

# EXTREME ORIGAMI

WON PARK



CREDITS PAGE



To my first teacher—my mother—and to Tiffany, who inspires me.





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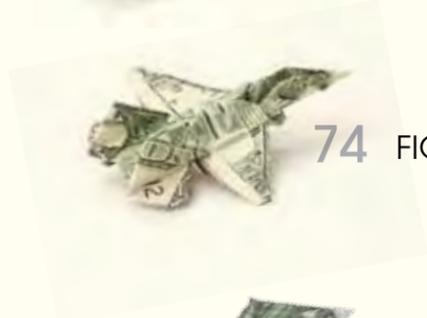
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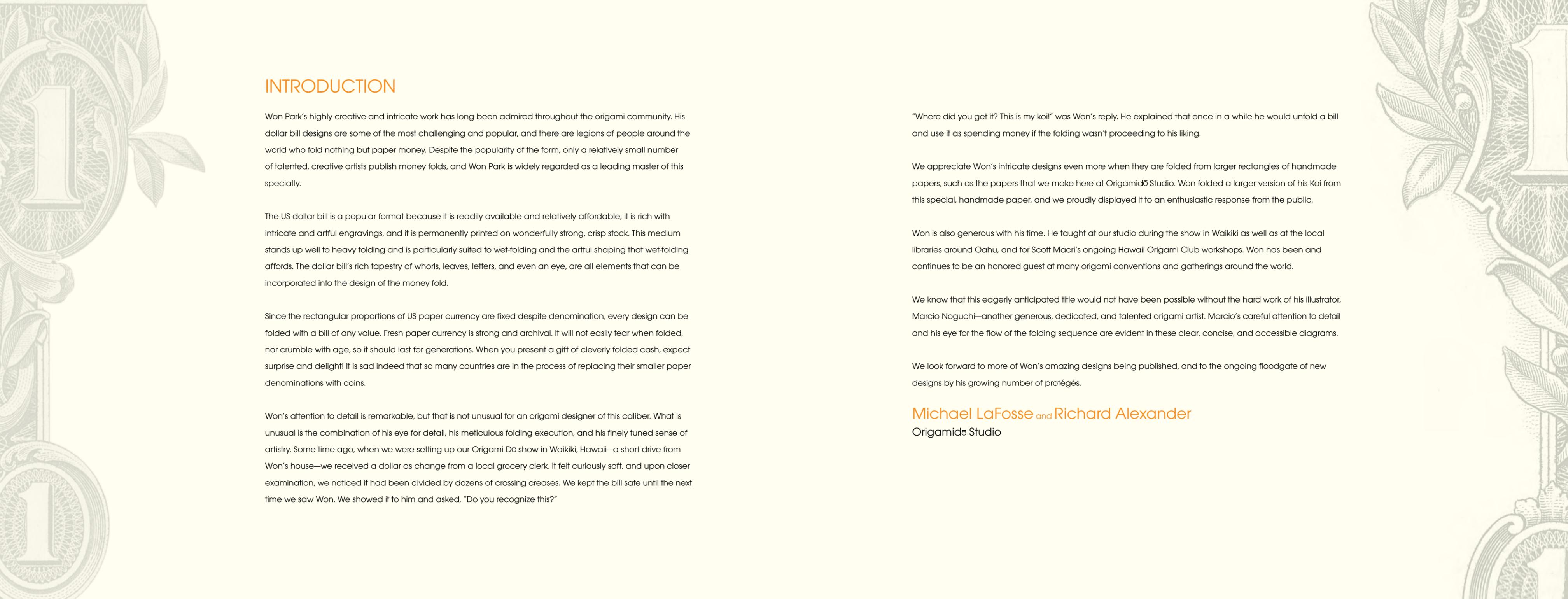


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## INTRODUCTION

Won Park's highly creative and intricate work has long been admired throughout the origami community. His dollar bill designs are some of the most challenging and popular, and there are legions of people around the world who fold nothing but paper money. Despite the popularity of the form, only a relatively small number of talented, creative artists publish money folds, and Won Park is widely regarded as a leading master of this specialty.

The US dollar bill is a popular format because it is readily available and relatively affordable, it is rich with intricate and artful engravings, and it is permanently printed on wonderfully strong, crisp stock. This medium stands up well to heavy folding and is particularly suited to wet-folding and the artful shaping that wet-folding affords. The dollar bill's rich tapestry of whorls, leaves, letters, and even an eye, are all elements that can be incorporated into the design of the money fold.

Since the rectangular proportions of US paper currency are fixed despite denomination, every design can be folded with a bill of any value. Fresh paper currency is strong and archival. It will not easily tear when folded, nor crumble with age, so it should last for generations. When you present a gift of cleverly folded cash, expect surprise and delight! It is sad indeed that so many countries are in the process of replacing their smaller paper denominations with coins.

Won's attention to detail is remarkable, but that is not unusual for an origami designer of this caliber. What is unusual is the combination of his eye for detail, his meticulous folding execution, and his finely tuned sense of artistry. Some time ago, when we were setting up our Origami Dō show in Waikiki, Hawaii—a short drive from Won's house—we received a dollar as change from a local grocery clerk. It felt curiously soft, and upon closer examination, we noticed it had been divided by dozens of crossing creases. We kept the bill safe until the next time we saw Won. We showed it to him and asked, "Do you recognize this?"

"Where did you get it? This is my koi!" was Won's reply. He explained that once in a while he would unfold a bill and use it as spending money if the folding wasn't proceeding to his liking.

We appreciate Won's intricate designs even more when they are folded from larger rectangles of handmade papers, such as the papers that we make here at OrigamiDō Studio. Won folded a larger version of his Koi from this special, handmade paper, and we proudly displayed it to an enthusiastic response from the public.

Won is also generous with his time. He taught at our studio during the show in Waikiki as well as at the local libraries around Oahu, and for Scott Macri's ongoing Hawaii Origami Club workshops. Won has been and continues to be an honored guest at many origami conventions and gatherings around the world.

We know that this eagerly anticipated title would not have been possible without the hard work of his illustrator, Marcio Noguchi—another generous, dedicated, and talented origami artist. Marcio's careful attention to detail and his eye for the flow of the folding sequence are evident in these clear, concise, and accessible diagrams.

We look forward to more of Won's amazing designs being published, and to the ongoing floodgate of new designs by his growing number of protégés.

**Michael LaFosse** and **Richard Alexander**  
OrigamiDō Studio

# TERMS AND SYMBOLS

----- Valley fold

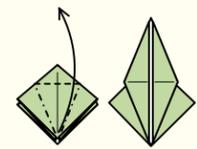
-.-.-.-.- Mountain fold

———— Existing crease

..... Hidden lines



Preliminary fold



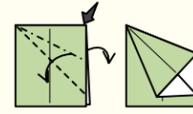
Petal fold



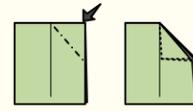
Rabbit-ear fold



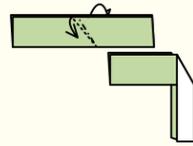
Swivel fold



Squash fold



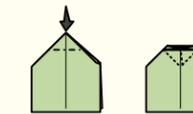
Inside reverse fold



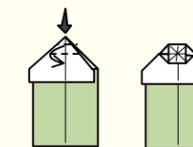
Outside reverse fold



Closed sink



Open Sink



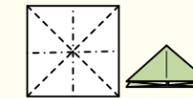
Spread sink



Pleat fold

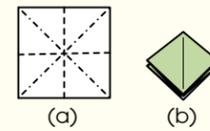


Crimp fold



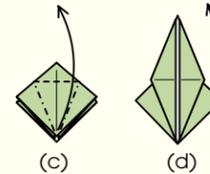
Waterbomb base

Bird base:



(a)

(b)



(c)

(d)

(e)

Fold



Fold and unfold



Repeat



Open Layers



Push/apply pressure



Rotate



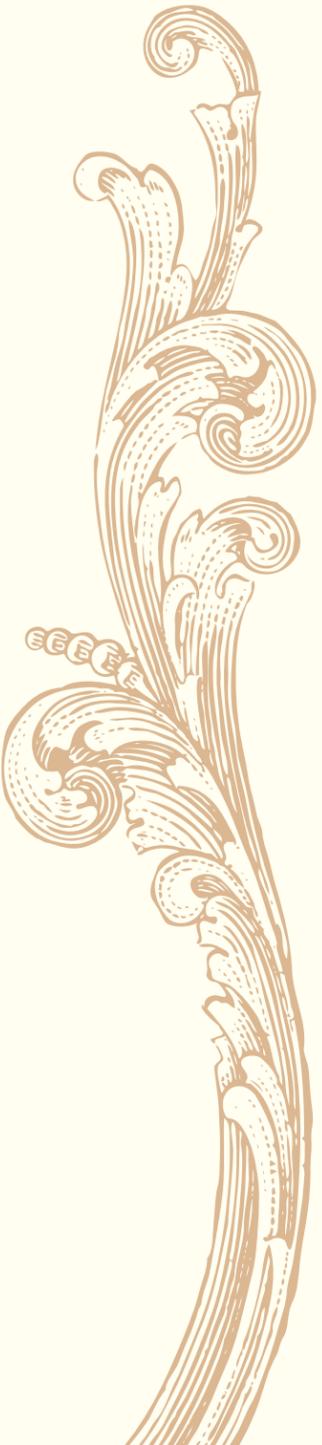
Turn over



Close up



View from this angle



## ARE YOU READY TO TAKE THE *EXTREME ORIGAMI* CHALLENGE?

As with anything you do, origami—especially extreme origami—takes practice. Lots of practice. If you are already an advanced folder, you are well prepared to take the *Extreme Origami* challenge offered by this book. But if your skills are at an intermediate level, here are some tips that will help you attack these models.

- Origami instructions can be tricky to follow. Most of the action is shown in the diagrams, but the text is important, too. Learn to read both together to get the whole story.
- Some important folds are referred to by name; they are listed in the terms section. Read the terms through and learn them before you start these models.
- Equip yourself with these basic tools when you are ready to begin folding:
  - (1) Practice paper—use plain papers that are larger than (but with the same proportions as) regular dollar bills, if you can. They will make the tiniest folds a little easier to learn. You will need to practice these models a lot before using real money to fold them. One of the challenges of folding with real money is that it has patterns and artwork printed on it that can make it hard to see the creases. So the value of getting up to speed on plain practice paper can't be oversold.
  - (2) A bone folder, for making sharp, accurate folds. Imprecise folds can throw the whole model off.
  - (3) Tweezers, for grasping small folds firmly. It takes a bit of practice to learn how to use them properly.
  - (4) Small paper clamps, for helping thickly folded paper to keep its shape.
  - (5) Fresh, new dollar bills, for when you are ready to fold tight, crisp final models.

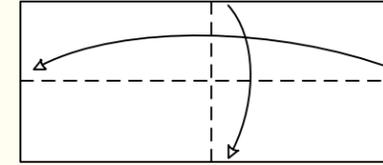
- When folding, compare the current step to the results in the step ahead. Sometimes knowing what the final result should look like will enable you to execute a particularly difficult step.
- Beware of overfolding. Paper softens with use—even durable stock like dollar bills—and when it is too soft, the folds won't hold. Which is yet another good reason to practice, practice, practice.
- Sometimes you just need to step away from your project. These projects are extremely challenging. There will be times when you will throw your hands up in frustration. That's when it is time to take a break and a breather. A little perspective always helps.
- Enjoy the process. Stay focused on making sharp, accurate folds and the rest will follow with time and practice.
- Allow yourself time to fold these models. They are works of art; making art takes time. Final shaping details are as important to the end product as the intermediate steps, so give these your full attention, too.



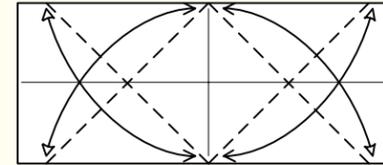
# BUTTERFLY



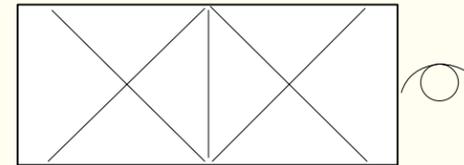
1 Fold in half horizontally and vertically. Unfold.



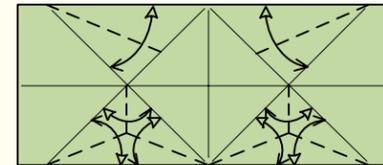
2 Fold the edges along the short vertical crease.



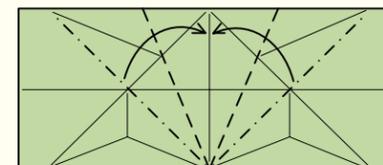
3 Turn over.



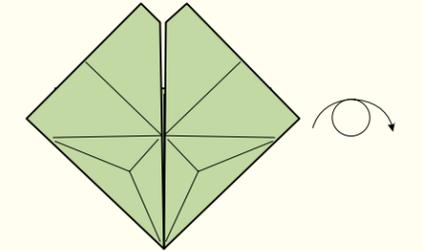
4 Fold the angle bisectors, crease to crease and edge to crease.



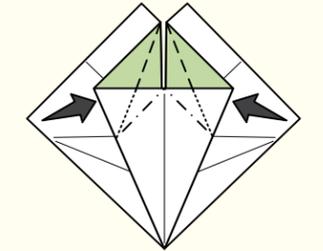
5 Fold existing mountain creases to the center crease.



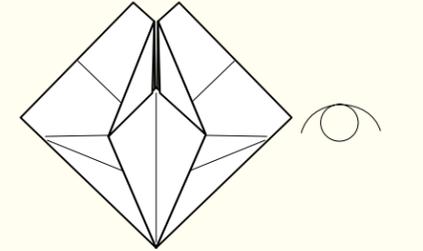
6 Turn over.



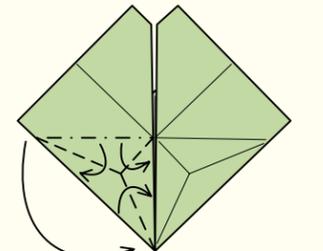
7 Inside reverse fold, using existing creases.



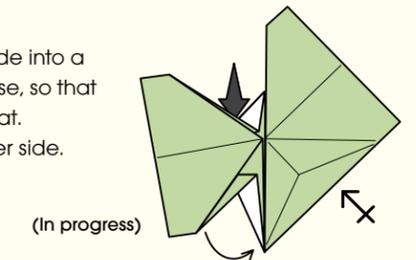
8 Turn over.



9 Rabbit-ear fold, using existing creases. The top will not lie flat.

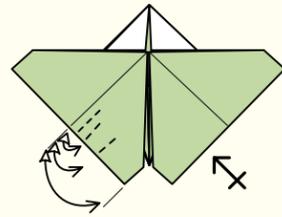


10 Push the layers inside into a kind of inside reverse, so that everything will lie flat. Repeat on the other side.



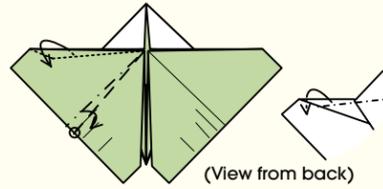
11

Pinch to create reference points. First, bring the edge to the crease, then the pinch to the crease, and finally the last pinch to the crease. Repeat on the other side



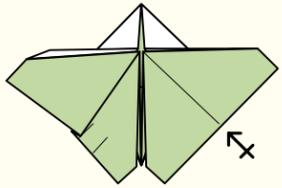
12

Swivel fold: first, create a valley fold starting at the 1/8 mark and bring the mountain crease to close to the 1/4 pinch. Fold the top edge down a tiny bit, creasing so that everything lies flat.



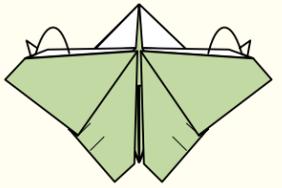
13

Repeat on the other side.



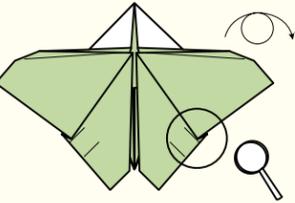
14

Wrap around (outside reverse).



15

Turn over. Detailed view of wings is next.



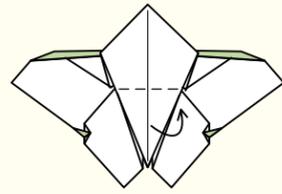
16

Valley fold the corner in, then fold the top layer up, finessing as needed so paper lies flat. Repeat on other side.



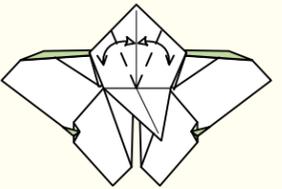
17

Lift the flap, slightly marking existing crease.



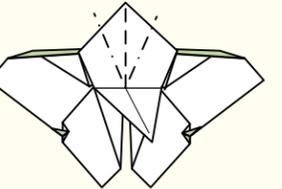
18

Pre-crease: fold the center crease into a folded edge and bring to the corners, pivoting from the intersection of the creases.



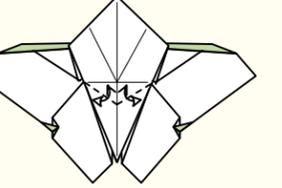
19

Reverse the creases from valley to mountain; valley fold the center crease.



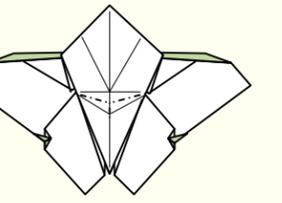
20

Crease the angle bisectors.



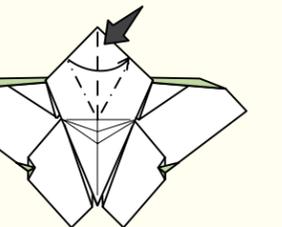
21

Mountain crease the angle bisectors.



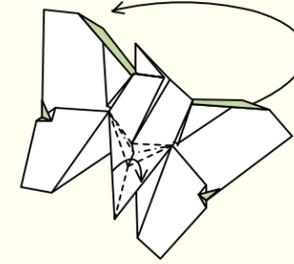
22

Start the collapse: push the head part down, and bring the edges together. The model will not lie flat.



