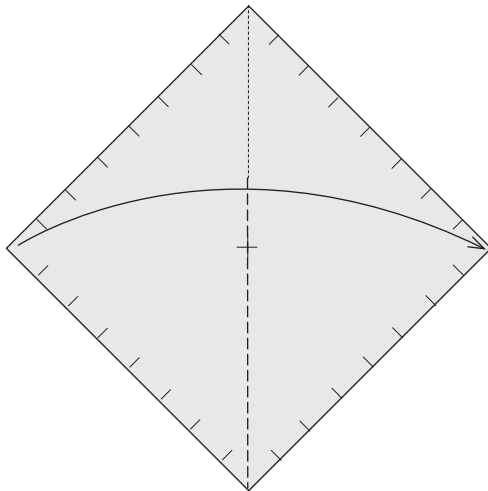


Complex

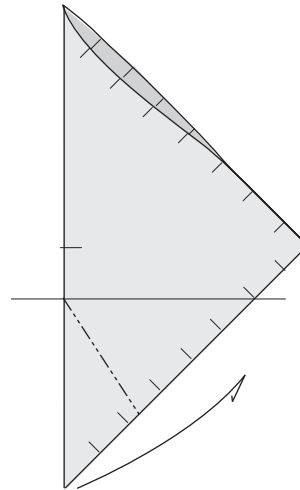
(Singapore)

A 12" square gives a 10" long model. Use relatively stiff 110g paper for best effect.

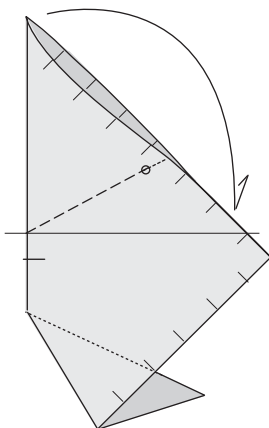
This model employs several 3D folds. Unlike flat or 2D folding, 3D folding requires much judgement as to where to position the folds. Creasing lines on the paper as guides will spoil the look of the final model. It will help, however, if small creases are made along the raw edges of the paper as reference points. In the completed model these creases would not effect its aesthetics. Therefore, begin by dividing each side of the square into eight equal segments with small creases. Mark center with small crease lines.



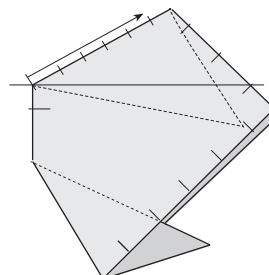
1. Valley fold but cease only slightly more than half length at lower part of the diagonal.



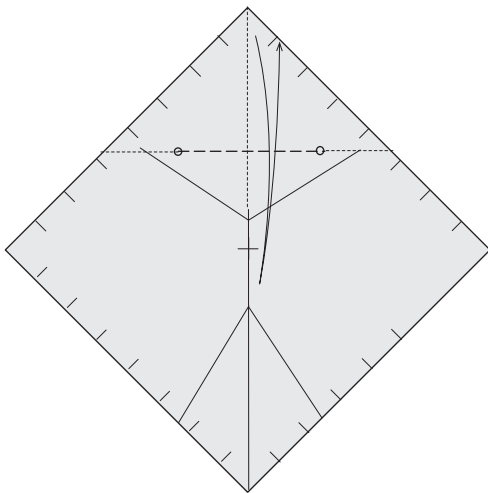
2. Reverse fold and crease fold lines.



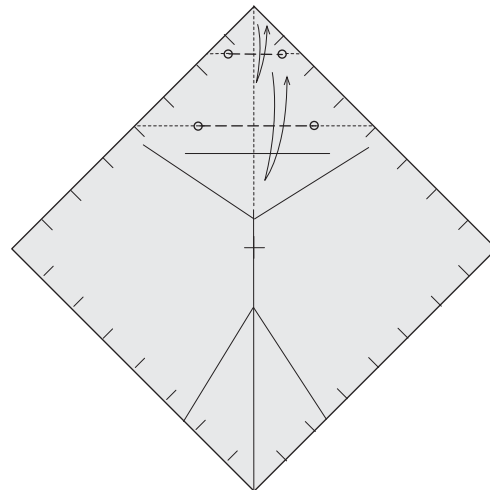
3. Reverse fold. Do not crease inner fold.



