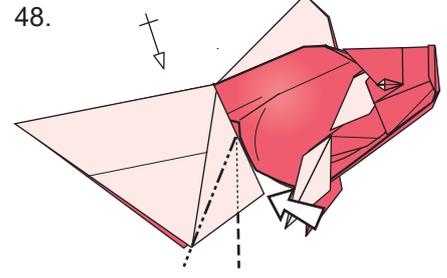
... then mountain fold to lock the crimp in place. Repeat steps 43 to 45 on the other side.



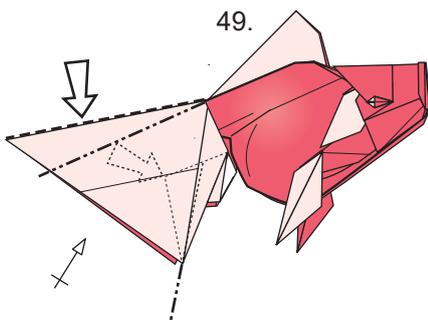
Mountain fold the excess paper within the base of the tail and body.



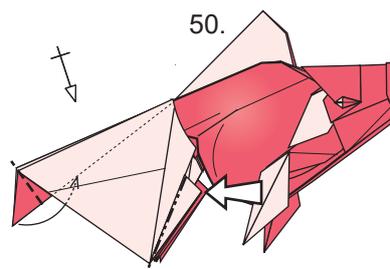
Crimp fold both sides of the tail.



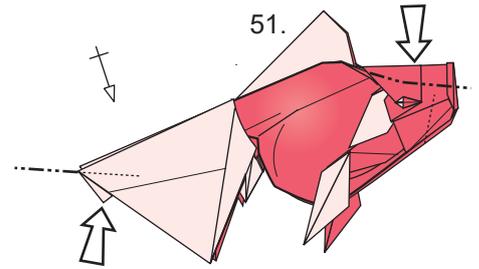
Reverse fold. Repeat on the other side.



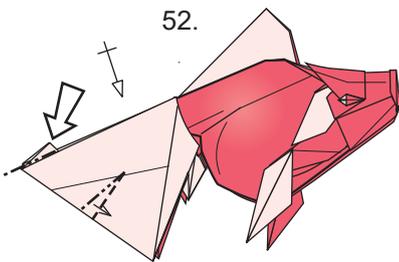
Three reverse folds, one at the top of the tail and two from within the tail, indicated by the dotted lines.



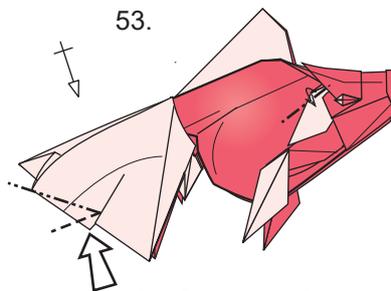
Two more reverse folds, and outside reverse-fold the tail.



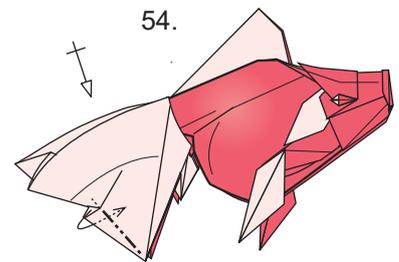
One more reverse fold at the tip of the tail, then push down the top of the head to give it a more rounded appearance.



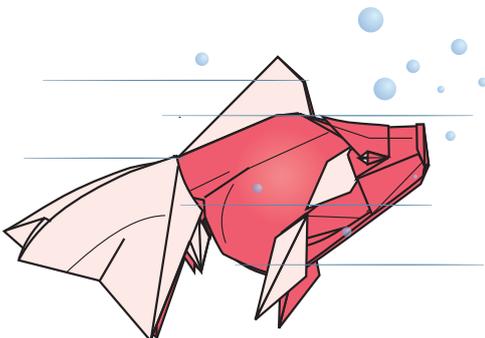
One more reverse fold, followed by crimp folds on both sides of the tail.



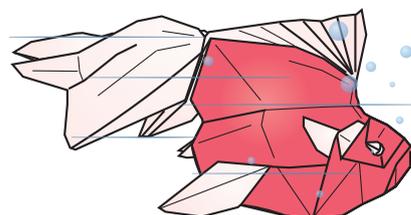
One final reverse fold on both sides of the tail, and a mountain fold to the top of the pectoral fin, ...



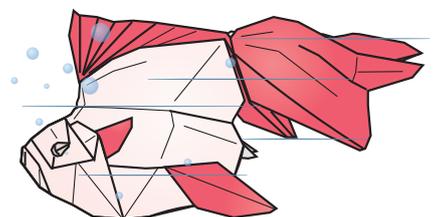
... followed by mountain folds on both sides of the tail to complete the ryukin.



This ryukin can be considered to be completed at this stage. Or you may shape it further ...