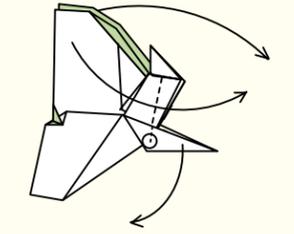
23

Collapse the tail along existing creases and fold in half while folding the wings down to meet.



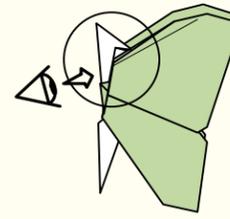
24

Valley fold the wings from the pivot point along the dashed line. They will close on the other side, while the tail will swivel down.



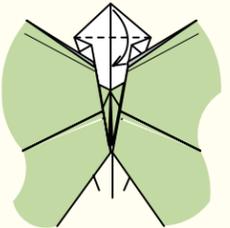
25

View from the top for details of the head.



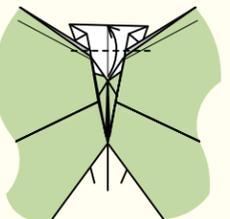
26

Open slightly. Valley fold the inside tip of the head from corner to corner.



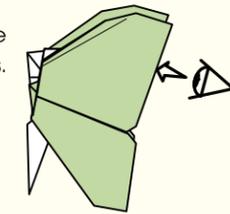
27

Fold the tip back to the edge. Close.



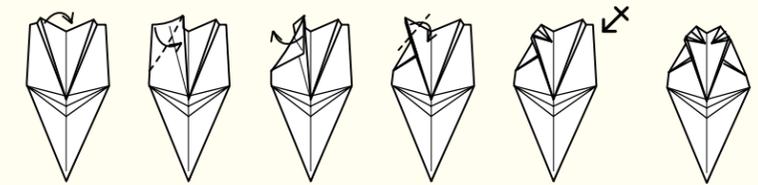
28

View from the inside for more head detail. Open the wings.



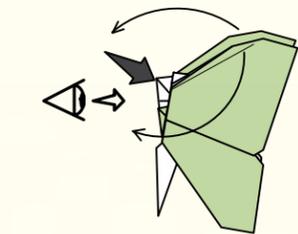
29

Move the flap to the center to allow space to fold the edge to edge. Move the flap back, and fold the corner to the center line. Repeat on the other side.



30

View from the top again to adjust wings. Press wings out to open them up.



The completed butterfly





# TOILET

Precision folds are very important with this model.

**1** Fold in half. Unfold.

**2** Fold edges to crease and unfold. Turn over.

**3** Fold edges to the creases indicated and unfold. Turn over.

**4** Fold the short edge to the long edges and unfold to crease the angle bisectors.

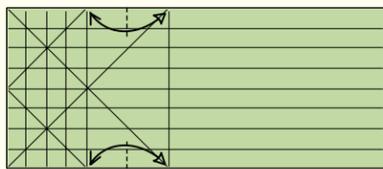
**5** Crease at the points indicated.

**6** Fold to the crease and unfold. Turn over.

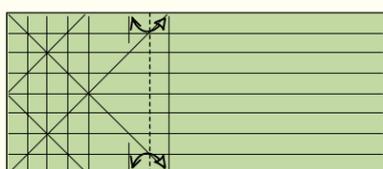
**7** Crease in half.

**8** Fold edge to the crease. Unfold. Turn over.

9 Pinch the edges between the creases.



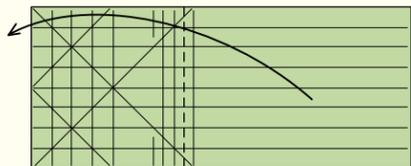
10 Fold the crease to the pinches created in the last step. Unfold.



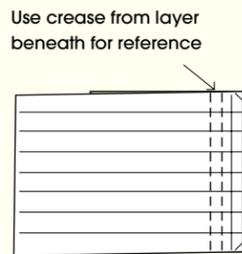
11 Crease between the edge and the pinches as well as between the creases shown.



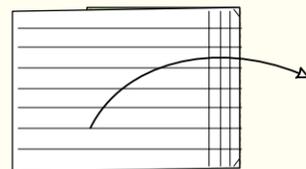
12 Valley fold.



13 Create symmetrical creases using the creases on the layer beneath as reference.



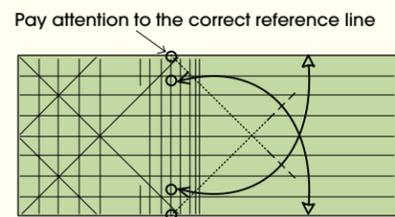
14 Unfold.



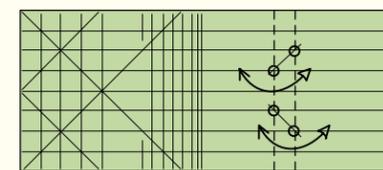
15 Fold between the creases. Unfold.



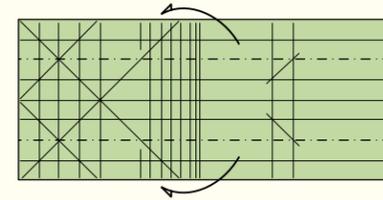
16 Fold edges to the line indicated and crease along the dotted lines shown. Unfold.



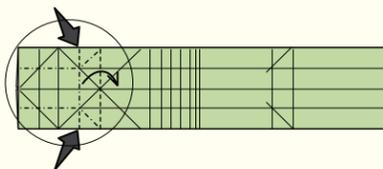
17 Make vertical creases between the points indicated.



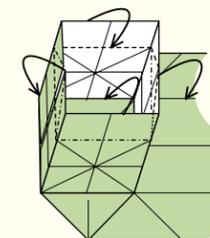
18 Mountain fold the long edges to the center on the back, using existing creases.



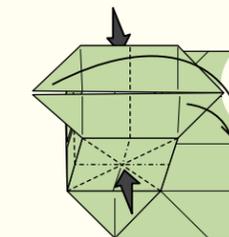
19 Create some new creases, then make the model partially 3-D by collapsing as indicated. The model will not lie flat.



20 Fold as indicated, using existing creases. The model will still not lie flat.



21 Sink the sides and collapse the model flat. See the next step for the result.



22 Create diagonal creases.



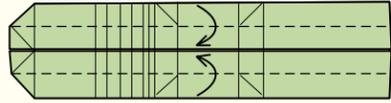
23 Crease vertically through the points indicated.



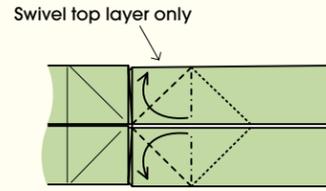
24 Reinforce existing creases (this will crease all the layers). Turn over.



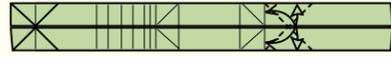
25 Fold edges to the center.



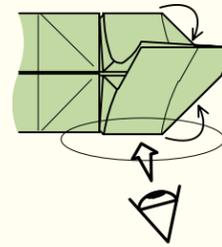
29 Swivel fold the top layer. The model will not lie flat.



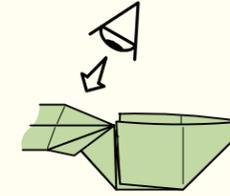
26 Fold the edges to the crease and unfold.



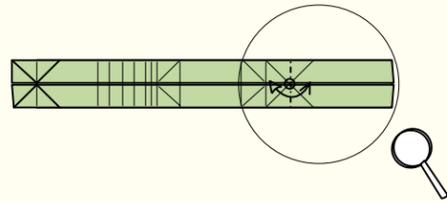
30 Bring the layers together, positioning them so they are perpendicular to the rest of the model. Next step is viewed from the side.



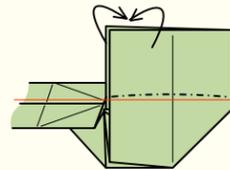
33 View the complete model from above again.



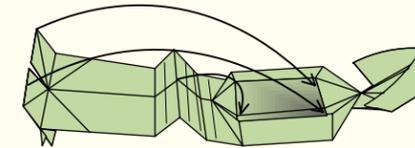
27 Mountain fold at intersection. Unfold.



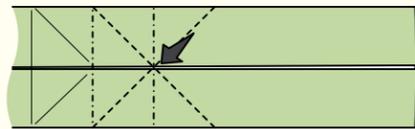
31 Open slightly and mountain fold excess paper so the edge is about level with the rest of the model. This is the bowl and will be adjusted at the end for the proper shape.



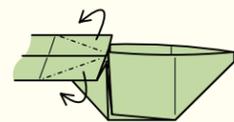
35 Insert the tabs to create the tank.



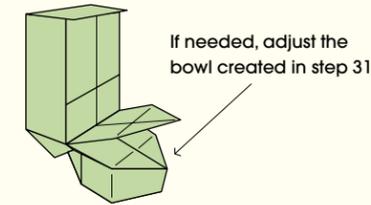
28 Pop the center of the intersection and collapse (it should look something like a waterbomb base).



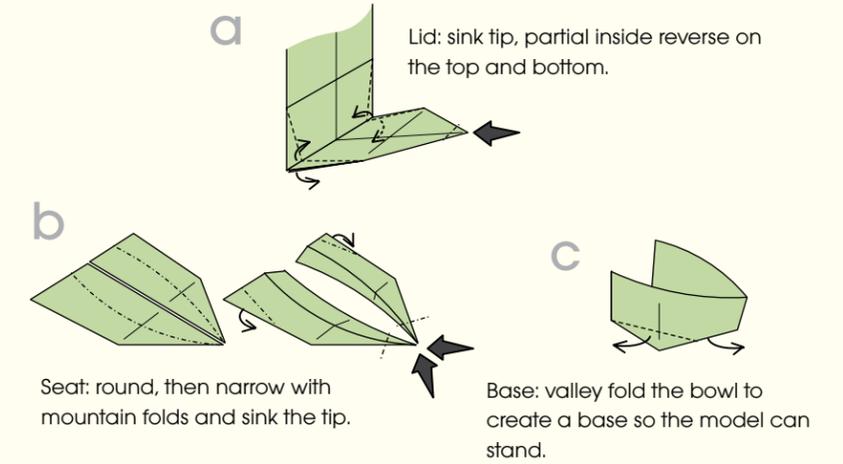
32 Mountain fold the small triangular flaps.



36 Final details next.



37 Fold the lid, seat and the base.



The completed toilet

ROUGH FINISHED IMAGES THROUGHOUT ARE FPO ONLY.

# TANK



You will need to make two units to assemble this model.

## Make the tracks first:

**1** Fold in half. Unfold.

**2** Fold the short edge to the long edges diagonally and unfold to create the angle bisectors. Turn over.

**3** Crease at the points indicated.

**4** Crease between the lines created in the previous step. Turn over.

**5** Crease between the lines created in the previous step.

**6** Crease between the lines. Turn over.

**7** Crease between the lines. Turn over.

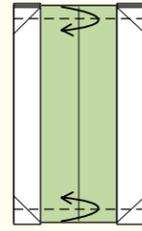
**8** Bring edges to the intersections indicated, and crease between the lines only. Turn over.

**9** Pleat fold. Turn over.

**10** Accordion fold.

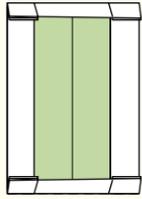
11

Fold all the layers using the existing creases as a reference.



12

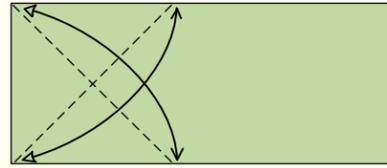
The tracks are complete.



**Make the gun turret:**

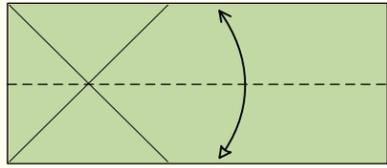
1

Fold the short edge to the long edges and unfold to crease the angle bisectors.



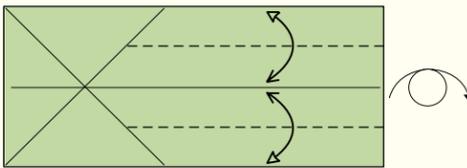
2

Fold in half. Unfold.



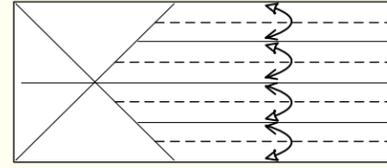
3

Fold edges to the center line and crease up to the diagonals. Turn over.



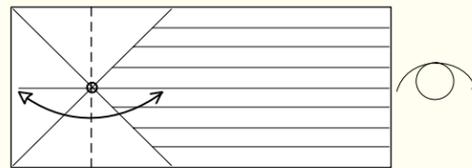
4

Crease between the lines created in the last step, up to the diagonals.



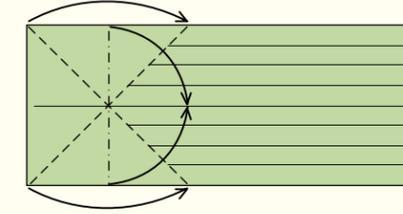
5

Crease vertically through the intersection indicated. Turn over.



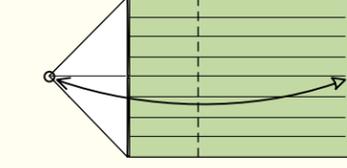
6

Collapse (like a waterbomb base).



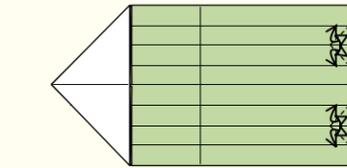
7

Fold edge to the corner and crease. Unfold.



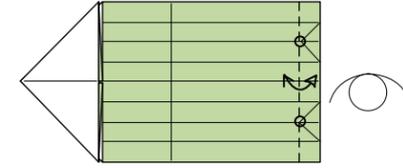
8

Fold edge to the lines shown to create small diagonals. Unfold.



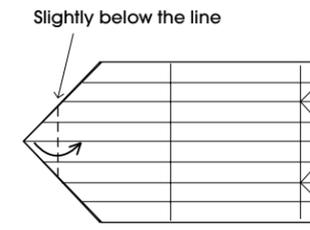
9

Fold vertically through the points indicated. Unfold. Turn over.



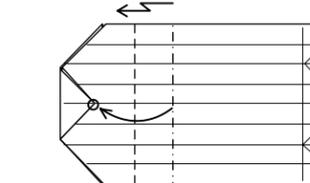
10

Fold the corner, starting at just below the line.



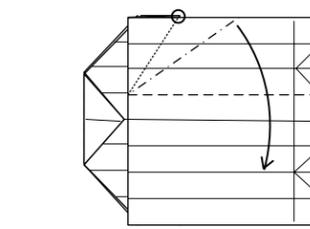
11

Pleat with a mountain fold on the existing crease, bringing the folded edge to the corner.



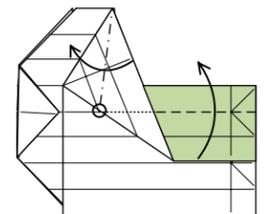
12

Swivel fold.



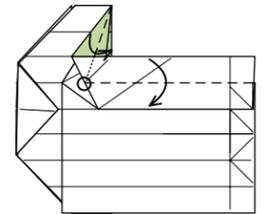
13

Swivel fold.



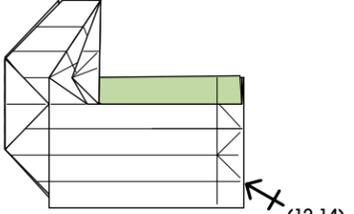
14

Swivel fold.



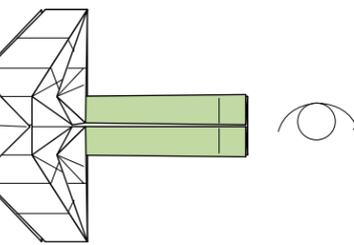
15

Repeat steps 12 to 14 on the other side.

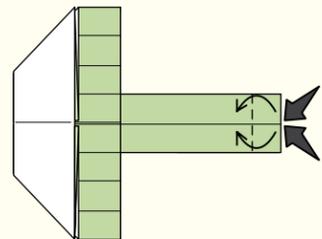


16

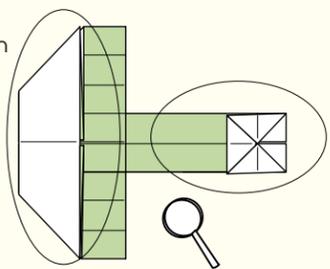
Turn over.



17 Valley fold the top layer only, squashing the middle layers.

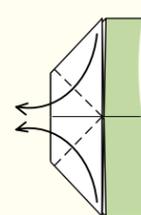


18 Details of the hatch and main gun are next.



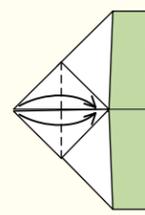
19 Fold the hatch:

a



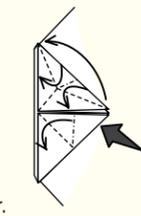
Valley fold both flaps.

b



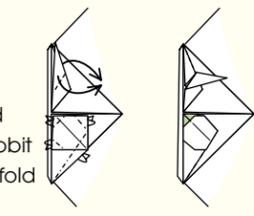
Valley fold both flaps.

c



Rabbit-ear fold one of the flaps and open squash the other.

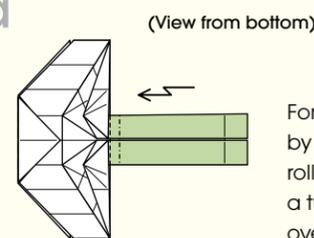
d



Outside reverse fold the flap with the rabbit ear, and mountain fold the open squash.

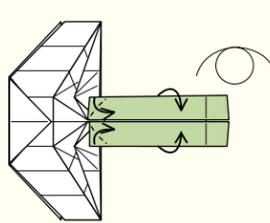
20 Shape the gun:

a



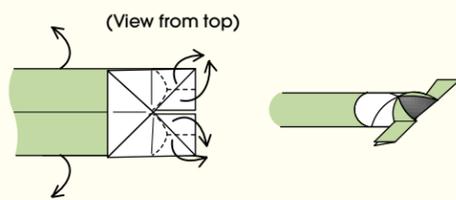
Create a small pleat.

b



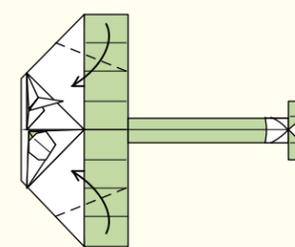
Form small swivels by the turret and roll the barrel into a tube shape. Turn over.

c

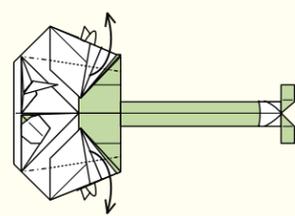


Viewing from the top, pinch the flaps on each side to create the muzzle brakes. Finish shaping the barrel.