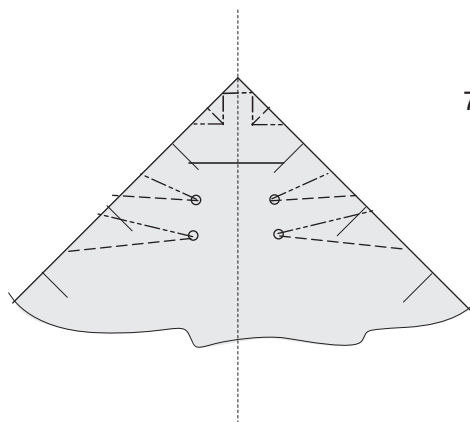
4. Crease outer folds only  $\frac{5}{6}$  length from the diagonal. The ends of the crease lines define the positions of 2 of the 3 cusp points (marked by a small circle) of the triple-cusp fold. The center of this fold is at the apex of the reverse fold. Unfold to original square.



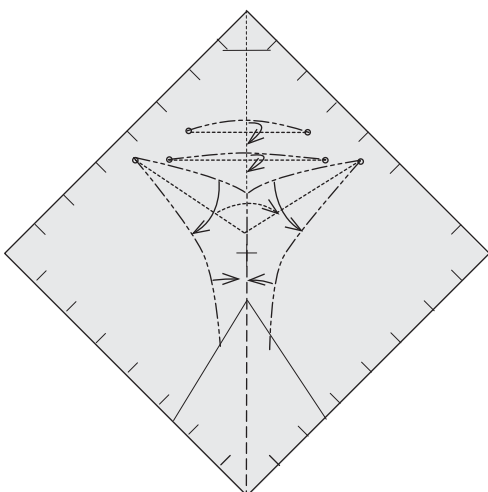
5. Valley fold but crease only halfway from diagonal to edge of the paper. The 2 ends of the crease line are the 2 cusp points of the double-cusp fold.



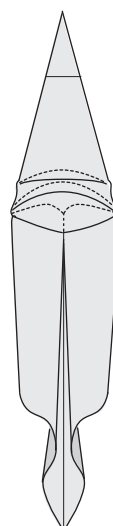
6. Repeat Step 3 for 2 more double-cusp folds but crease a proportionally longer line for the upper folds.



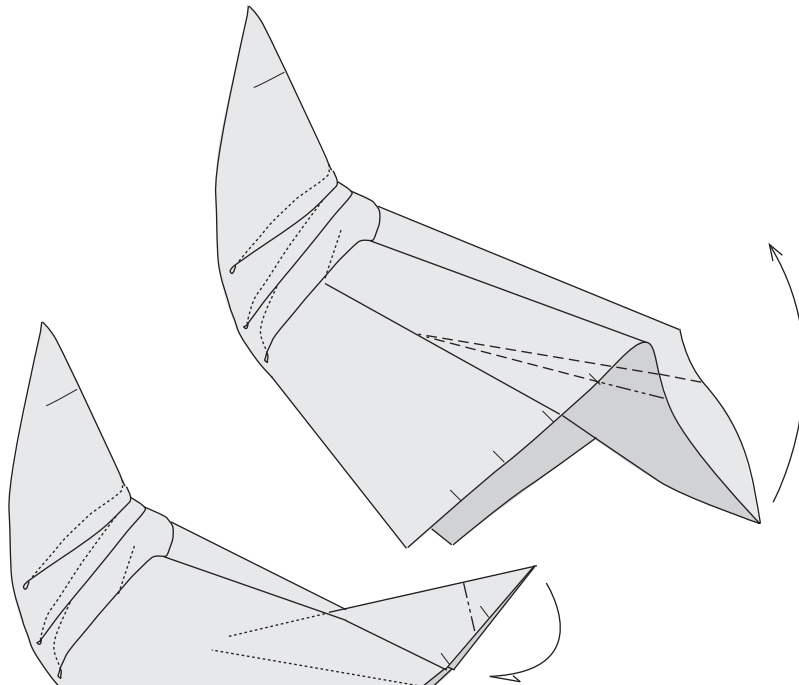
7. The features on the face and neck are crucial and they must be folded well for the model to look good. Precrease the folds on the snout and the neck, using the crease lines along paper's side as reference points. There are four single-cusp folds on the neck. The cusp points of the upper pair of single-cusp folds define the eyes. The fold on either side of the snout is a corner box fold.