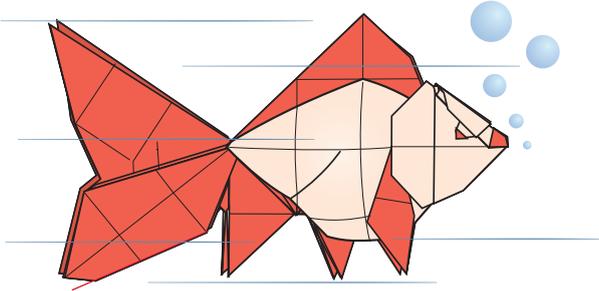


... until you get this.



You can also fold another popular variety of the ryukin with the colours transposed, by beginning with white side of the paper faced down.





Paper:

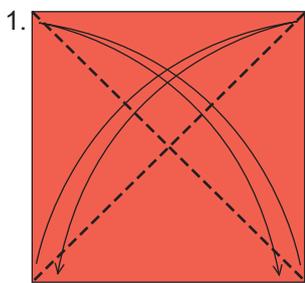
- Duo Kami 60x60 cm
- Sandwich 45x45 cm
- Tissue-foil 60x60 cm
- Biotope 70x70 cm

Ratio: 0.32 length

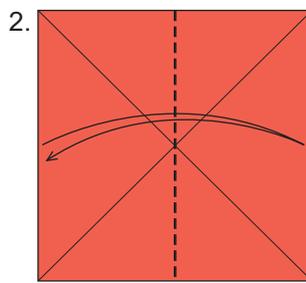
The Jikin is characterised by its white head and body, and its contrasting red fins, tail and lips. Its body shape is largely similar to the Ryukin, while some have more elongated, Wakin-like bodies.

You will need a 20 x 20 box pleated grid to begin with. Steps 1 to 16 shows one method of folding a 20 x 20 grid, but you may use any other method of achieving the grid that you may be familiar with.

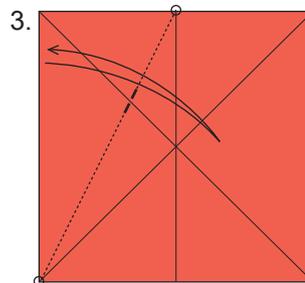
This is a deceptively difficult model. For best results, you should use a sheet of paper which is thin yet tough, such as unryu or Thai saa paper. The paper should be red on one side and white on the other, and at least 35cm to 50cm square to produce a Jikin of approximately 11cm to 16cm in length. The folding sequence is really complex and could be optimised. But we kept it true to the original version. This model is only for the bravest of folders.



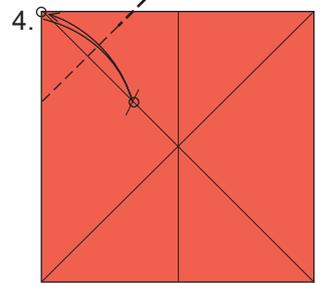
1. Fold diagonally in half, crease well, and unfold, then repeat in the opposite direction.



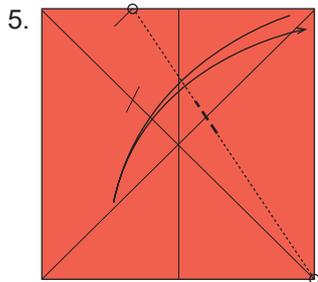
2. Fold vertically in half, crease well, and unfold.



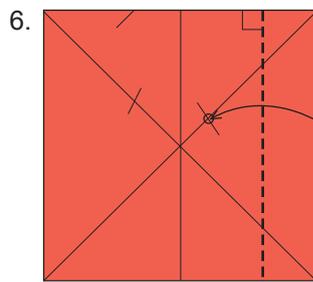
3. Carefully valley fold between the circled landmarks, but crease where the fold intersects the existing diagonal crease line only.



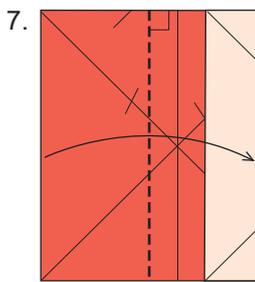
4. Valley fold the left corner to the circled reference point, crease where the folded layer intersects the horizontal paper edge at top and unfold.



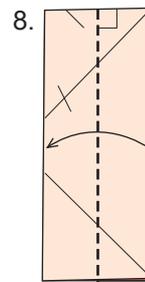
5. Carefully valley fold between the circled landmarks as accurately as possible; and crease where the fold intersects the diagonal crease line only before unfolding.



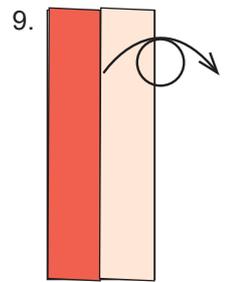
6. Valley fold the right edge to the circled landmark, aligning the horizontal edges at the top and bottom perfectly...



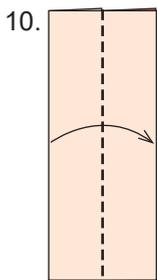
7. Valley fold to align the left verticle edge with right edge, ...



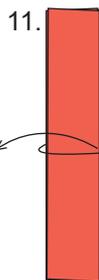
8. ... then valley fold one layer to the left.