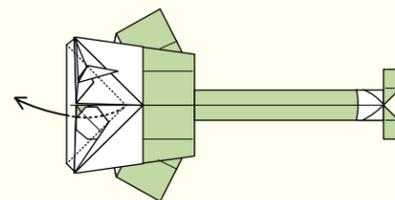
21 Valley fold top layer only, squashing the middle layers.



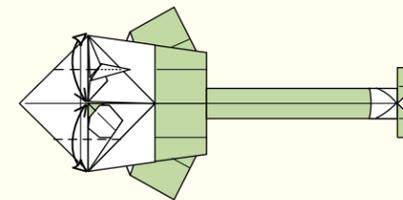
22 Mountain fold, letting the flaps flip out to the sides.



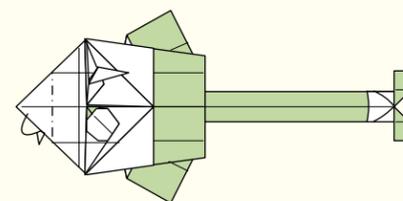
23 Pull the flap out from behind.



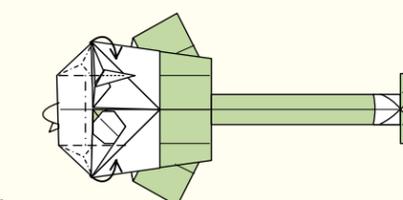
24 Fold and unfold the flaps.



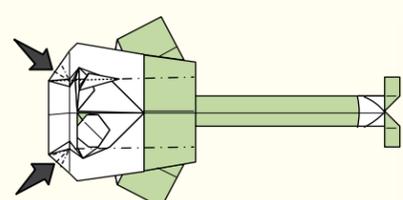
25 Fold under.



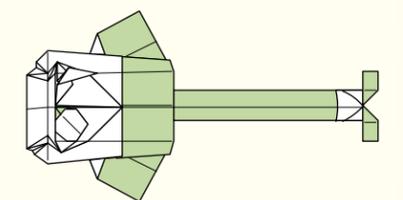
26 Push the flaps up so they stand perpendicular to the hatch and add a rabbit ear on each side. This will help push the back down and give it a tridimensional shape.



27 Make some dents as indicated and add light mountain creases on the sides to further the tridimensional shape.



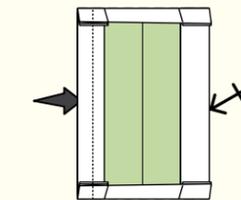
28 The finished turret.



Put the tracks and the turret together:

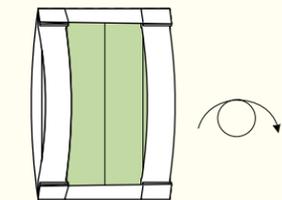
1

On the tracks unit, push the middle layer inward on the existing crease to make it tridimensional.



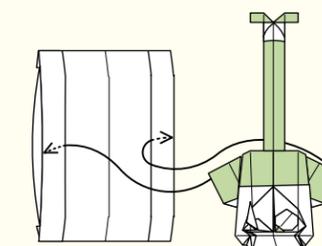
2

Turn over.



3

Insert the tabs on the turret into the pockets on the tracks unit.



The completed tank





# SPIDER

This model requires two units.

**1** Fold in half. Unfold.

**2** Fold in half. Unfold.

**3** On both sides, fold angle bisectors by aligning edge to edge. Unfold.

**4** Fold and unfold between the points.

**5** Fold and unfold. Turn over.

**6** Fold angle bisectors. Unfold.

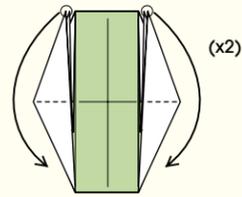
**7 a** Start collapse.

**7 b** In progress... add additional creases to move the internal corner.

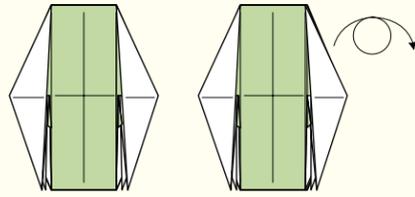
**7 c** Fold flat.

**8** Repeat on the other side.

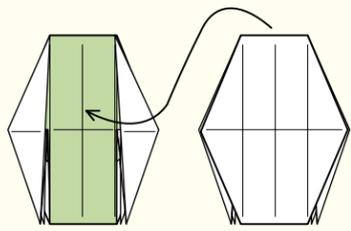
9 Fold both flaps down on both sides. Repeat steps 1 to 9 to make a second unit



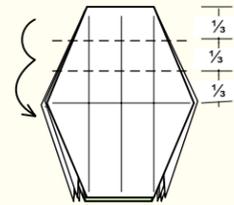
10 Turn one of the units over.



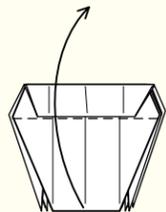
11 Align the units back to back, one on top of the other.



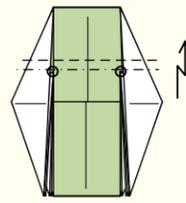
12 Valley fold about 1/3, then valley fold again, rolling over.



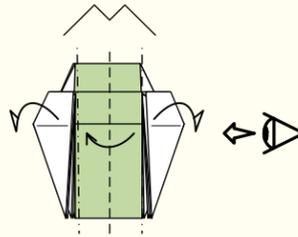
13 Valley fold top flap only.



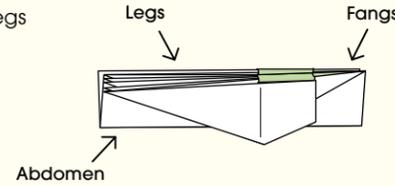
14 Pleat fold. This will lock the layers on the back.



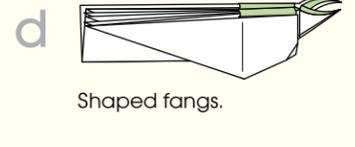
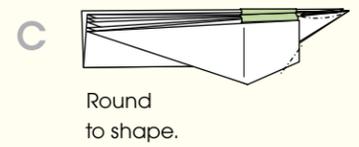
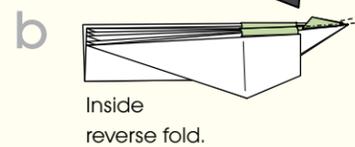
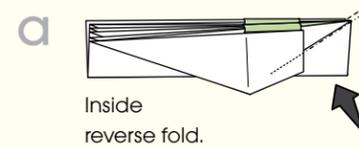
15 Open the model slightly to outside reverse fold.



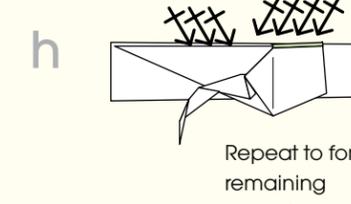
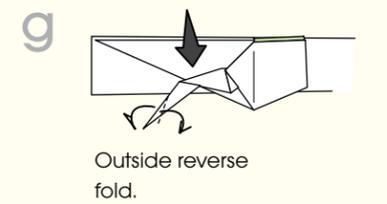
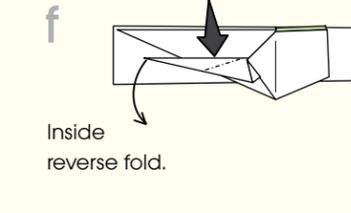
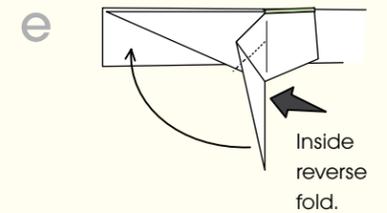
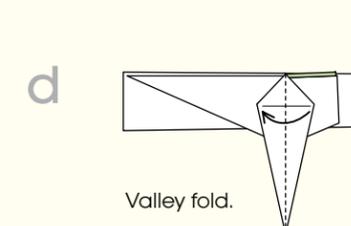
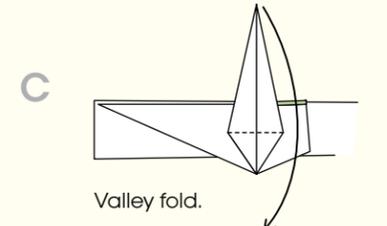
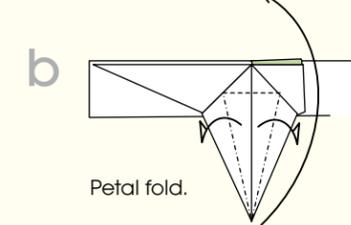
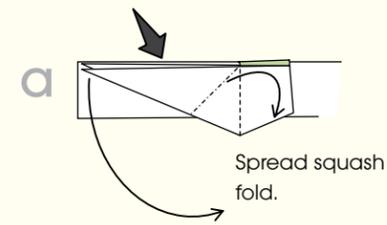
16 Details of the abdomen, legs and fangs next.



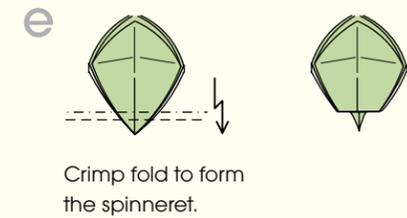
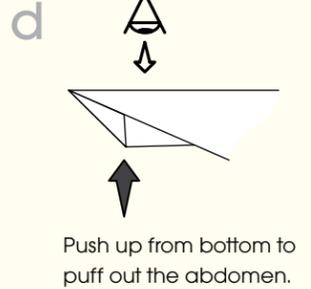
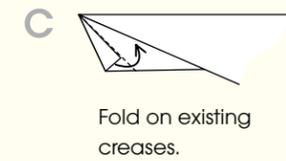
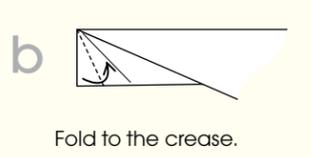
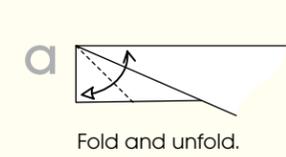
17 Shape jaws and fangs:



18 Shape legs:



19 Shape abdomen:

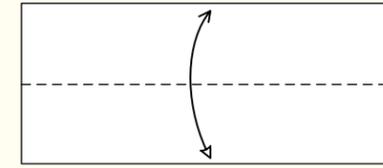


The completed spider

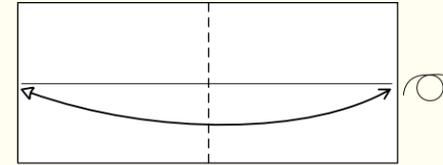
# FOX



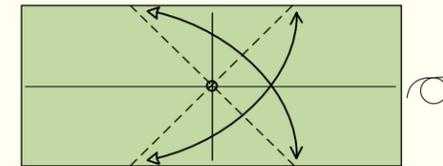
1 Fold in half. Unfold.



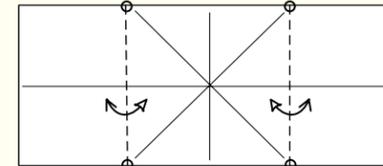
2 Fold in half. Unfold. Turn over.



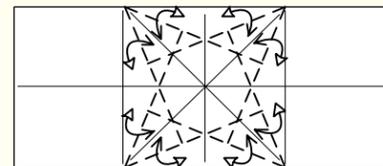
3 Fold the angle bisectors by aligning crease to crease. Unfold. Turn over.



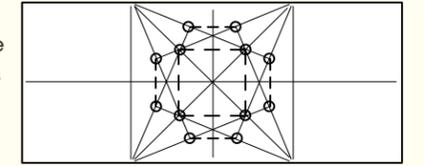
4 Fold between the points and unfold.



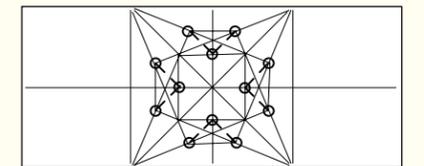
5 Fold angle bisectors as indicated.



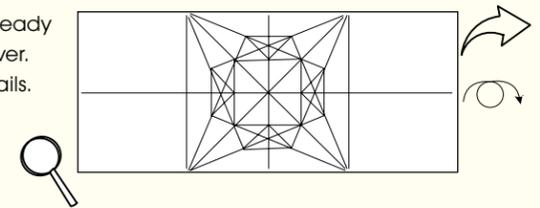
6 Pre-crease: crease the shorter, outer ones well, since they will be used for the sinks in a future step.



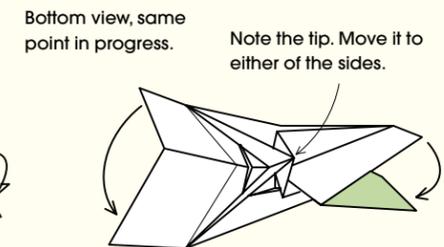
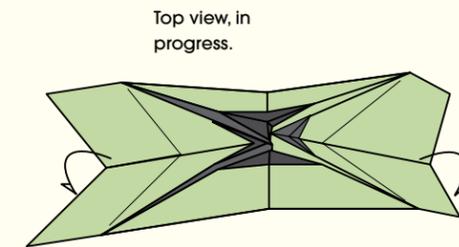
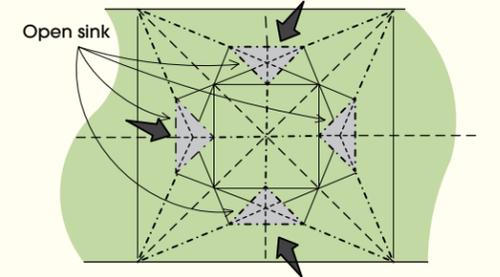
7 Crease well between the points.



8 Pre-creases are done, ready for the collapse. Turn over. Magnified view for details.

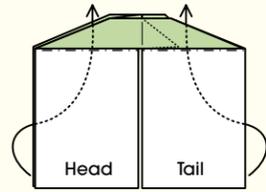


9 Collapse. Visualize a waterbomb base with four open sinks.



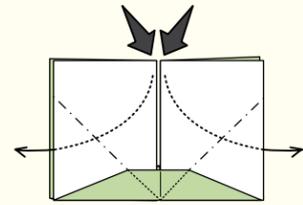
10

Inside reverse.



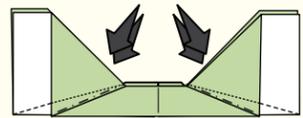
11

Inside reverse.



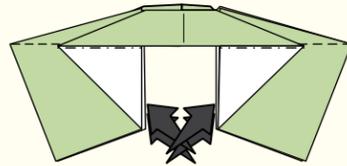
12

Inside reverse.



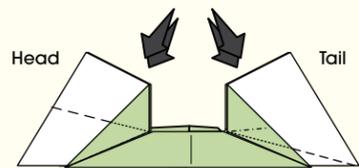
13

Inside reverse.



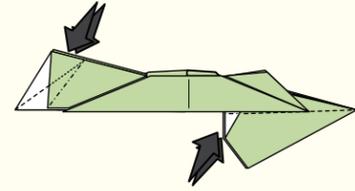
14

Inside reverse. Note the differences between the head and tail sides.



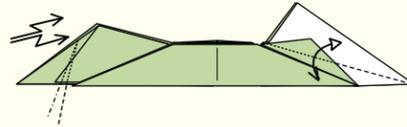
15

Inside reverse.



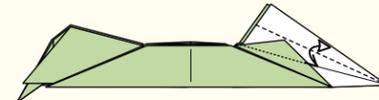
16

Crimp the head, rearranging the layers inside. Fold the tail along the folded edge and unfold.



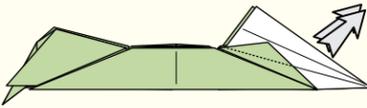
17

Inside reverse the tail. Note the differences between the head and tail sides.



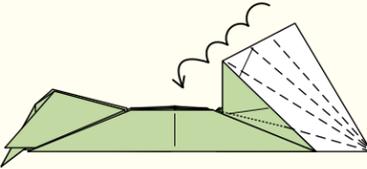
18

Open the layers on the tail back to step 14.



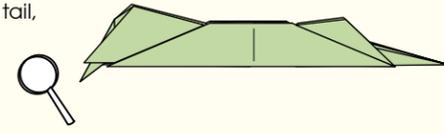
19

Roll over on existing creases.



20

Next, details of the legs, tail, and head.



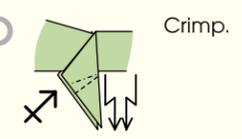
21

Details of the front legs:

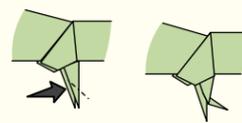
a



b



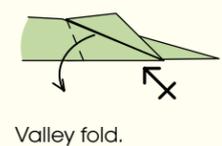
c



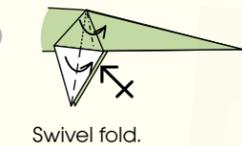
22

Details of the back legs:

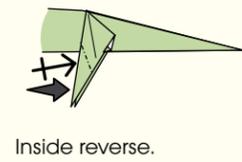
a



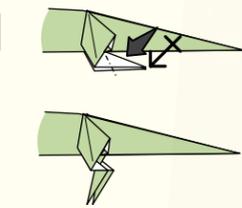
b



c



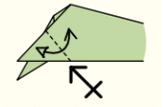
d



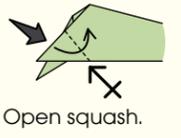
23

Details of the head:

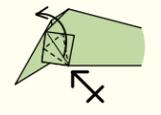
a



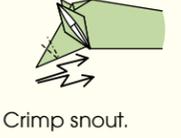
b



c



d



e



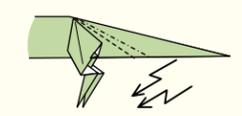
f



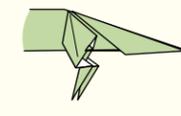
24

Details of the tail:

a



b

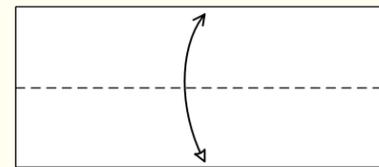


The completed fox

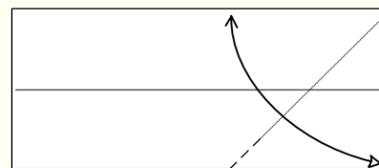
# PIG



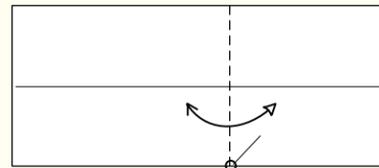
1 Fold in half. Unfold.