8. Fold the 2 double-cusp folds and the triple-cusp fold. A circle at a cusp point indicates that the surface around it is a convex cone. (A cross would indicate that the surface around the cusp point is concave.) The third cusp point of the triple-cusp fold is outside the paper. Remember that the center of the triple-cusp fold is a reverse fold. Round the neck and the body by curving the fold lines of the cusp folds.

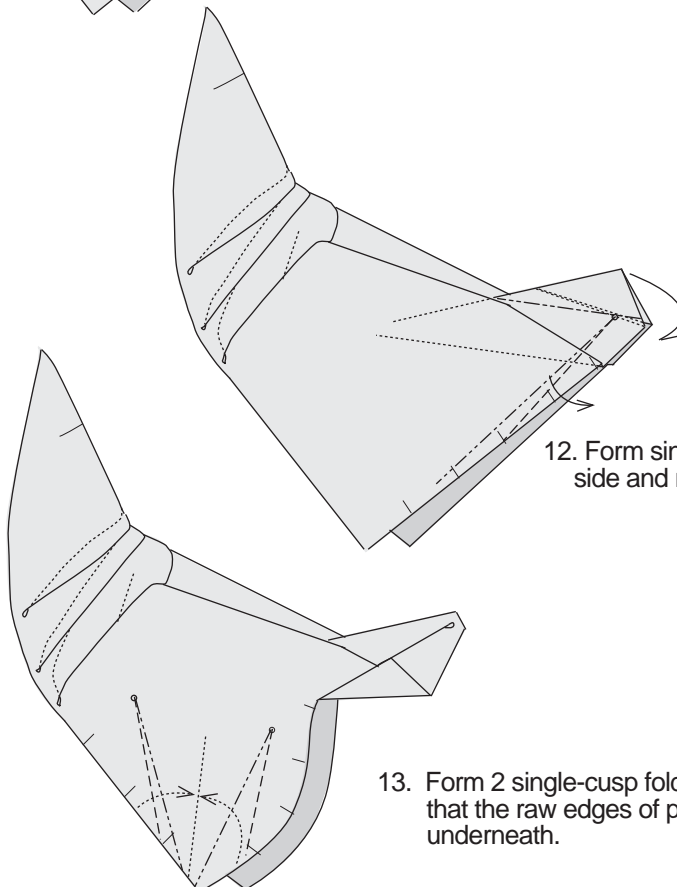


9. When you have reached this step, you would have noticed that the fold lines of cusp folds are the intersections of curved surfaces. (For the mathematically inclined, the single-cusp, double-cusp and the triple-cusp folds correspond to the cusp, swallowtail and butterfly manifolds respectively of Catastrophe Theory.) Turn around to view from side.