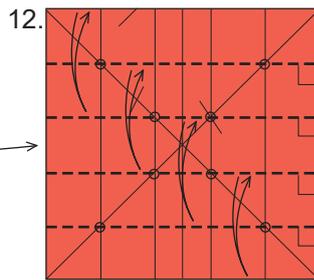
9. Turn the paper over.



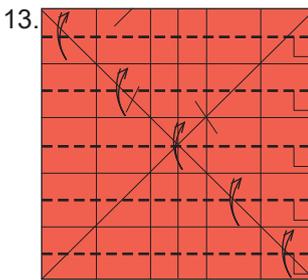
10. Valley fold



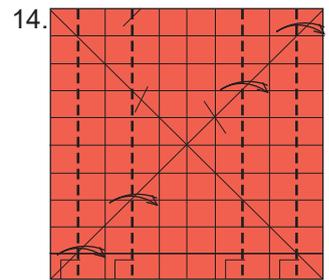
11. Unfold completely.



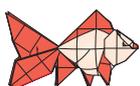
12. Valley fold through the respective circled reference points as illustrated, ...

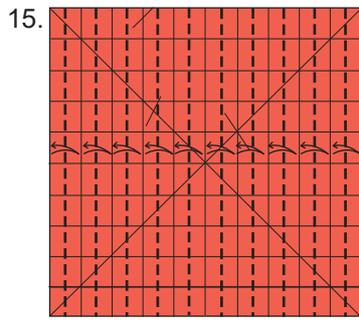


13. ... then valley fold again to divide the five to ten equally spaced rows.

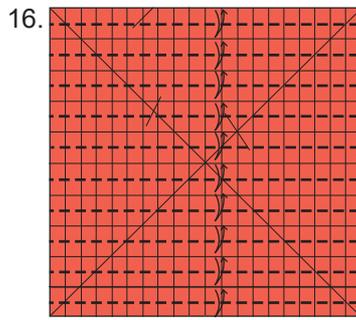


14. More valley folds, vertically, dividing the five to ten equally spaced columns, ...

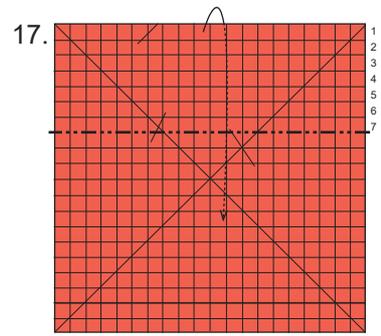




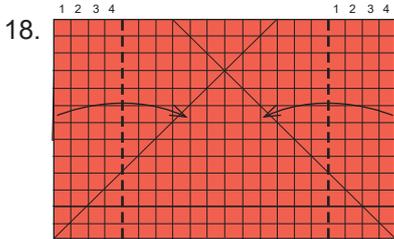
... then into 20 columns, ...



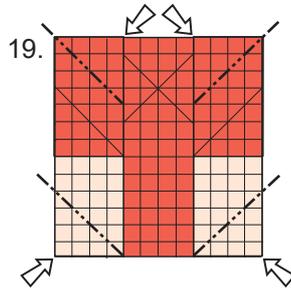
... and into 20 rows, for a 20 x 20 grid.



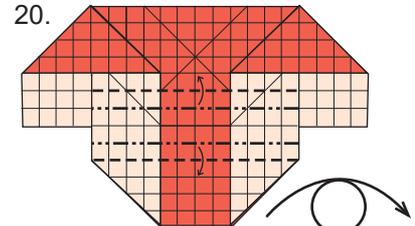
Mountain fold the first seven rows at the top to the back.



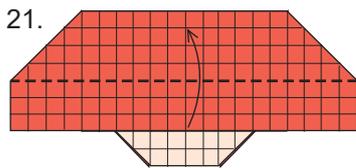
Valley fold the first four columns on each side towards the middle of the paper.



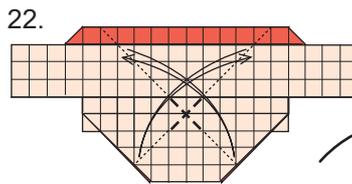
Make two squash folds at the top and two reverse folds, at the bottom...



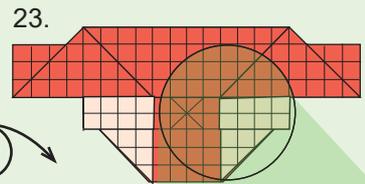
... then pleat fold twice as illustrated, before turning the paper over.



Valley fold.



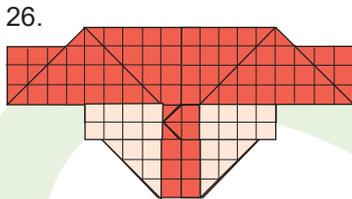
Valley fold and unfold, creasing firmly.



23.

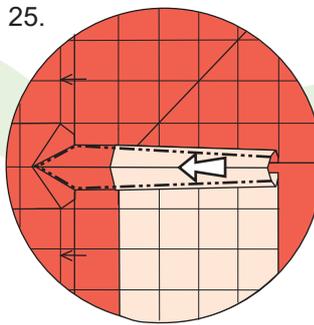
24.