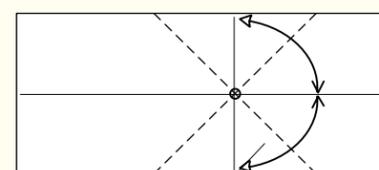
2 Fold the angle bisector by bringing edge to edge; pinch the edge.



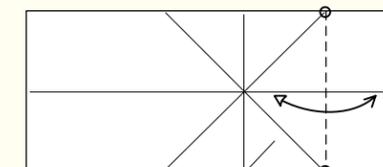
3 Crease starting from the pinch mark.



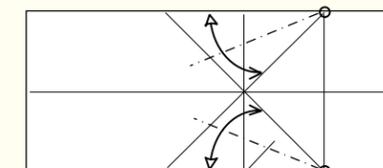
4 Crease the angle bisectors at the intersection.



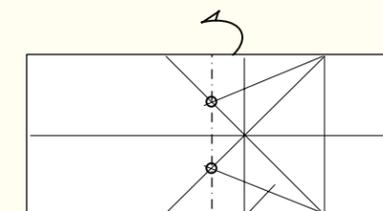
5 Crease between the reference points.



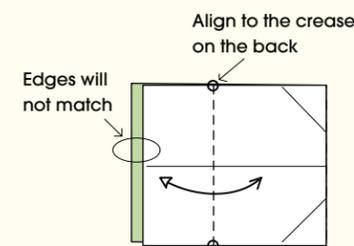
6 Mountain fold the bisectors starting at the points indicated and creasing as far as the diagonal creases. Unfold.



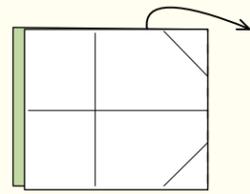
7 Mountain fold at the intersection of the points.



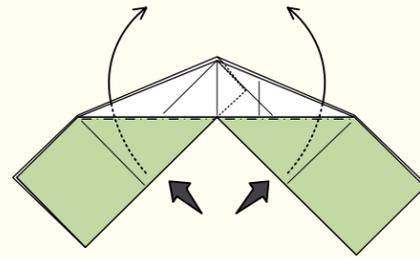
8 Using the crease from the back as a reference, crease the top layer. Note that the short edges will not match.



9 Unfold.

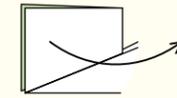


13 Inside reverse fold.



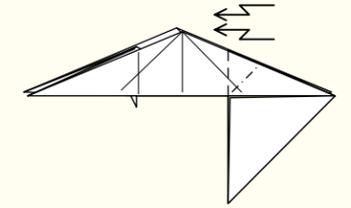
17

a

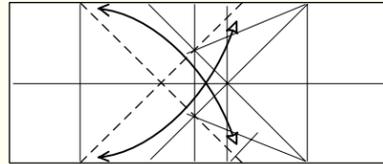


Open one flap.

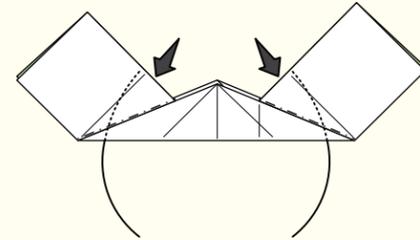
18 Crimp.



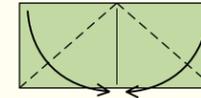
10 Crease the diagonals.



14 Inside reverse fold.

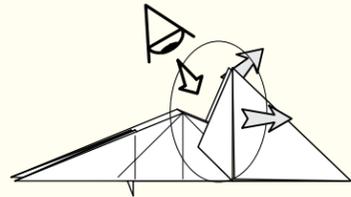


b

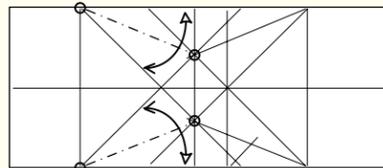


Valley fold.

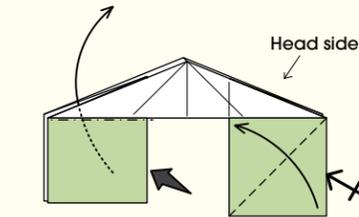
19 Details of the layers inside.



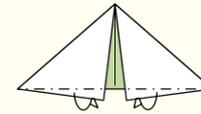
11 Crease the angle bisectors, folding edge to crease, and unfold.



15 Valley fold the top layer of the head side, then repeat on the back. Inside reverse fold on the opposite side.

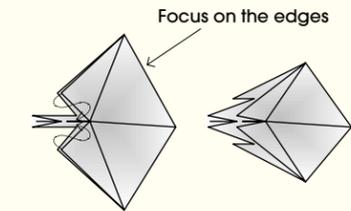


c

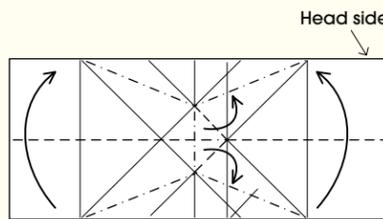


Mountain fold excess of paper.

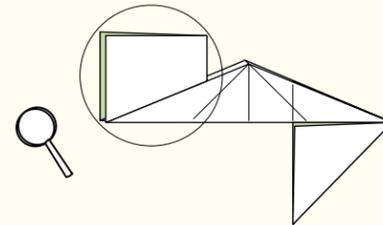
20 Focus on the folded edges. Rearrange the internal layers as indicated.



12 Collapse using the creases indicated.



16 Details of the tail next.

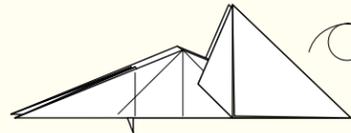


d



Fold edge to edge.

21 Turn the model over.



e



Squash symmetrically.

f



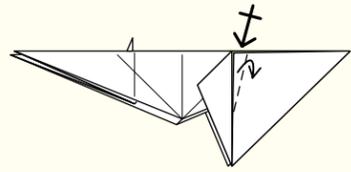
Inside reverse fold.

g

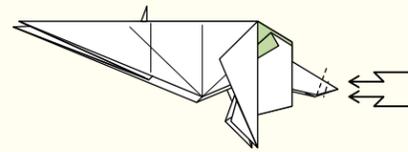


Close.

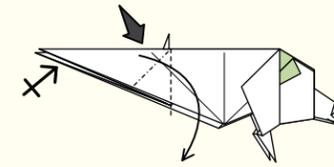
22 Fold the corner as indicated. Repeat on the back.



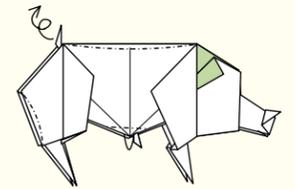
26 Crimp the snout.



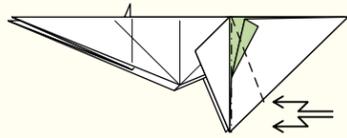
30 Open squash fold. Repeat on other hind leg.



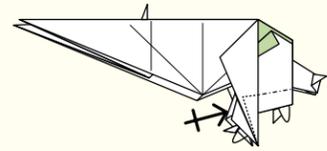
34 Shape by folding the corners of the belly inside and pressing the edges of the legs and back in. Shape the tail.



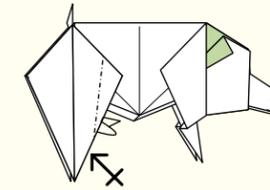
23 Crimp.



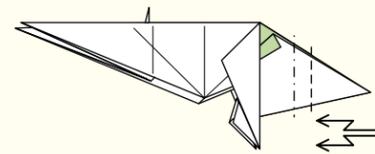
27 Swivel fold. Repeat on the other front leg.



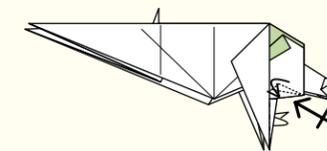
31 Mountain fold inside. Repeat on other hind leg.



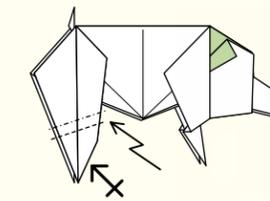
24 Crimp.



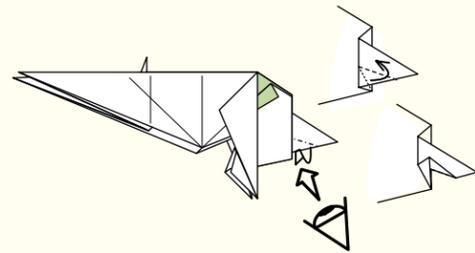
28 Swivel fold the chin (on the inside). Repeat on the back.



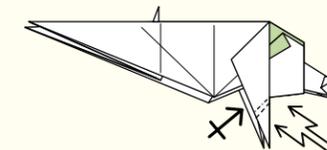
32 Pleat. Repeat on the other hind leg.



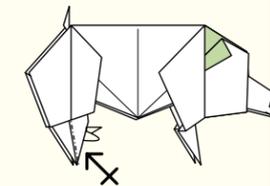
25 Swivel fold on both sides.



29 Crimp the front leg. Repeat on the other front leg.



33 Swivel the paper inside.



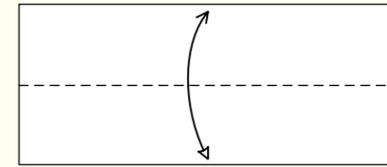
The completed pig



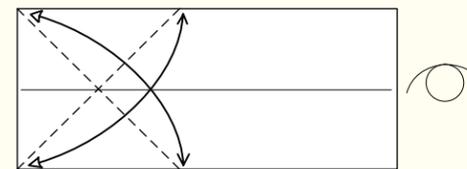


# SWORDFISH

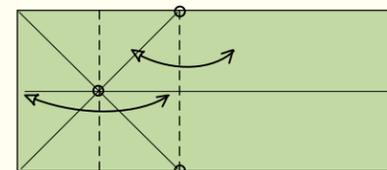
1 Fold in half. Unfold.



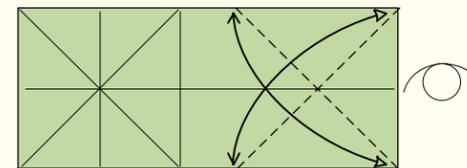
2 Fold the short edge to the long edges diagonally to crease the angle bisectors. Unfold. Turn over.



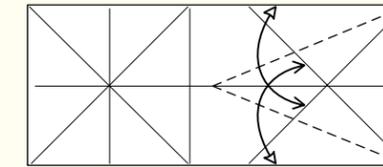
3 Crease at the points indicated.



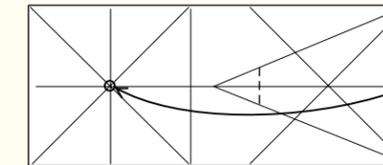
4 Fold the short edge to the long edges diagonally to crease the angle bisectors. Unfold. Turn over.



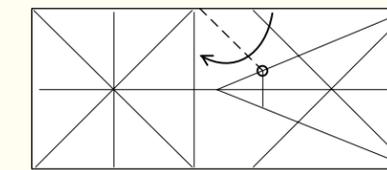
5 Fold the angle bisectors. Unfold.



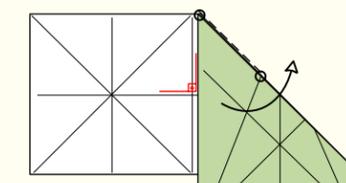
6 Fold edge to the crease indicated and crease between the diagonals. Unfold.



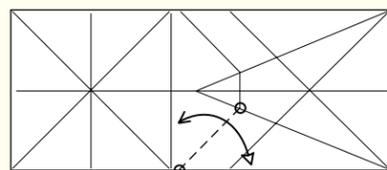
7 Fold at 45° angle. See next step to see how it looks.



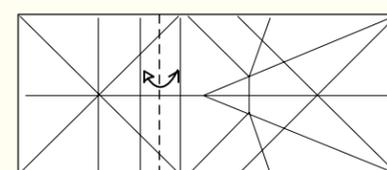
8 Crease between the points indicated only. Unfold.



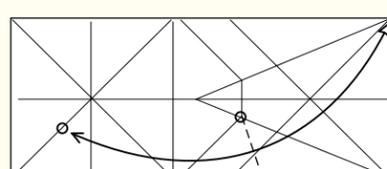
9 Fold at 45° angle. Crease between the points indicated only. Unfold (similar to step 8).



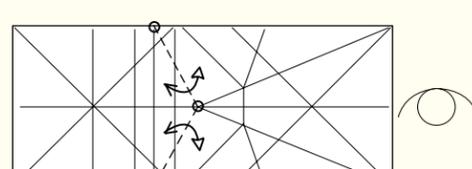
14 Fold between the creases. Unfold.



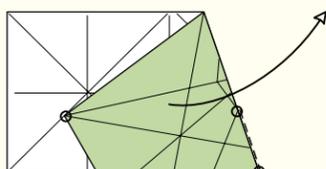
10 Start a new crease from the intersection point by bringing the corner to the crease line indicated.



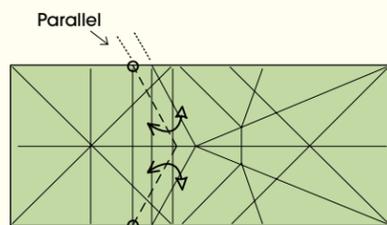
15 Fold between the points indicated. Unfold. Turn over.



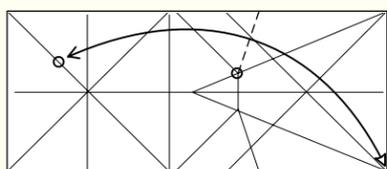
11 Crease between the points indicated only.



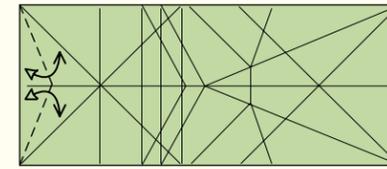
16 Create parallel creases to the ones made in the previous step.



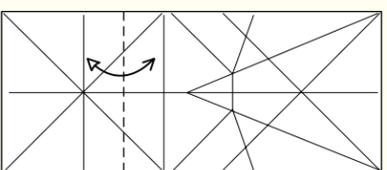
12 Repeat on the other side.



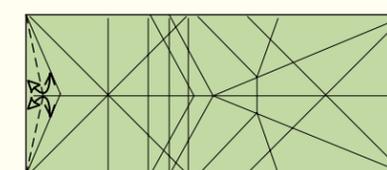
17 Crease the angle bisectors.



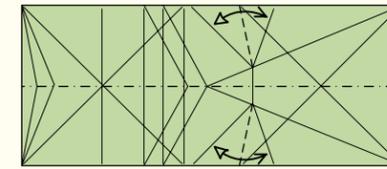
13 Fold between the creases. Unfold.



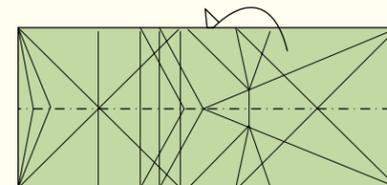
18 Crease the angle bisectors.



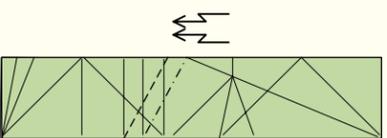
19 Crease the angle bisectors.



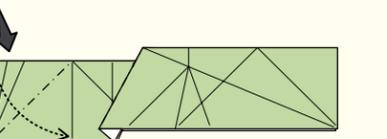
20 Fold in half.



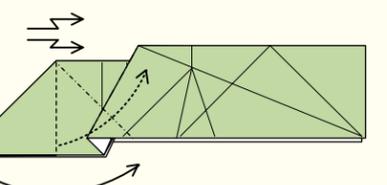
21 Crimp.



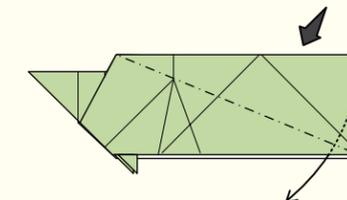
22 Inside reverse fold.



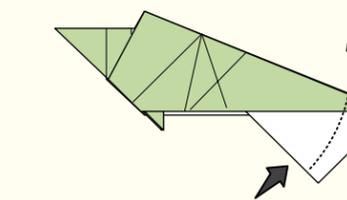
23 Crimp.



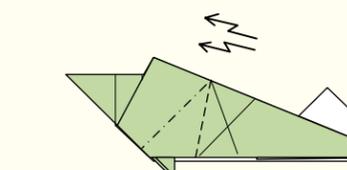
24 Inside reverse fold.



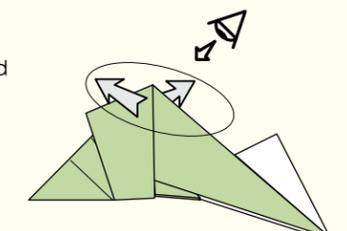
25 Inside reverse fold.



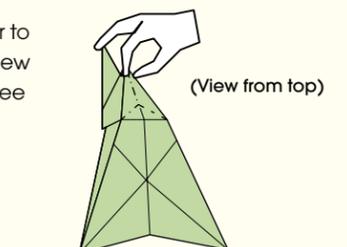
26 Crimp.



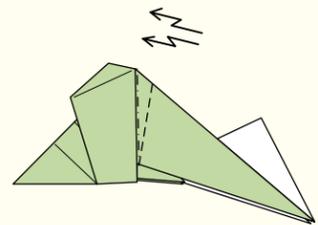
27 Gently open the trapped layer. View from the top.