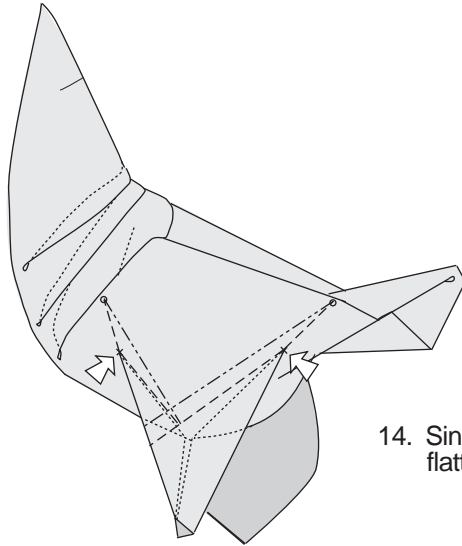
10. Reverse fold along earlier crease lines and flatten.

11. Reverse fold.

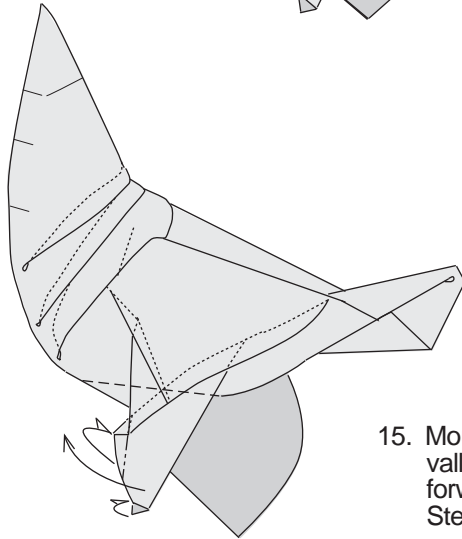


12. Form single-cusp fold on each side and reverse fold top corner.

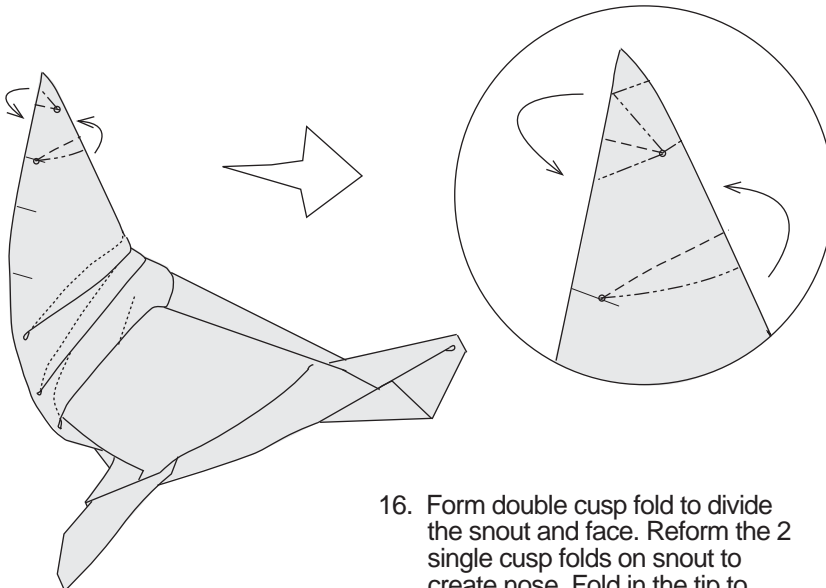
13. Form 2 single-cusp folds such that the raw edges of paper align underneath.



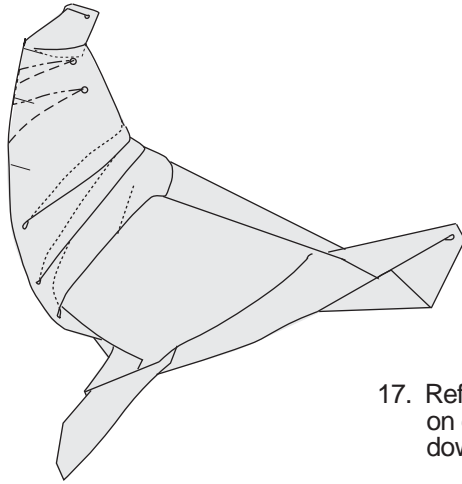
14. Sink in the 2 cusp points and flatten folds upwards.