Squeeze the two horizontal edges and simultaneously pleat folding as illustrated, to draw out triangular portion in the middle, ...



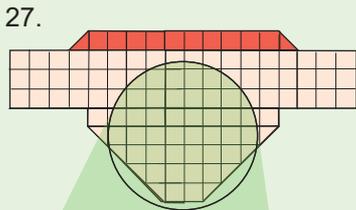
26.

... until the paper looks like this. Turn the paper over.

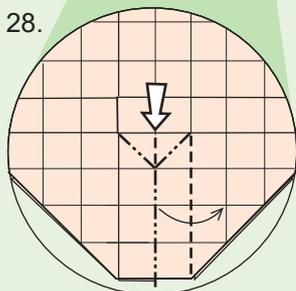


25.

... like this, in progress, before flattening the paper again, ...

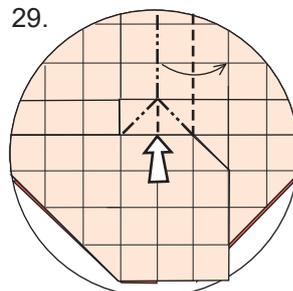


27.



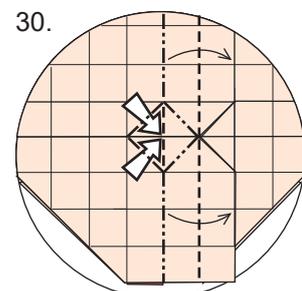
28.

Push along the edge to separate the two layers and pleat fold to the right, ...



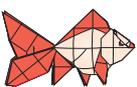
29.

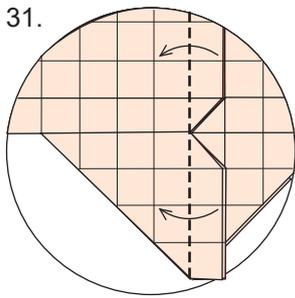
... like this. Do the same to the paper edge directly above, ...



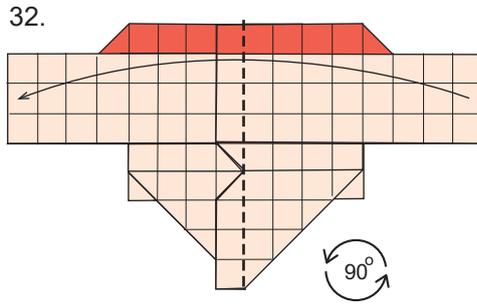
30.

... and repeat Steps 28 and 29 on the next two columns on the left.

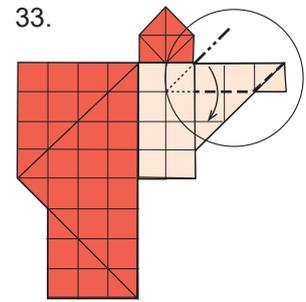




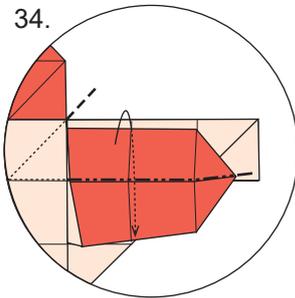
Swivel both leaves to the left



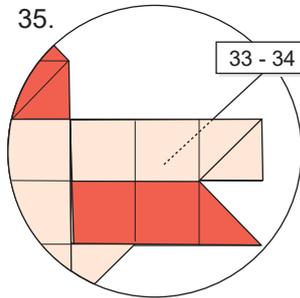
Valley fold in half and rotate the paper anti-clock through 90 degrees.



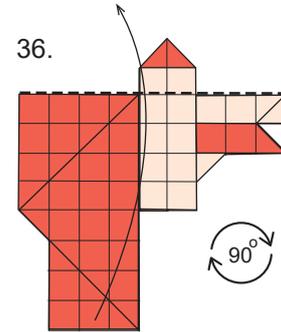
Valley fold one layer down, with a mountain fold to the hidden portion to the left, ...



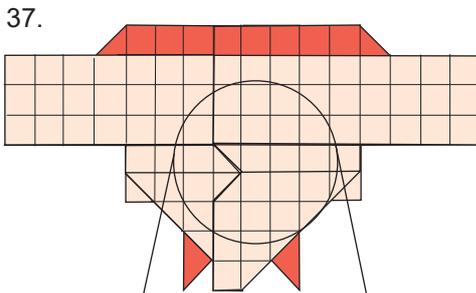
... then mountain fold the second layer, creating a valley fold to the hidden adjoining paper.



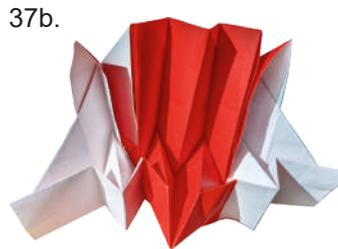
The paper should now look like this. Repeat Steps 33 and 34 on the other side.