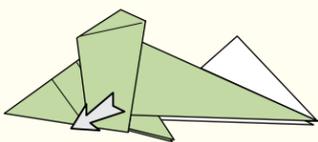
28 Pinch the layers together to flatten. This will result in new creases being formed. See next step for the result.



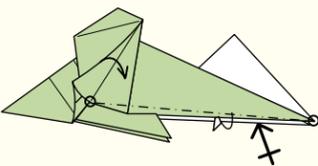
29 Crimp as far as it can go.



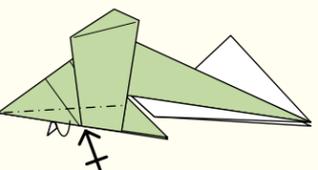
30 Open the top layer to see inside.



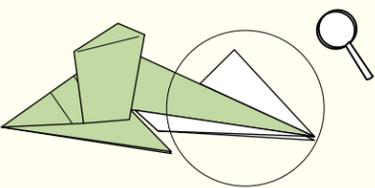
31 Mountain fold a narrow layer inside. Close up the top layer. Repeat on the back.



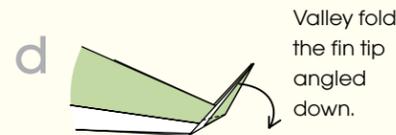
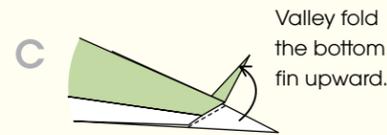
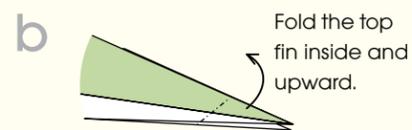
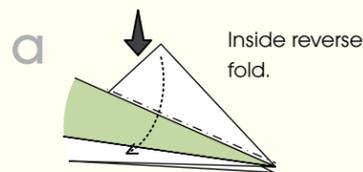
32 Mountain fold, turning under the first layer. Repeat on the back.



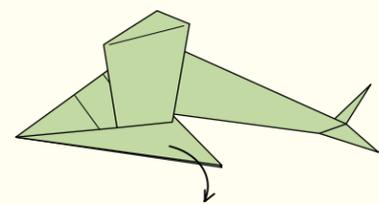
33 Details of the tail fins next.



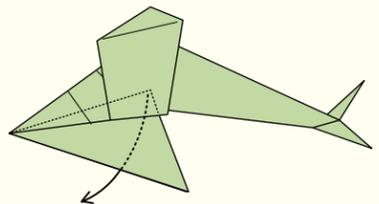
34



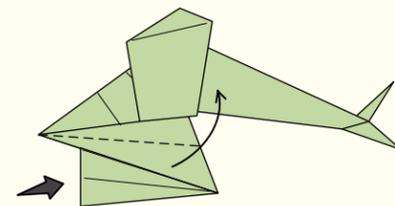
35 Pull both layers out as far as they go.



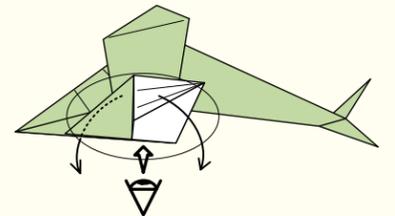
36 Inside reverse the layer from the inside and use the crease as a reference (next step).



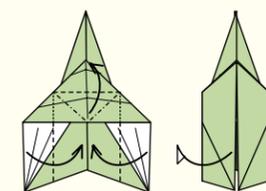
37 Fold the flaps in the front and back up around the middle of the body, then squash them symmetrically.



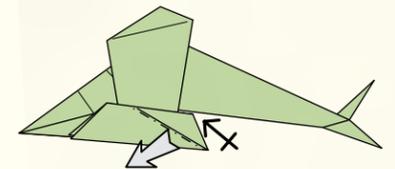
38 Pull the flaps out to the side, like the wings of a plane. View from the bottom.



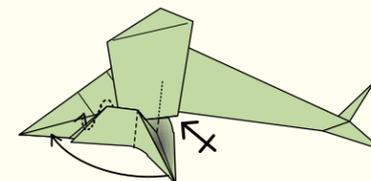
39 Fold edges to the center, then bring the point forward as indicated. Return the flaps to the original position.



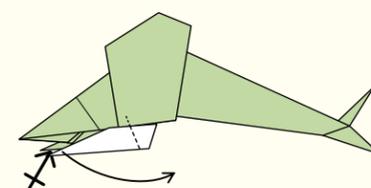
40 Mountain fold along the edge and open the flap slightly to the side. It will not lie flat. Repeat on the back.



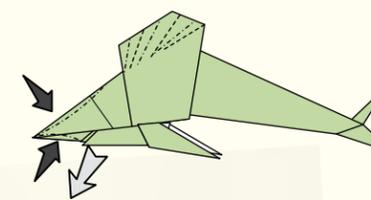
41 Tuck inside, pull some paper from inside, and create a new flap with a valley fold. Repeat on the back.



42 Valley fold the flap toward the back. Repeat on the other side to make matching pectoral fins.



43 Create a sequence of mountain and valley creases to form the sail, shape the bill and head, and then pull the mouth open.

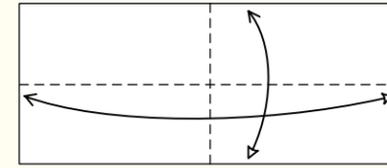


The completed swordfish

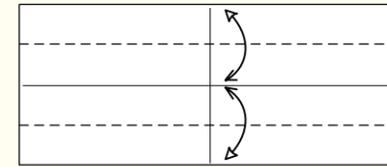


# SEA TURTLE

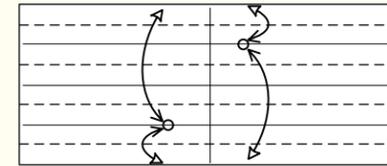
1 Fold in half. Unfold.



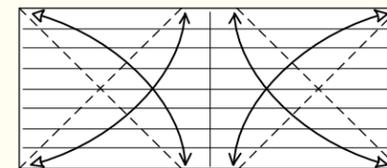
2 Fold edges to crease and unfold.



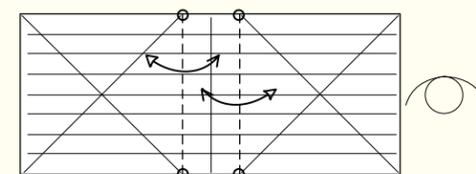
3 Fold edges to the creases indicated and unfold.



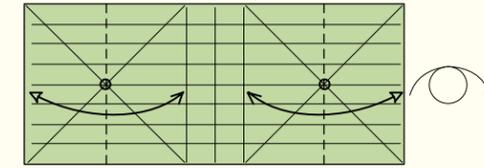
4 Fold the short edges to the long edges and unfold to crease the angle bisectors.



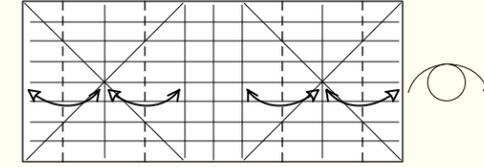
5 Crease through the reference points indicated and unfold. Turn over.



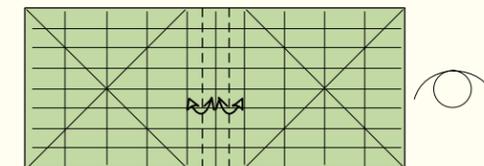
6 Fold edges to the creases. Unfold. Turn over.



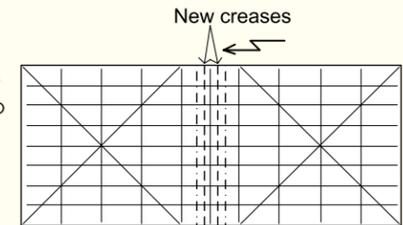
7 Fold edges to the middle creases and unfold. Turn over.



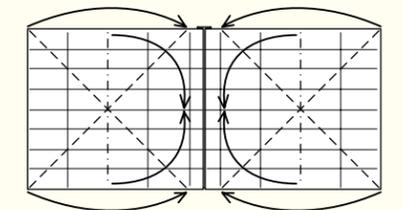
8 Fold between the folded edges. Unfold. Turn over.



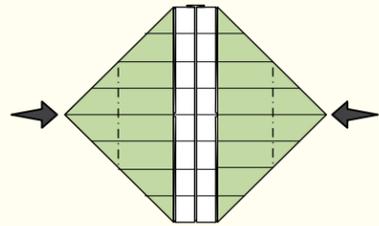
9 Pleat by bringing the creases formed in the previous step to the center.



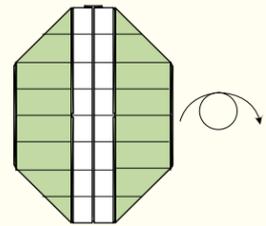
10 Collapse the waterbomb bases on both sides.



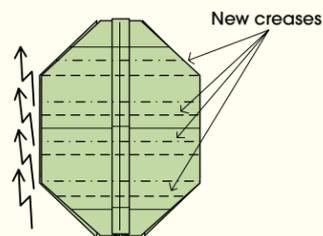
11 Open sink the corners.



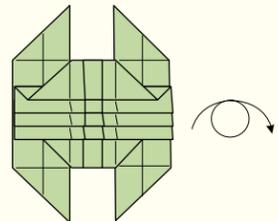
12 Turn over.



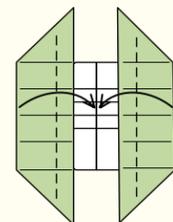
13 Pleat fold the top layer only, forming new creases as indicated.



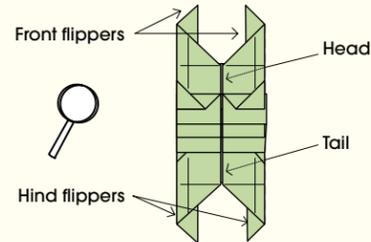
14 Turn over.



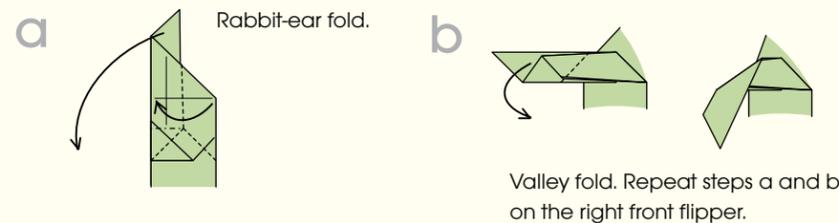
15 Fold edges to the center.



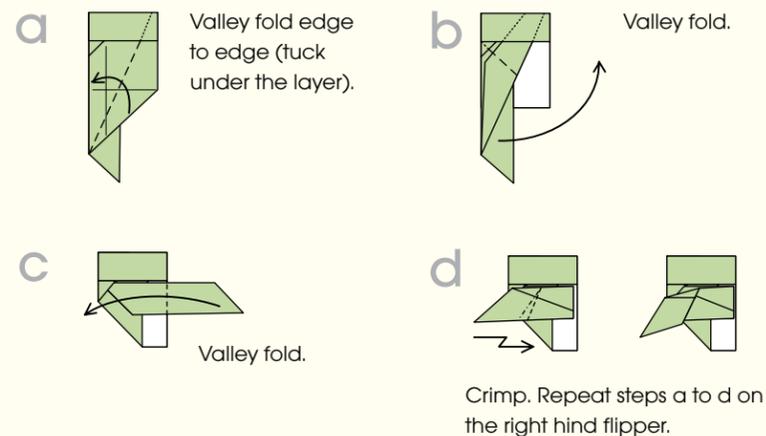
16 Details of the front and hind flippers, head, and tail next. Helpful: use tweezers to make tiny, hard-to-grasp folds.



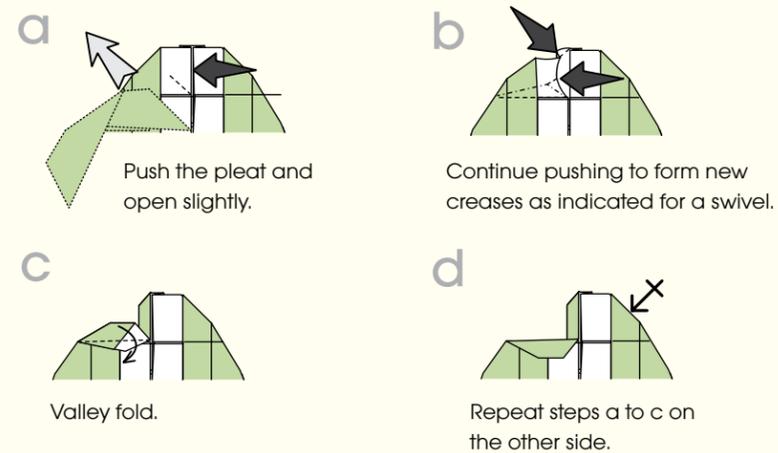
17 Details of the left front flipper:



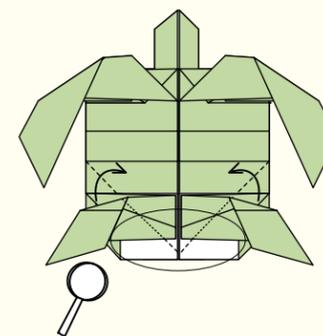
18 Details of the left hind flipper:



19 Details of the head (under the front flippers):



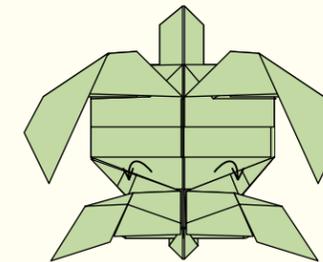
20 Valley fold (under the hind flippers). See details of the tail next.



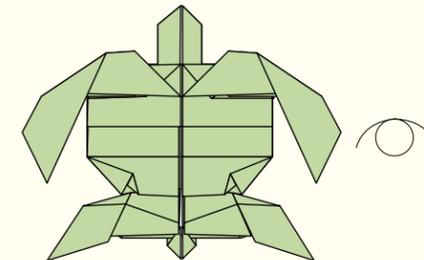
21 Details of the tail (under the hind flippers):



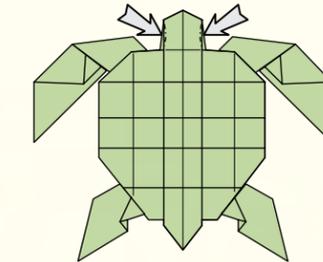
22 Bring layer to the top (hind flippers will move inside).



23 Turn over.



24 Shape the model: make the head tridimensional by opening up the layers and rounding the eyes. Adjust the pleats on the back to simulate the pattern on the shell.



The completed sea turtle



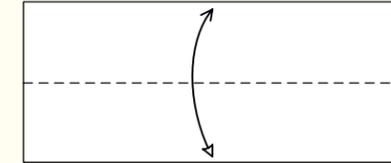


OX

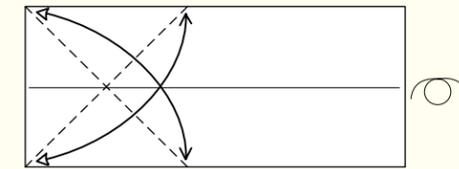
If you fold this model with a one-dollar bill, be sure to start with the face (white) side up so that the printed pattern on the bill will make the eyes. This does not apply to bills of other denominations.



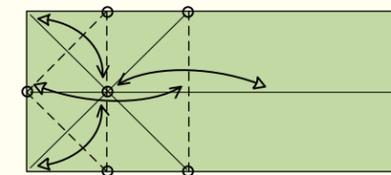
1 Fold in half. Unfold.



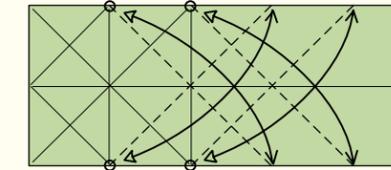
2 Fold the angle bisectors by bringing the short edge to the long edges. Unfold. Turn over.



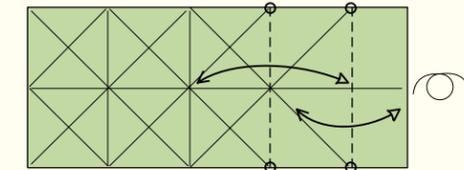
3 Crease between the reference points indicated.



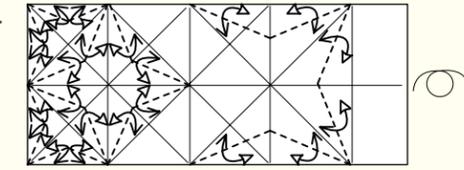
4 Fold and unfold.



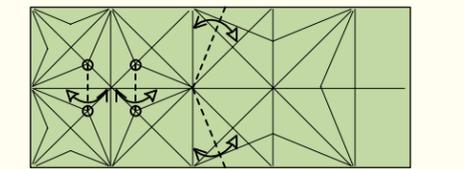
5 Fold and unfold. Turn over.



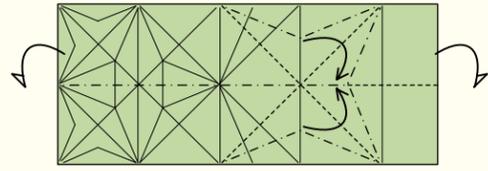
6 Crease the angle bisectors. Turn over.



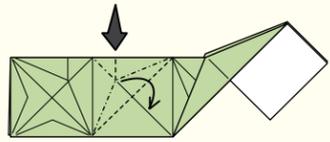
7 Crease between the points and create the angle bisectors.



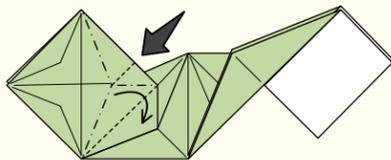
8 Collapse using the creases indicated.



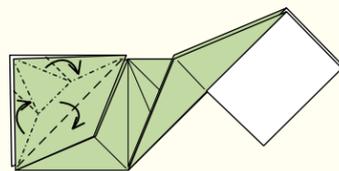
9 Collapse using the creases indicated.



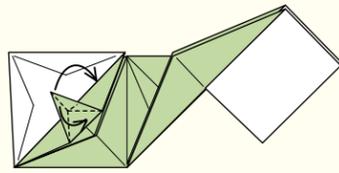
10 Collapse using the creases indicated.