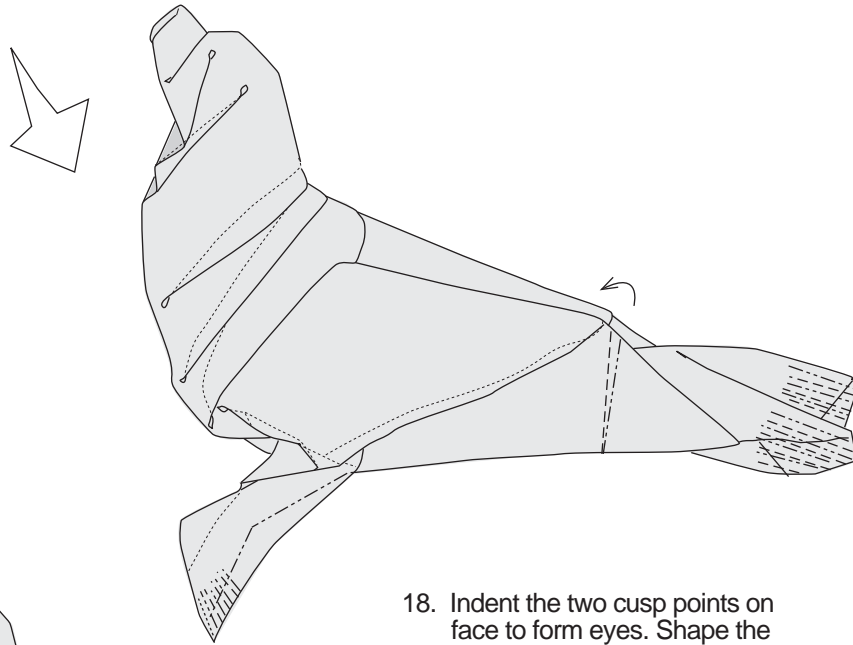
15. Mountain fold front flipper and valley fold to bring it out and forward. Tuck in the tip. Repeat Steps 10 to 12 for other side.



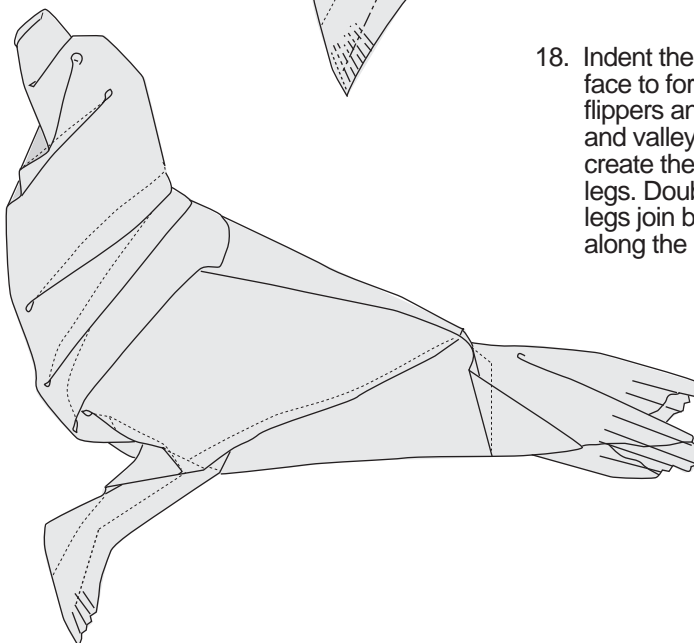
16. Form double cusp fold to divide the snout and face. Reform the 2 single cusp folds on snout to create nose. Fold in the tip to lock.



17. Reform the two double-cusp folds on either side of neck to bring down and form head.



18. Indent the two cusp points on face to form eyes. Shape the flippers and alternate mountain and valley folds in parallel to create the digits. Repeat for back legs. Double reverse fold where legs join body to lock the gap along the back.



19. The completed seal.