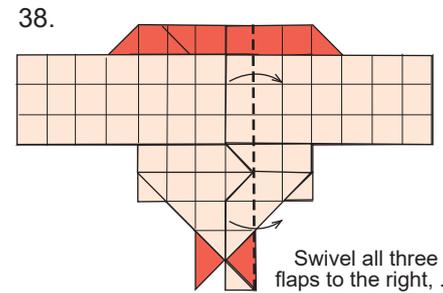
Open up with a valley fold to the top flap and rotate the paper in a clockwise direction through 90 degrees.



37.

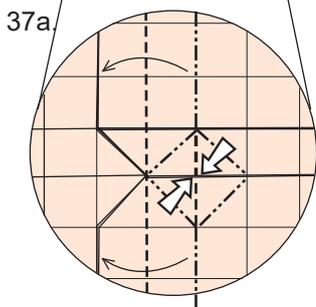


Work in progress



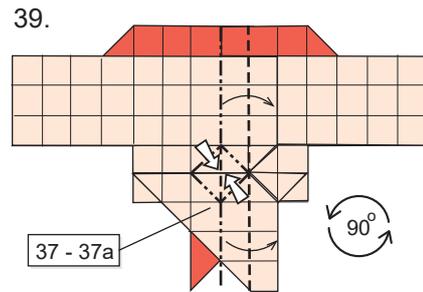
38.

Swivel all three flaps to the right, ...



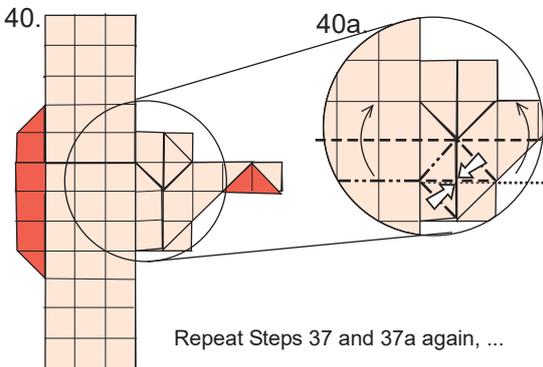
37a.

Repeat Steps 28 and 29 on the next two columns on the right. Arrange the layers on the other side to avoid unnecessary crumpling.



39.

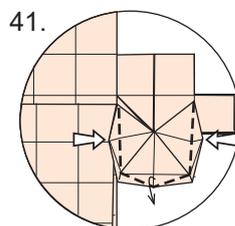
... and repeat Step 37a on the left side of Figure 37. Rotate 90 degrees anti-clockwise.



40.

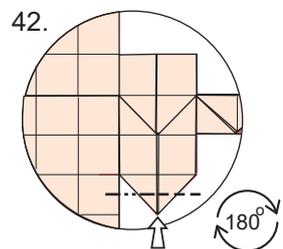
40a.

Repeat Steps 37 and 37a again, ...



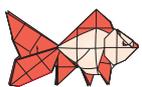
41.

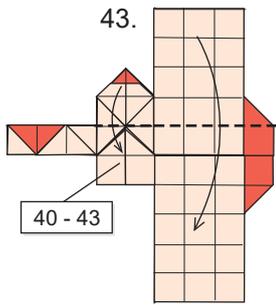
... the flatten as illustrated with three valley folds.



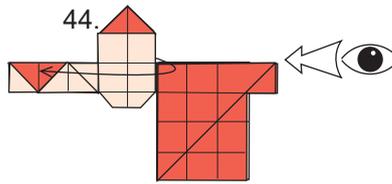
42.

Reverse fold as illustrated.

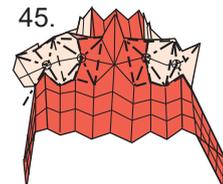




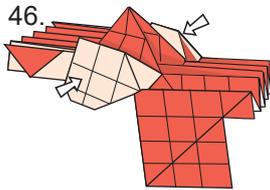
One more valley before repeating Steps 40 to 43 on the other side.



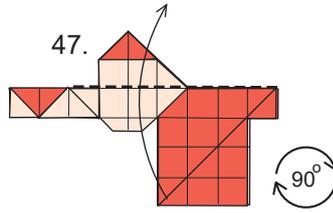
Open out and separate the layers on the left. Figure 45 will be a view from the right.



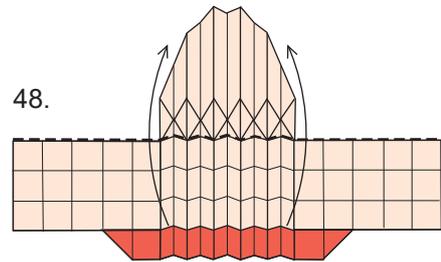
Push from the other side to make the four individual circled reference points protrude forward, ...



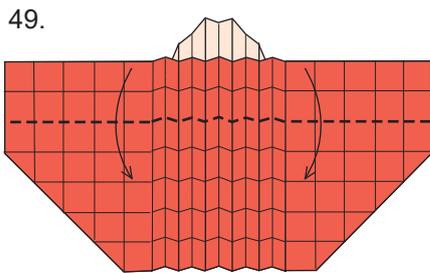
... before flattening the layers again, ...