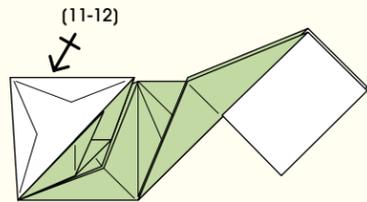
11 Collapse using the creases indicated.



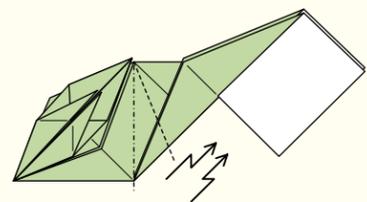
12 Rabbit-ear fold.



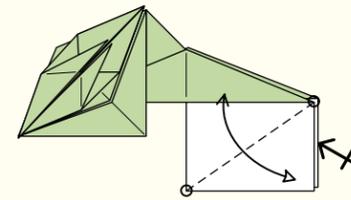
13 Repeat steps 11 and 12 on the other side.



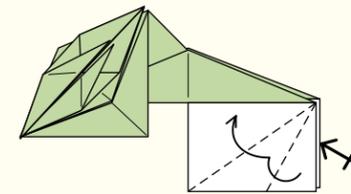
14 Crimp.



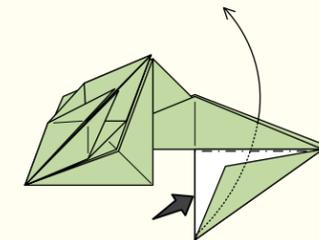
15 Fold and unfold from corner to corner. Repeat on the back.



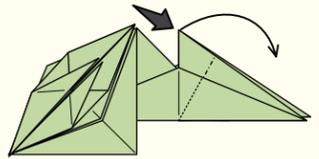
16 Fold to the crease, then fold again. Repeat on the back.



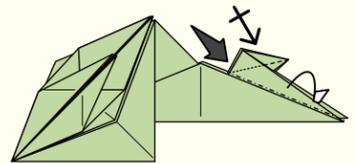
17 Inside reverse fold.



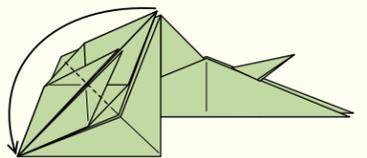
18 Inside reverse fold.



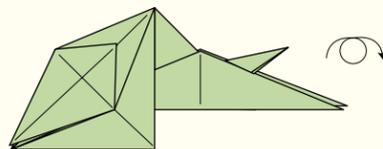
19 Swivel fold. Repeat on the back.



20 Fold flap in half.

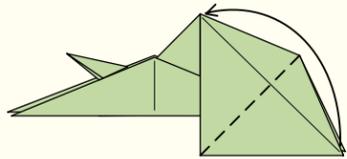


21 Turn over.



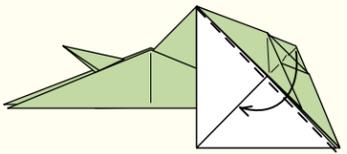
22

Valley fold.



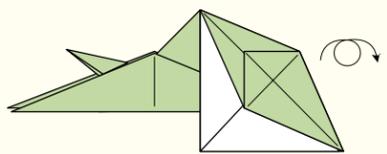
23

Valley fold.



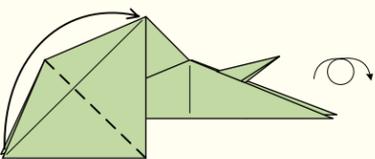
24

Turn over.



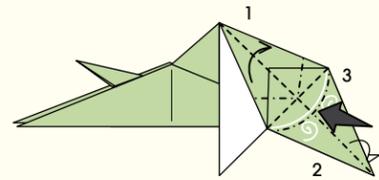
25

Valley fold. Turn over.



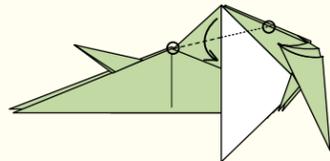
26

Collapse the head in this order: Valley fold (1), mountain fold (2), and then press the forehead area (3) up against the neck. The printed pattern should provide a reference for the forehead and a suggestion of the eyes.



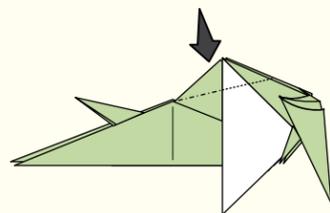
27

Fold and unfold the back under the flaps.



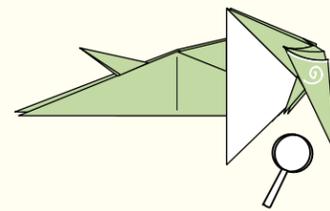
28

Open sink the back.



29

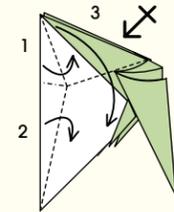
Details of the head and hind legs are next.



30

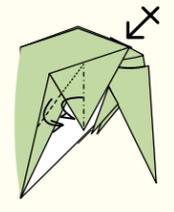
Start shaping head details:

a



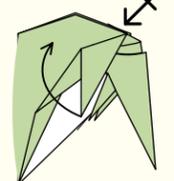
Shape the horns in this order: (1) Fold the edge to the edge. (2) Extend the crease to the corner. (3) Fold down the flap to make it flat. Repeat steps a (1), (2), and (3) on the other side.

b



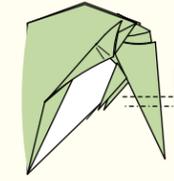
Narrow the horn by shifting some paper. Repeat on the back.

c



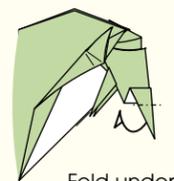
Curl both horns.

d



Pleat muzzle.

e



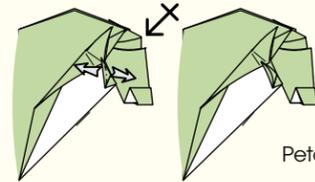
Fold under.

f



Inside reverse the ears.

g

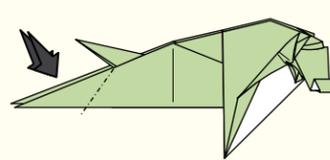


Petal fold to open the ears.

31

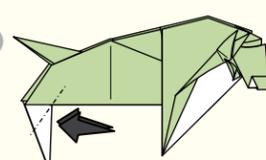
Shape the hind legs:

a



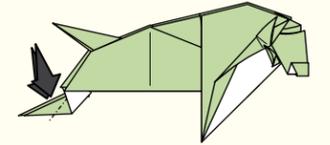
Inside reverse. Repeat on the back.

b



Inside reverse. Repeat on the back.

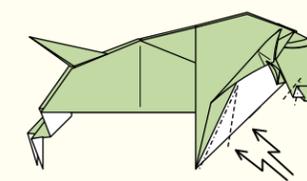
c



Inside reverse. Repeat on the back.

32

Crimp the foreleg to narrow it. Repeat on the other side. Shape the nose on both sides.



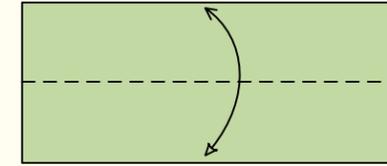
The completed ox



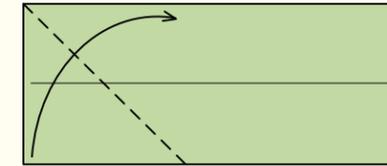
# PEGASUS



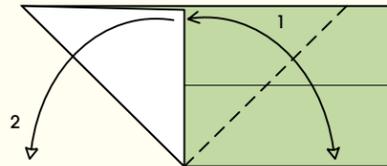
1 Fold in half lengthwise. Unfold.



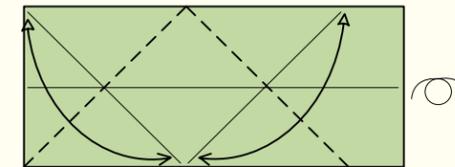
2 Fold edge to edge.



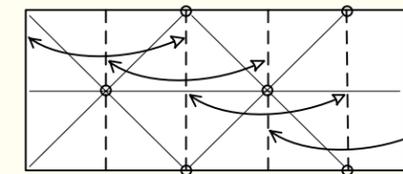
3 Execute in this order: (1) Fold edge to edge and unfold. (2) Unfold the previous flap.



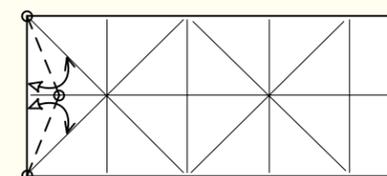
4 Repeat the previous steps on the other side. Turn over.



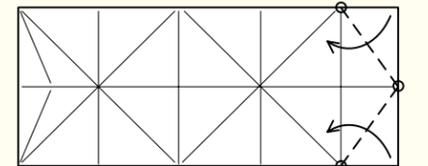
5 Valley fold vertically through the intersection of the creases. Unfold.



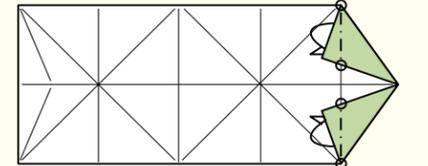
6 Fold edges to the creases, creating angle bisectors. Unfold.



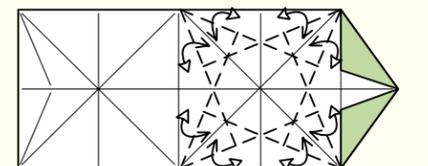
7 Valley fold between the reference points.



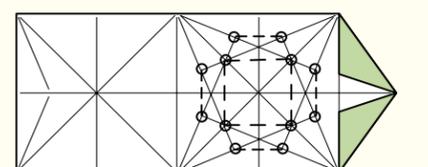
8 Mountain fold between the reference points.



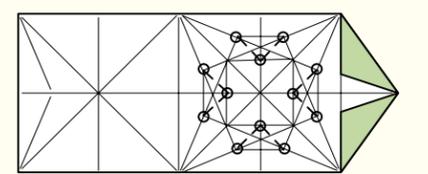
9 Valley fold angle bisectors as indicated.



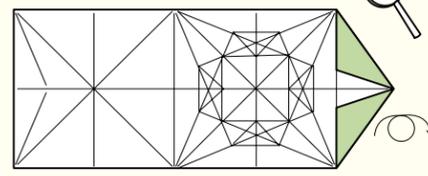
10 Pre-crease. Crease the shorter, outer folds well since these will be used for the sinks.



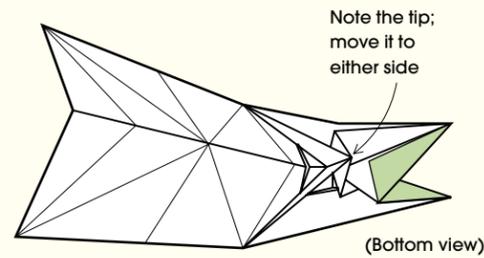
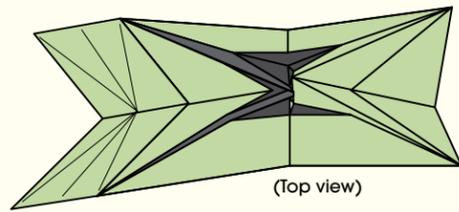
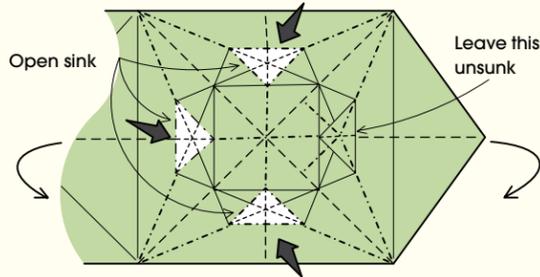
11 Pre-crease well.



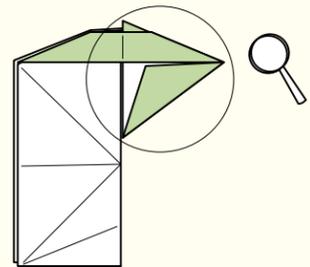
12 Pre-creases done and ready for the collapse. Turn over. Magnified view for the details.



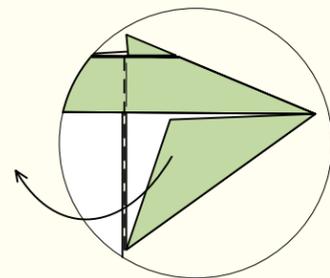
13 Collapse. Visualize a waterbomb base with three open sinks.



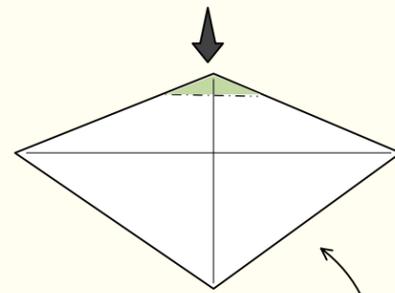
14 Detailed view.



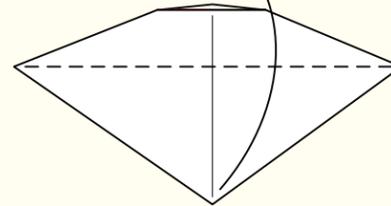
15 Open the flap.



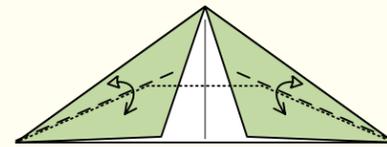
16 Closed sink, using existing creases.



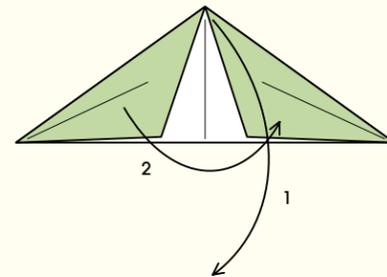
17 Fold the flap up.



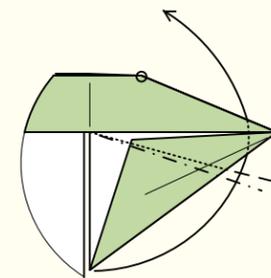
18 Crease along the edge on the back.



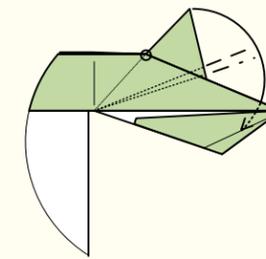
19 Execute in this order: (1) Fold down flap. (2) Close flap. The result will look similar to the position in step 14.



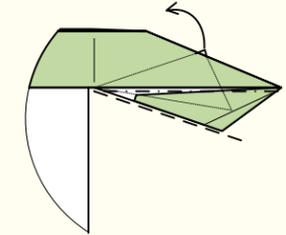
20 Inside reverse fold. Fold edge to the corner indicated.



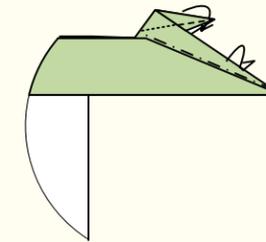
21 Inside reverse fold. Fold corner to the crease.



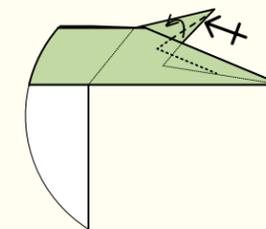
22 Move up the crimp on existing creases, keeping the last inside reverse in place.



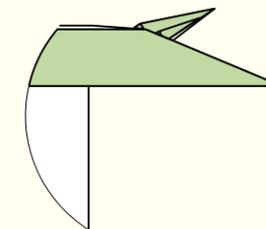
23 Swivel, first along the long edge, and then flatten the flap. Repeat on the back.



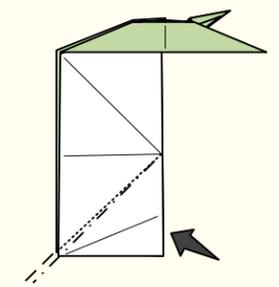
24 Swivel. Repeat on the back.



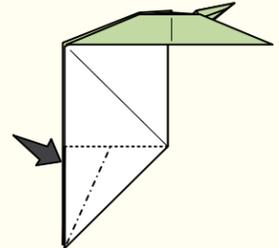
25 Tail complete.



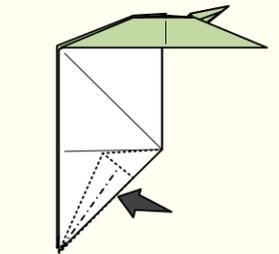
26 Inside reverse fold on existing creases.



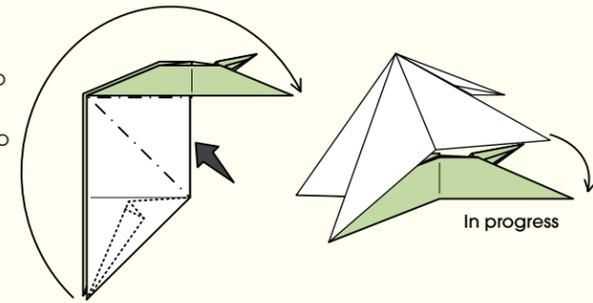
27 Inside reverse fold inside the flap using existing creases.



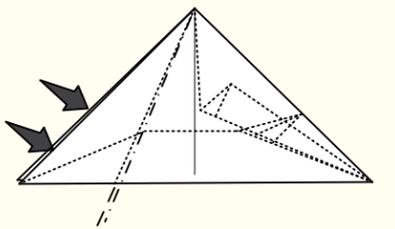
28 Inside reverse fold inside the flap, now creating new creases. Align the cut edge with the folded edge.



29 Inside reverse fold, refolding into a waterbomb-base shape. Keep the inside reverse folds created in the previous step in place.

