## Acrocanthosaurus

Begin with a square, white side up, with both diagonals precreased.


Valley fold the lower left side to the horizontal center line, bisecting the angle on the left corner, but crease only where the fold intersects the lower right side. Unfold.


Reverse fold the top sides in to the center line, creating a small preliminary base at the top. The next diagrams are enlarged.


Valley fold the petal back down.


Valley fold the bottom corner to the center of the square, again creasing only on the right side. Unfold.


Valley fold the sides of the preliminary base at the top to the center line and unfold.


Valley fold the lower edges to the center, bisecting the lower point on each side, and unfold. Because of the proportions used in Steps 1-3, the side corners of the paper should lie right at the lower tip of the petal fold at the top when the edges are at the center line.


Valley fold the bottom point up so that the intersection of the edge of the paper and the angle bisector from Step 1 lays on the crease line from Step 2. Rotate the paper $180^{\circ}$.


Petal fold on the creases from Step 5.


Valley fold the top point (including the bird base assembly) down along a line that connects the tops of the angle bisectors from Step 8. This crease should go across the very tip of the petal fold. Unfold.


Valley fold the entire model in half, right side over left. Rotate the model $90^{\circ}$ counterclockwise (the thick point including the petal fold will be on the left).


Valley fold the thick point at the left down to the bottom point and unfold.


Valley fold the upper part of the paper (including the upper part of the thick, petal folded assembly inside) as far upwards as it will naturally fall.


Valley fold the thick point at the left down to the intersection of the edge and the angle bisector from Step 8 and unfold.


The result. Unfold the top flap back down.

Double reverse fold the thick, left point inwards on the crease from Step 11 and back out on the crease from Step 12.

17.


Fold the top flap up again, as in Step 14.
18.


Turn over from side-to-side.
The next diagrams are enlarged.



## 23.

Wrap the small flap on the surface underneath.

26.



The loose colored triangle that lies on top of the point at the bottom is connected to some paper that is currently trapped inside the model. Grabbing the circled points, pull them gently apart and away from each other to expose it; in doing so, the upper half of the model will also swing up.


Now the rectangle of paper is free, and sticking up in this diagram. Flatten the model by pushing the freed flap and the points to which it is connected down. The point at right that is connected to the petal fold goes the left, and the larger point at the bottom valley folds up and to the left on a new crease.


Swivel the flap to the left. The valley fold at right and the vertical mountain fold are on existing creases. The right portion of the flap swivels downwards, and the left side swivels up and to the left.


Valley fold the top flap down and to the right.


Pull out the trapped layer of paper, wrapping it around the the raised edge at the lower right (this is a diamond-shaped layer of paper when unfolded; as you do this, or unfold it, unwrap the paper, and refold it). The freed paper at the bottom of the petal fold at right will swing up. This is a difficult move.


Valley fold over and over three times to narrow the white flap. Only the first crease is new.


Valley fold the narrow flap and point at the bottom over to the right and unfold.


Narrow the colored flap with two swivel folds. One narrows the flap covering the large point at the bottom; the other narows the colored point to the right, but note that it does not continue all the way to the tip of the point. Note that the swivel should go through the intersection (circled) of the flaps beneath (indicated by the x-ray lines).


Valley fold the large flap at the bottom up as far as possible.


Reverse fold the flap through on the crease from Step 33.


The result. Turn the model over from top-to-bottom.


Repeat Steps 20-35 in mirror image on this side.

Pull out paper under the two broad points at left, unfolding the petal fold and associated paper.

Unsink the chevron-shaped paper from between the layers.


Valley fold the narrow flap at the left back down. Repeat behind.


Valley fold the tall, narrow flap at right over to the left; repeat behind.


Fold the model in half, bringing the top portion down over the bottom. The next series of diagrams are reduced in size.


Spread squash the angled layer in the center. The valley fold on the top layer is on an existing crease. Repeat behind.


Closed sink the flap inside. This is not easy because it's difficult to reach inside the model at this point without unfolding a lot of the model. Repeat behind.


Closed sink this flap inside, as well. Repeat behind.


Valley fold the upper half of the model down along a line even with the top of the point at left.
49.


Bring a layer from underneath the fin flap to the surface. This is something like unsinking a layer. This need not be repeated behind; in fact, this move will return symmetry of the layers to the model.


Swivel fold the top layers of the leg and tail again. As before, the leg flap gets bisected; the tail flap should line up with the edge beneath. Repeat behind.


Valley fold the narrow flap on top the leg over to the right; repeat behind.


Valley fold the flap up at an angle. The fold line connects the very tip at the right with the point along the top edge at left.


Swivel fold the top layers to narrow both the leg and the tail. Note that while the leg is folded along an angle bisector, the tail is not, and the flap goes further down than its present lower edge. Repeat behind.


Fold the narrow, white flap on the bottom of the tail inside. Repeat behind.


Closed sink the flap inside to narrow the leg. Repeat behind.
55.


Double reverse fold the point at left up. The first reverse fold is hidden beneath the triangular points and is indicated by the $x$-ray and mountain fold lines; the second reverse fold is indicated by the vertical valley fold line.


Outside reverse fold the flap again, bisecting the arm (lower) points.
56.


Outside reverse fold the flap on the right along the edge of the arm points below. This occurs on an existing crease. The next diagrams are enlarged.
58.


Inside crimp the arms in half, bringing the head down a bit. In order to do this effectively and without ripping the paper, you will have to push in (like an open sink) the bit of the hump on the back that is hidden inside the neck (indicated by the x-ray line).






Narrow the neck by mountain folding some of the flap in front inside; as you do this, a small bit of the bottom of the head will be squashed into a gusset inside. Repeat behind.

Outside crimp the head down. Note that the crease lines for the crimp do not meet on the top of the neck - you'll have to spread some paper and push out a bit from the inside to do this.


Reverse fold the tip of the snout. Closed sink the point on the hump on the back to make the hump roughly of equal height along the back (it will still get shorter along the tail).
62.


Rabbit-ear the thick arm points and swing them upwards. Reverse fold the tips of the leg points to form feet. Repeat both folds behind.


Fold hands down at the ends of the arms. Dent in some of the paper on the legs to shape the knee and ankle. Repeat behind. Inside the neck, closed sink some of the middle layer upwards to form a continuation of the hump on the back on the top of the neck.


Finished Acrocanthosaurus