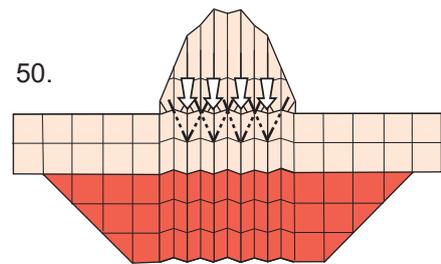
... like this. Valley fold one layer up to reveal the underside, then rotate anti-clockwise through 90 degrees.



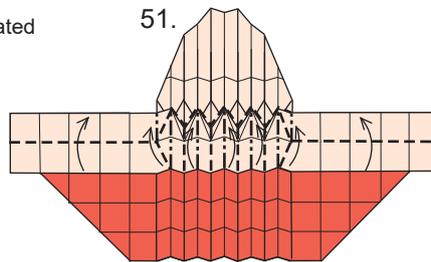
Valley fold the three pleated rows of the top layer upwards, ...



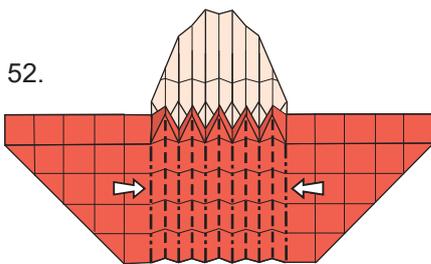
.. the valley fold two of the pleated rows down again.



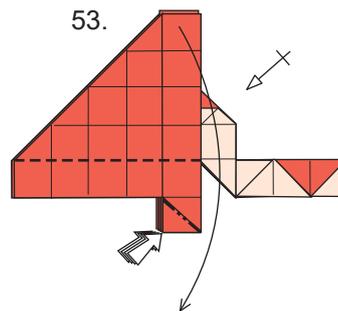
Make four reverse folds as illustrated, ...



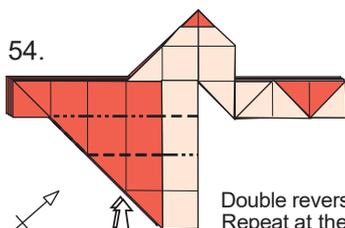
... then lift up the bottom edge of the top row such that it lies at a 90 degrees from the second and subsequent layers below. The four squares of the valley folded grid on both sides is to lay flat



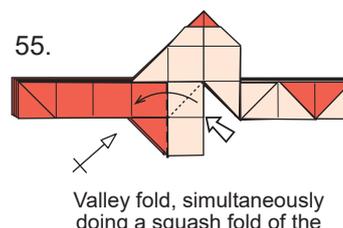
Push from the sides to flatten, ...



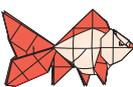
... like this. reverse fold each of the four tabs at the bottom, then valley fold the broad flaps on both sides downwards.

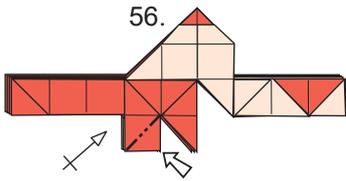


Double reverse fold. Repeat at the back.

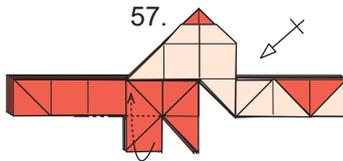


Valley fold, simultaneously doing a squash fold of the hidden corner as illustrated. Repeat at the back.

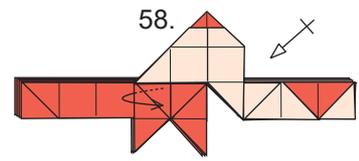




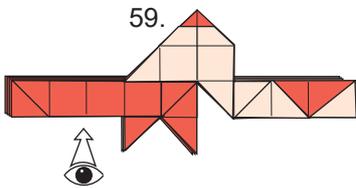
Reverse fold again, repeating on the other side.



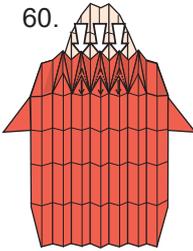
Mountain the partially hidden layer within the pocket behind to lock in place. Repeat on the other side again.



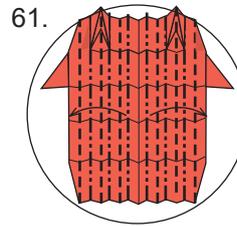
Lift the first leaf on the left over part of the triangular layer to its right. Repeat on the other side again.



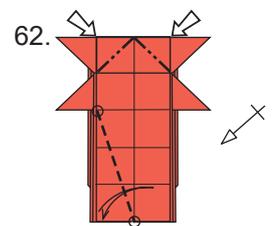
Step 60 will be a view of the underside of the left portion.



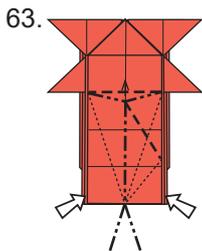
Push in between each of the three upright tabs in the middle to reverse fold and flatten, ...



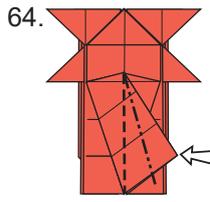
... like this. Now divide the pleated layers equally flatten the layers on each side.