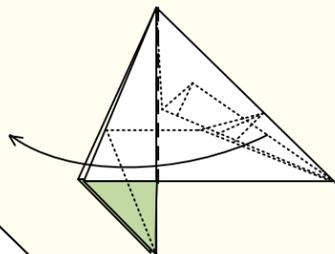


30 The body and the inside reverse folds are all inside the waterbomb base. Inside reverse fold the two flaps indicated.



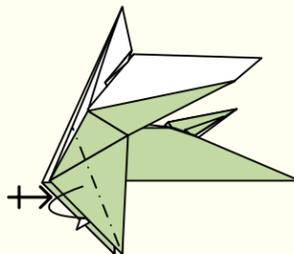
31

Fold flap on existing crease. Note that it will not lie flat.



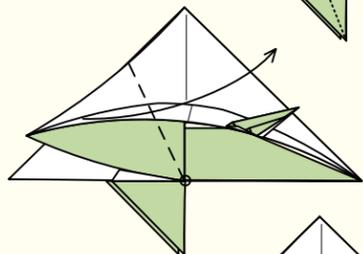
37

Mountain fold the top layer under. Repeat behind.



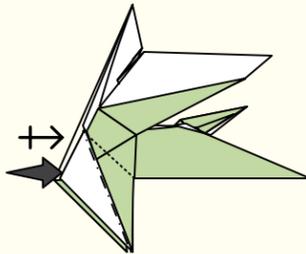
32

Fold in at an angle, pivoting from the folded edge and adjusting the inside reverse folds so that the model will lie flat.



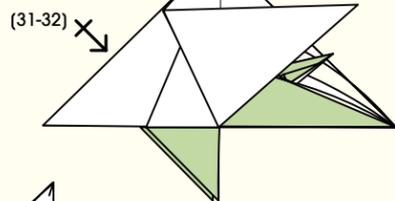
38

Asymmetrical inside reverse fold. Repeat behind.



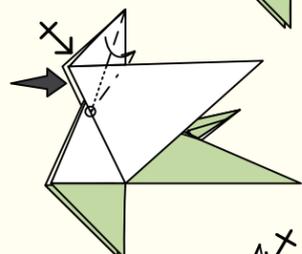
33

Repeat steps 31 and 32 on the back.



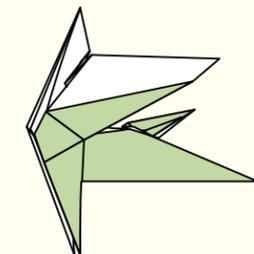
34

Asymmetrical inside reverse fold. Repeat behind.



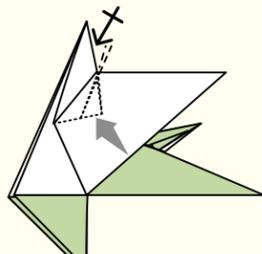
39

Shaping details are shown in the next steps.



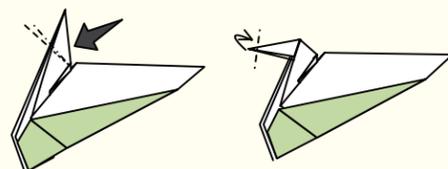
35

Inside reverse fold under the flap. Repeat behind.



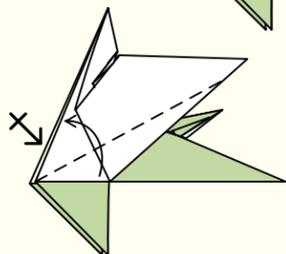
40

Inside reverse fold the head. Fold the tip inside to shape the muzzle.



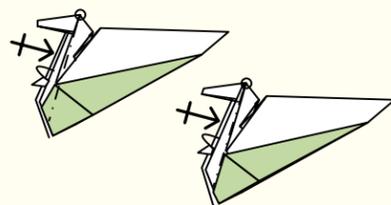
36

Fold the edge along the edge. Note that it will not come to a point at the wingtip. Repeat behind.



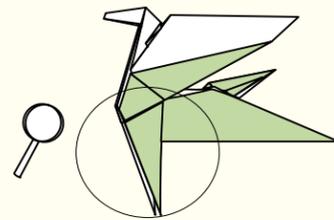
41

Fold the top layer inside to narrow the neck. Repeat behind. Fold the middle thick layer inside. Repeat behind.



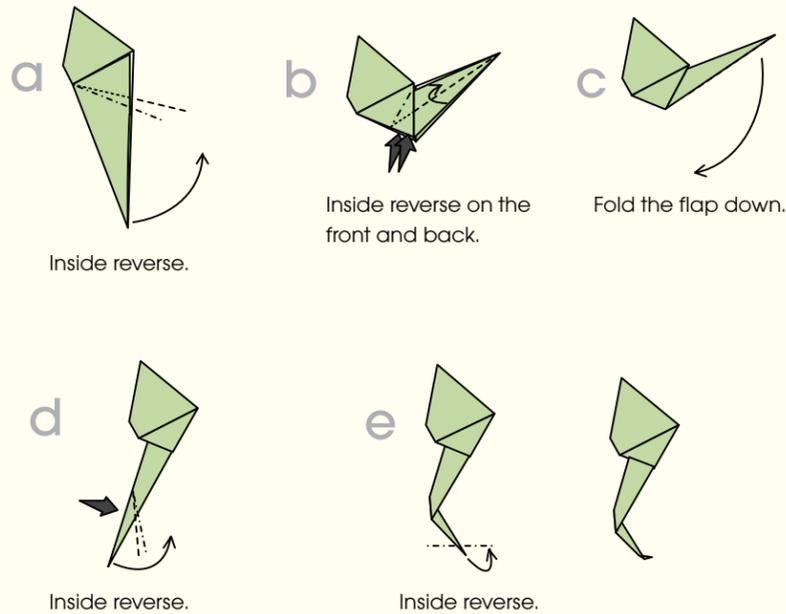
42

The head and neck details are complete. Next, shaping details of the forelegs.



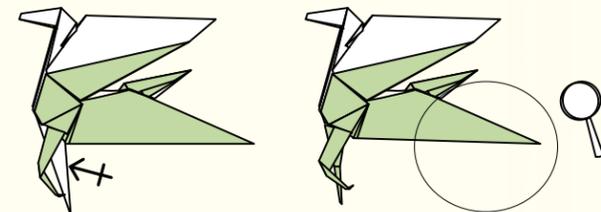
43

Details of the left foreleg (raised):



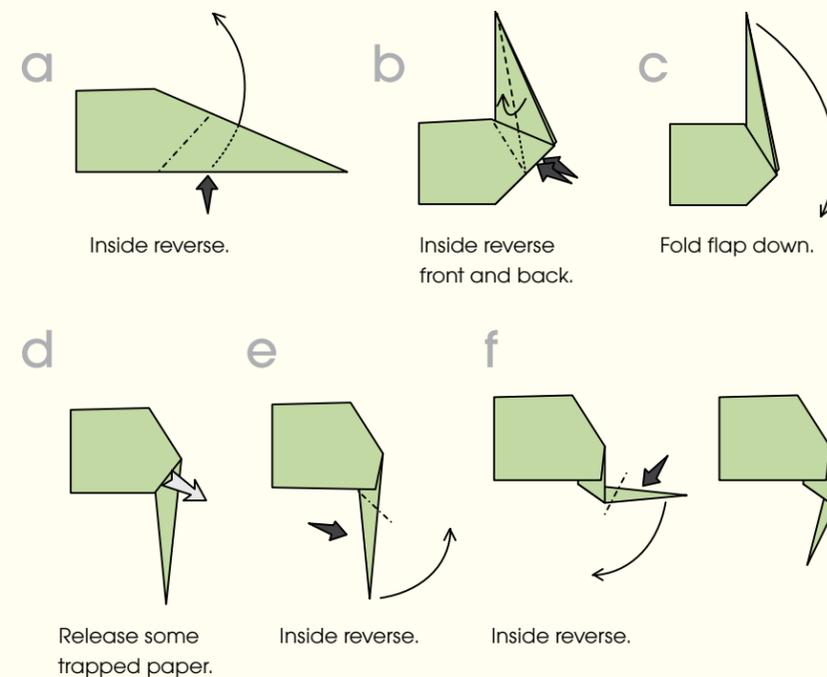
44

For the right foreleg, follow steps 43 a through c, adjusting the angle so the leg is straight.



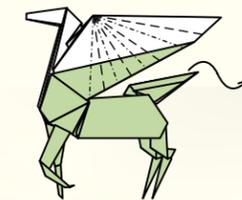
45

Details of the hind legs (steps are shown without the tail for clarity):



46

Final shaping details: pleat the wings and curl the tail to give it some flow.

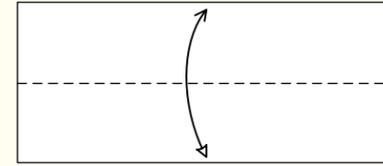


The completed Pegasus

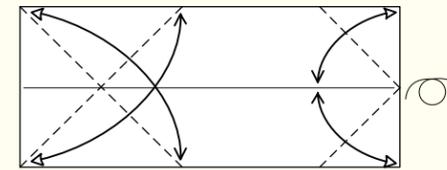
# PRAYING MANTIS



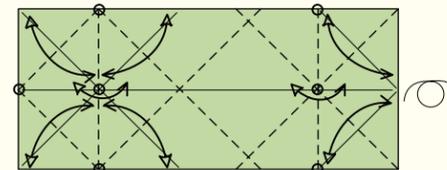
1 Fold in half. Unfold.



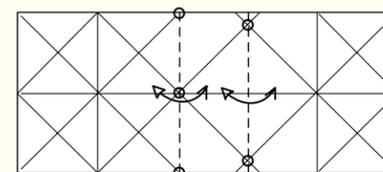
2 Fold the angle bisectors by bringing edge to edges and edges to center. Unfold. Turn over.



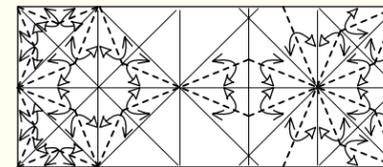
3 Crease between the reference points indicated. Turn over.



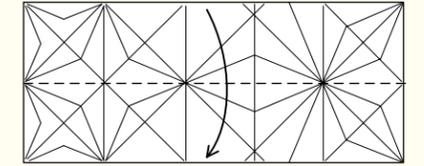
4 Fold through the reference points and unfold.



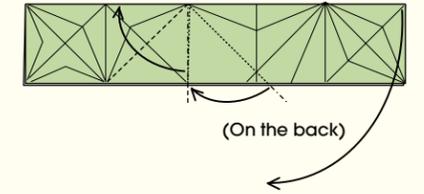
5 Crease the angle bisectors.



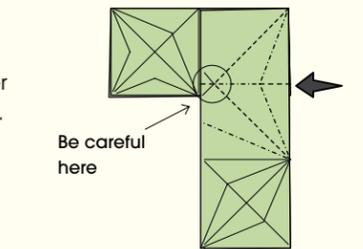
6 Fold in half.



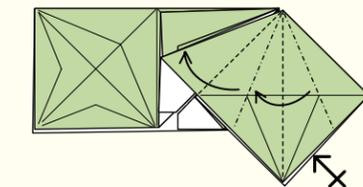
7 Using the existing creases, fold as indicated.



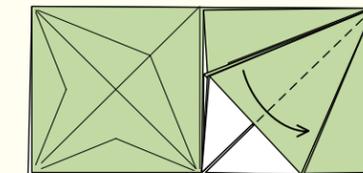
8 Push where indicated and collapse flat. Allow the paper to wrap around by the edge.



9 Collapse the angle bisectors. Repeat on the back.

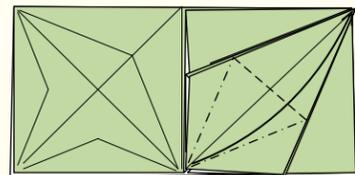


10 Fold one flap.



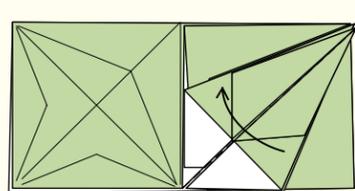
11

Petal fold.



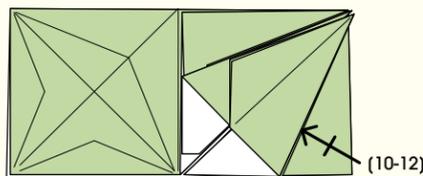
12

Fold flap back to its original position.



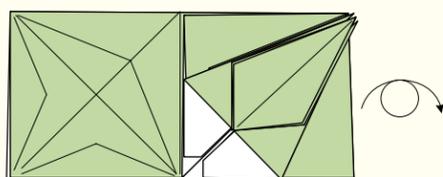
13

Repeat steps 10 to 12 on the other side.



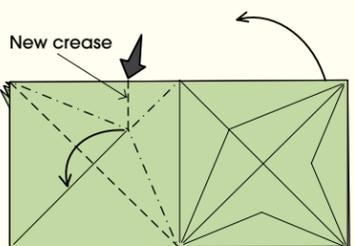
14

Turn over.



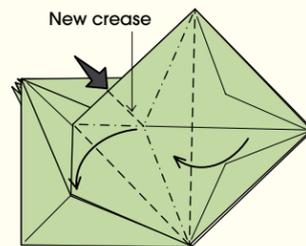
15

Push where indicated and collapse flat half of a bird base. A new crease will form.



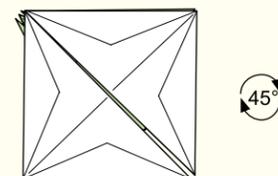
16

Push where indicated and collapse flat the other half of a bird base. A new crease will form.



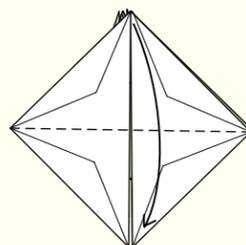
17

At this point, the unit should be completely symmetrical. Rotate 45°.



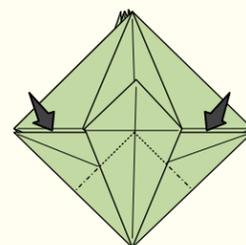
18

Valley fold one flap.



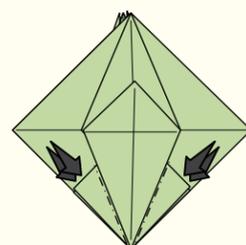
19

Inside reverse fold.



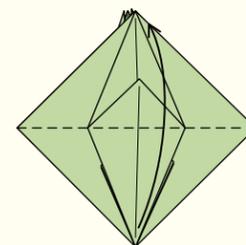
20

Inside reverse fold on existing creases.



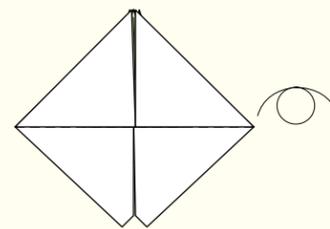
21

Valley fold the group of small flaps that was created in the previous step.



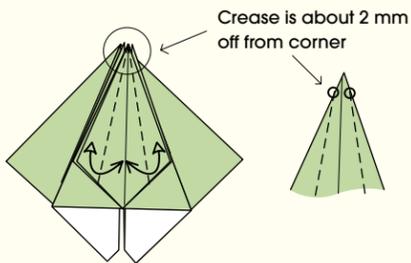
22

Turn over.



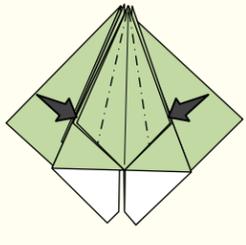
23

Fold edge to the center. Crease it well. Unfold.



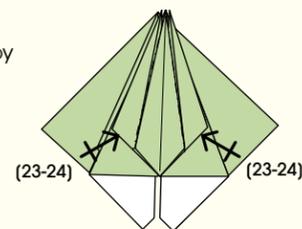
24

Open sink on the creases made in the previous step.



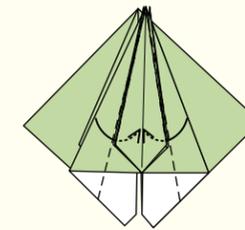
25

Open sink the layer below by repeating steps 23 to 24 on both sides.



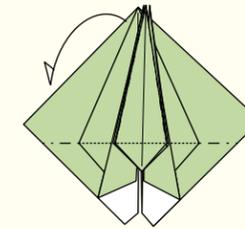
26

Valley fold under the layers.



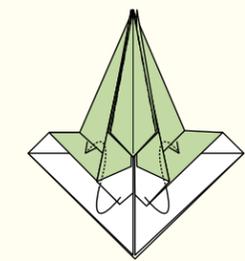
27

Fold the group of large and small flaps behind.



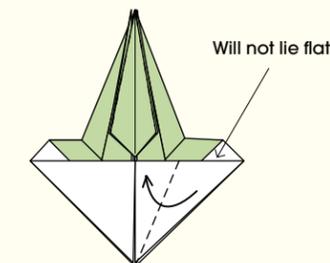
28

Tuck the tabs inside the pocket.



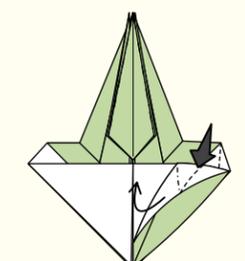
29

Valley fold top layer only. The paper on the top will not lie flat.



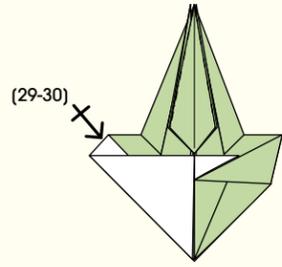
30

Push the paper to allow it to lie flat. This will form new creases. See next step for result.



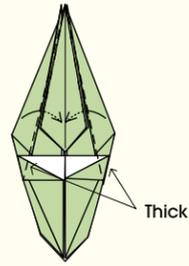
31

Repeat steps 29 and 30 on the other side.



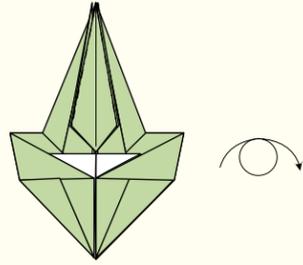
35

Fold the layers under. Use clamps on the thick layers to hold paper flat.



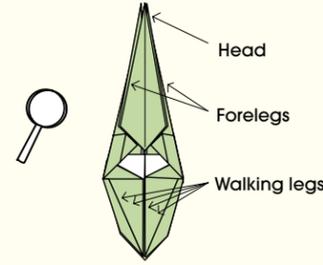
32

Turn over.