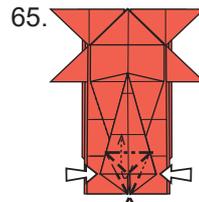
Reverse fold the corners at the top, and fold and unfold between the circled reference points. Crease firmly, then repeat on the right side.



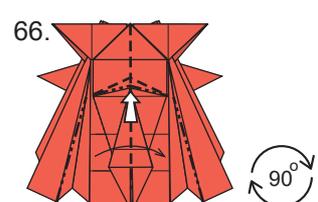
Squash fold as illustrated, swivelling the resulting flap in the centre to the right.



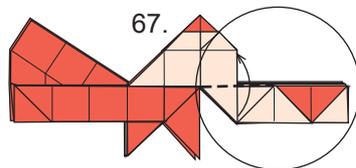
Squash fold again, ...



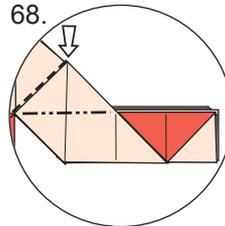
... then petal fold, with the tab in the centre folded within.



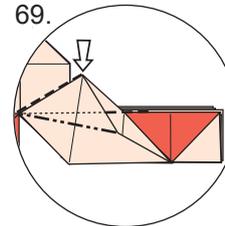
Open out the layers at the sides a little, make two mountain fold lines as illustrated, crimp and push out from the middle and valley fold in half, ...



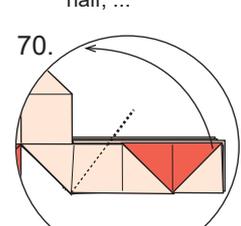
... like this. Swivel the triangular layer upwards with a valley fold.



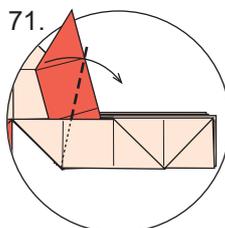
Separate the two layers along the diagonal edge on the right and reverse fold, ...



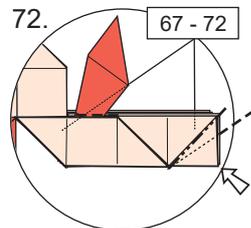
... like this, in progress.



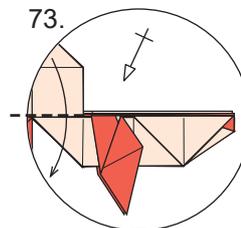
Valley fold, ...



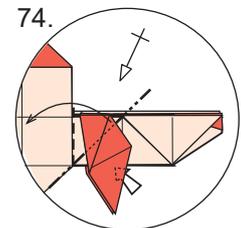
... and another valley fold.



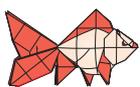
Valley fold followed by an offset reverse fold as illustrated. Repeat Steps 67 to 72 on the other side.

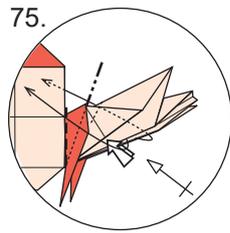


This part of the paper should look like this at this stage.

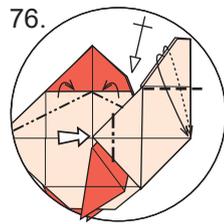


Be brave ! Reverse-fold by pushing from below, pull out paper to the left and swivel the mountain folded edge to the left, repeating on the other side, ...

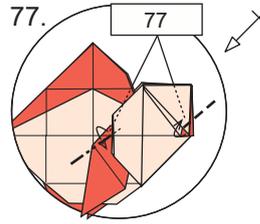




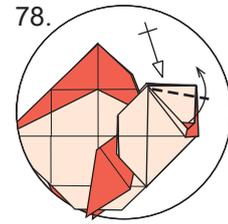
75. ... like this, in progress. Divide the remaining layers on the left equally and do an outside reverse fold, ...



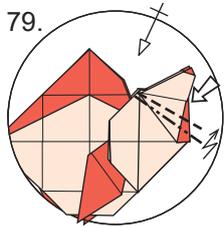
76. ... until you get this. Outside reverse fold on the left again and reverse fold on both sides as illustrated. Shape the body.



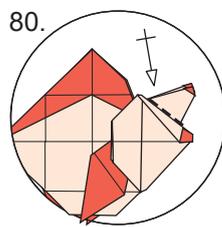
77. Outside reverse fold the tips on the outer flaps on both sides to effect a colour change. These will form the eyes. Mountain fold the corner of the pectoral fins to shape as illustrated. Repeat behind.



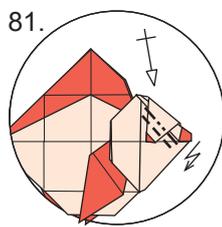
78. Swivel both flaps upwards.



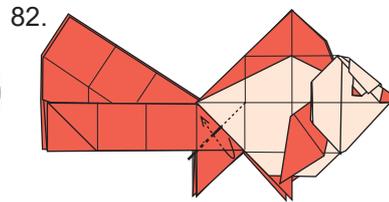
79. Sink the excess paper at the crown, leaving the two flaps on the sides to protrude, ...



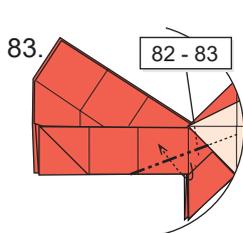
80. ... like this. Valley fold the flaps to the sides, ...



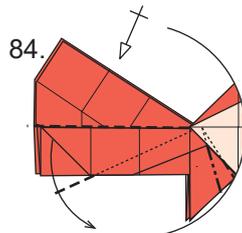
81. ... and pleat fold and tuck the pleated edge under the existing edge at the crown of the head.



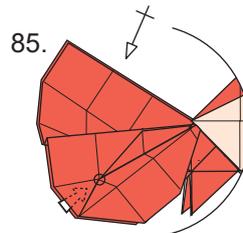
82. Mountain fold one layer.



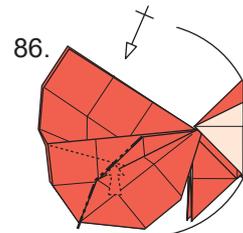
83. Mountain fold again. Repeat Steps 82 and 83 on the other side.



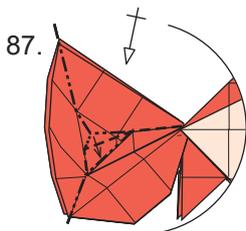
84. Separate and slide down the first two layers as illustrated. Repeat on the other side.



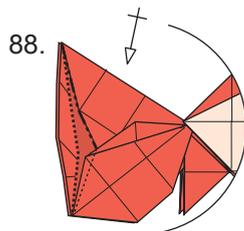
85. Push from the back to bring the circled area of the paper protruding towards you. Repeat on the other side.



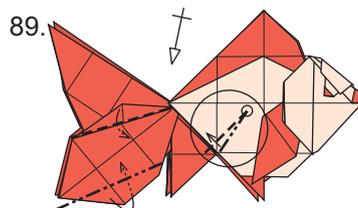
86. Push from the back again to separate the hidden layer denoted by the dotted line. Repeat on the other side.



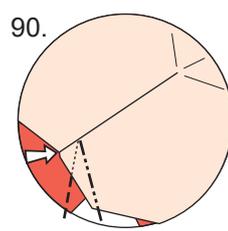
87. Fold as illustrated to begin hiding the excess paper within the tail, ...



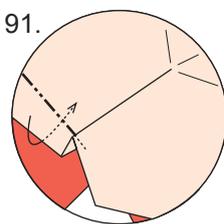
88. ... finishing the move as illustrated. Steps 87 and 88 should be repeated simultaneously on the other side.



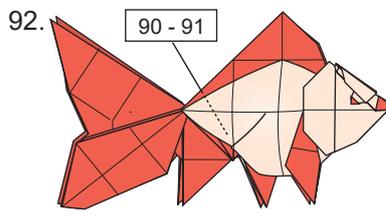
89. Complete the tail with mountain and valley folds. Crimp the body as illustrated. Repeat on the other side.



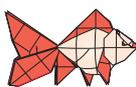
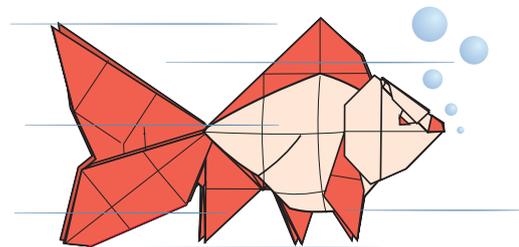
90. Reverse fold.



91. Mountain fold to lock the crimp in place

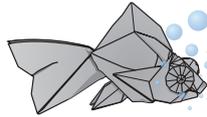


92. Repeat Steps 90 and 91 on the other side to complete the Jikin.



Editor's Note

Thanks to Ronald Koh for his confidence in me to produce this second edition of his book. We started this project 15 years ago and I am very happy that this edition is finally released. Thanks to Ah Boon and Guy Binyamin who folded and photographed many of the goldfish. Thanks also to the team of testfolders of this updated edition (Jino Bettinelli, Philippe Landrein, Pere Olivella, Guillermo "Willie" García (also for the photograph on page 108), Mehdi Zarrad) and the team of proofreaders (Peter Whitehouse & Ariel Achtman). Our thanks as well to Marc Kirshenbaum, the Origami USA team and many folders for help us to find the original diagrams, and to Didier Vitrac and Erik Ourdi for their support in printing this book.



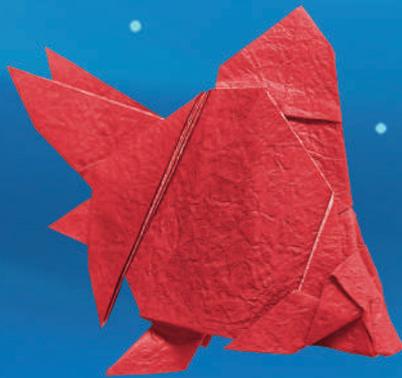
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