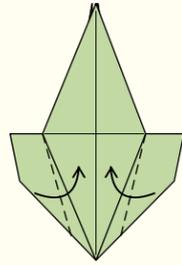
36

Details of the walking legs, forelegs and head next. Helpful: use tweezers to make tiny, hard-to-grasp folds.



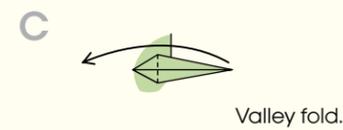
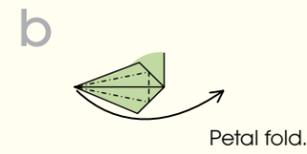
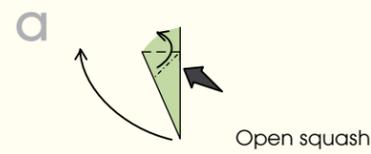
33

Valley fold flaps slightly off from the corner.



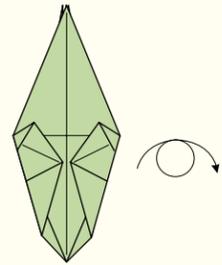
37

Details of left walking leg:



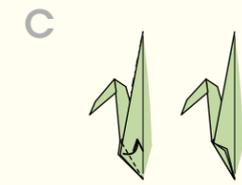
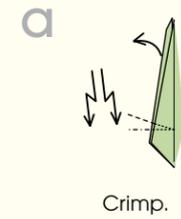
34

Turn over.



38

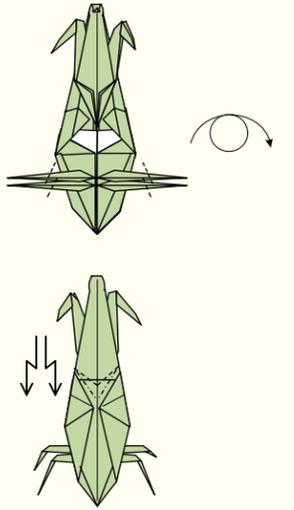
Details of the left foreleg:



Valley fold both layers inward. Repeat steps a through c on the other foreleg.

40

Create the jointed walking legs and shape. Turn over.

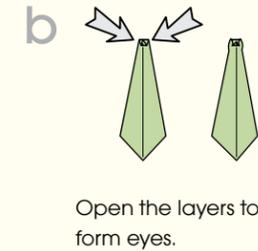
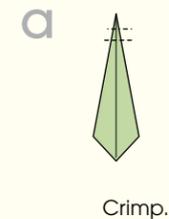


41

Crimp the base of the neck.

39

Details of the head:

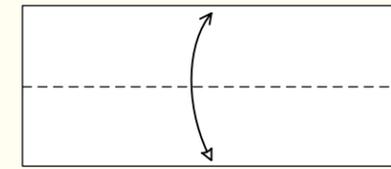


The completed praying mantis

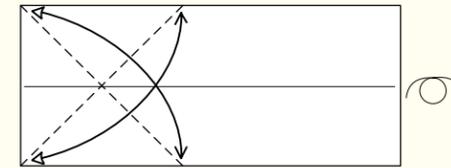
# STAG BEETLE



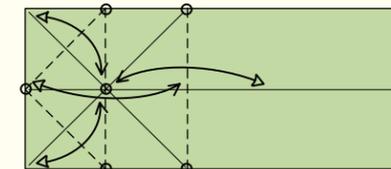
1 Fold in half. Unfold.



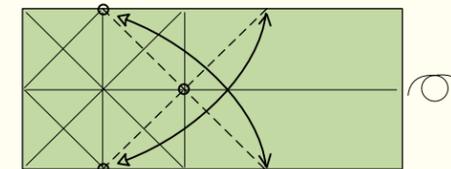
2 Fold the angle bisectors by bringing the short edge to the long edges. Unfold. Turn over.



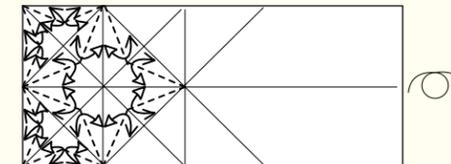
3 Crease between the reference points indicated.



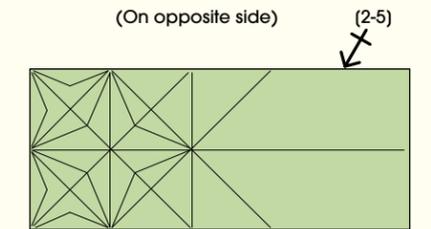
4 Crease the angle bisectors and unfold. Turn over.



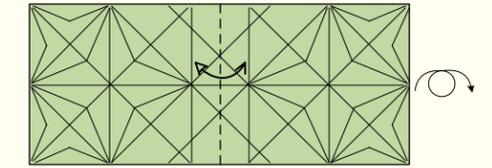
5 Crease the angle bisectors and unfold. Turn over.



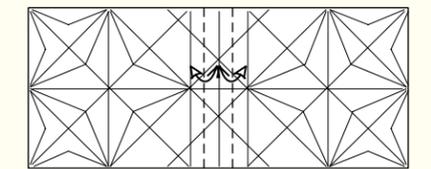
6 Repeat steps 2 to 5 on the opposite side. (Note: the creases will be inverted.)



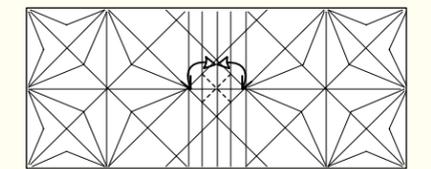
7 Valley fold between the creases. Unfold. Turn over.



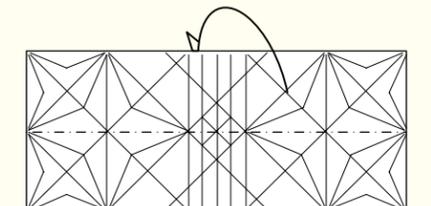
8 Valley fold between the creases. Unfold.



9 Valley fold and unfold.

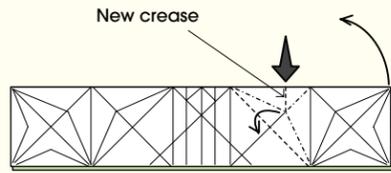


10 Fold in half.



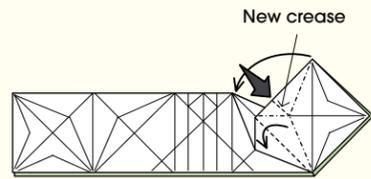
11

Push where indicated and collapse flat into one half of a bird base. A new crease will be formed.



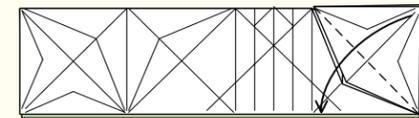
12

Push where indicated and collapse flat into the other half of a bird base. A new crease will be formed.



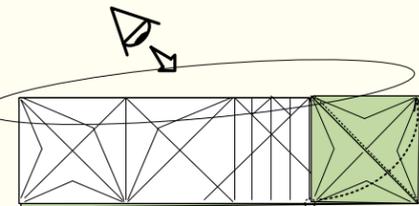
13

Valley fold the top layer only.



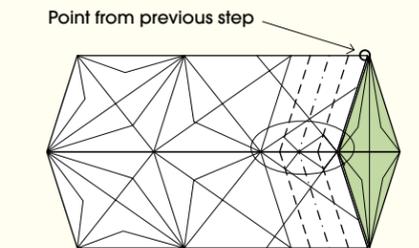
14

On the back layer, fold the point indicated to the corner. The model will not lie flat. View from the top.



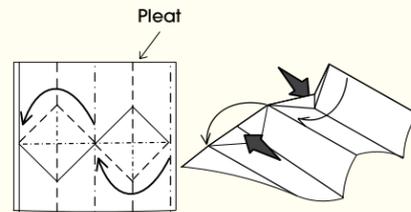
15

Pleat. See next step for details on the top.



16

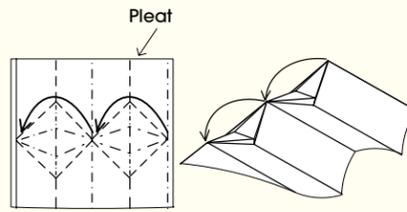
Basic pleat, pushing the flaps to each side.



OR

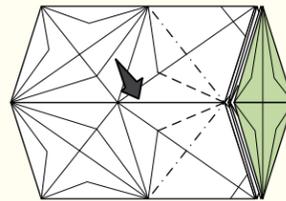
16

A more elegant pleat, requiring new creases (technique used by Won Park).



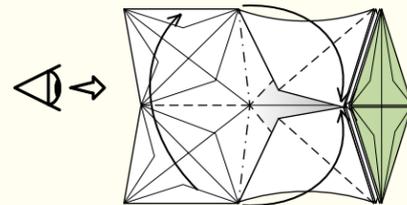
17

Pop the center and prepare for the next collapse by reinforcing the creases indicated.



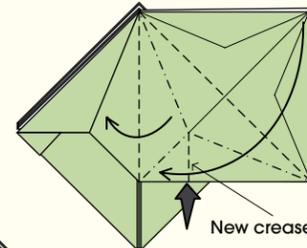
18

Collapse into half of an upside-down bird base. Swing the flap to the right side. At this point the model should lie flat. View from the side next.



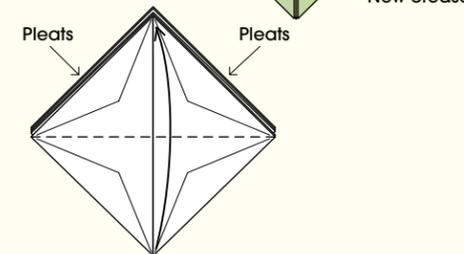
19

Push where indicated and collapse into the other half of an upside-down bird base. A new crease will form.



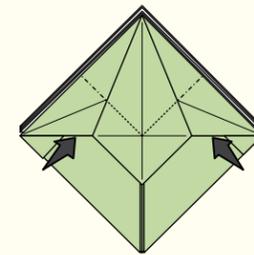
20

Fold top layer only.



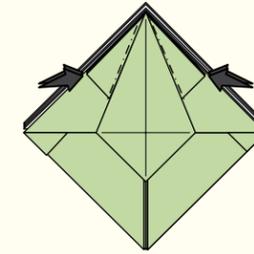
21

Inside reverse.



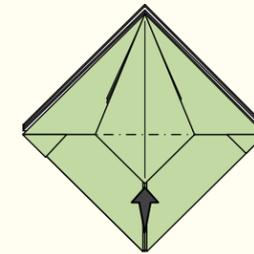
22

Inside reverse on existing creases.



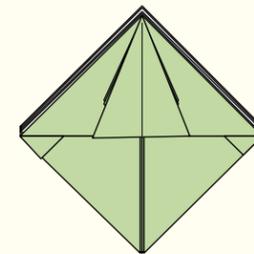
23

Open sink.



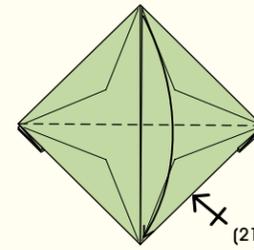
24

Turn over.



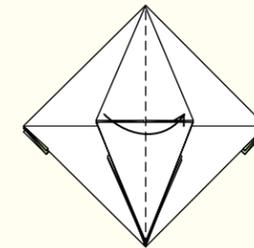
25

Repeat steps 21 to 24 on the bottom side.



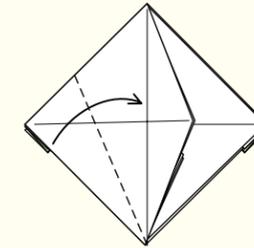
26

Valley fold one flap.



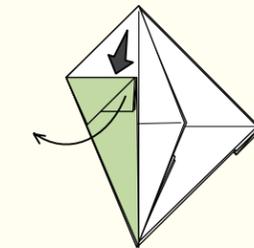
27

Valley fold edge to the center.



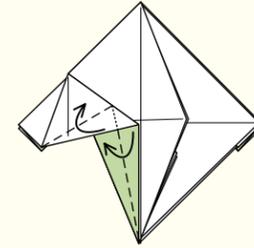
28

Open squash.



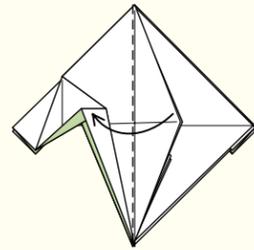
29

Swivel fold.

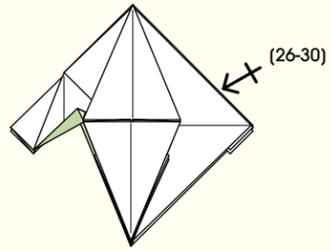


30

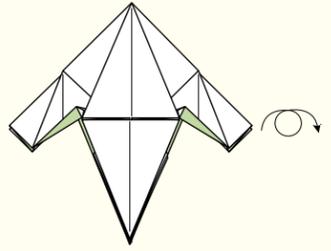
Fold flap back to its original position.



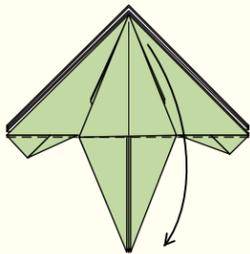
31 Repeat steps 26 to 30 on the other side.



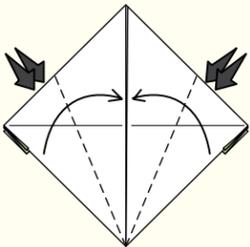
32 Turn over.



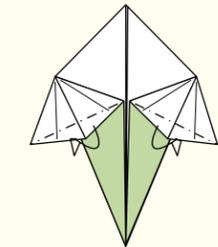
33 Fold the flap down.



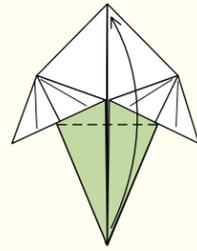
34 Valley fold edges to the center and open squash the pleats. See next step for the result.



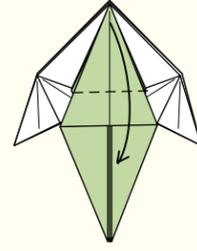
35 Mountain fold the small flaps and tuck them under.



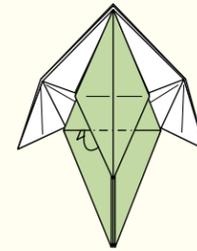
36 Valley fold.



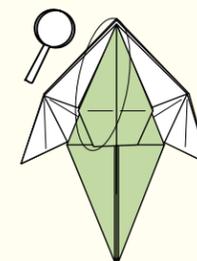
37 Valley fold the top flap only.



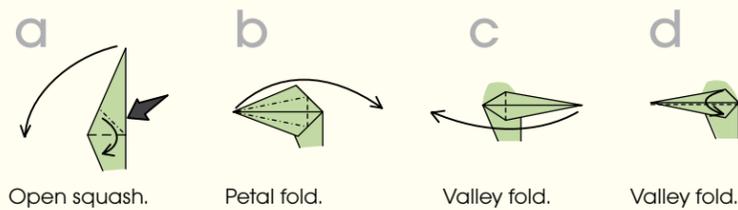
38 Mountain fold and tuck the flap inside.



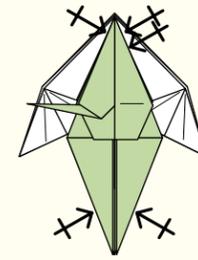
39 Details of the legs are next.



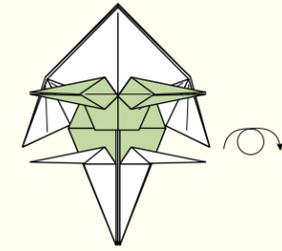
40 Start with the left leg:



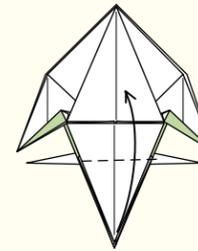
41 Repeat on the other legs.



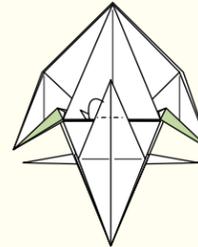
42 Turn over.



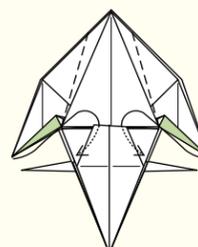
43 Valley fold the top flap only.



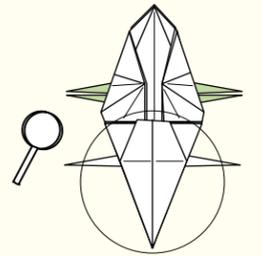
44 Mountain fold and tuck the flap inside.



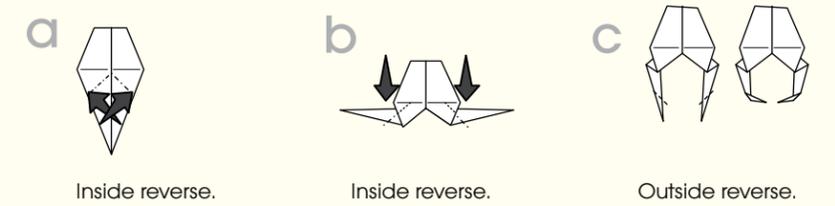
45 Valley fold and tuck the corners inside.



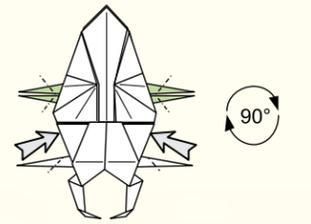
46 Details of the pincers are next.



47 Fold the pincers:



48 Inside reverse to shape jointed legs. Press to open the eyes.



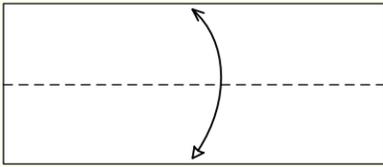
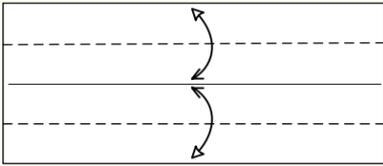
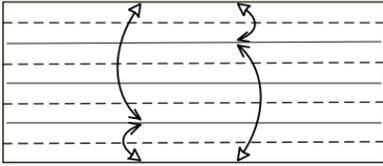
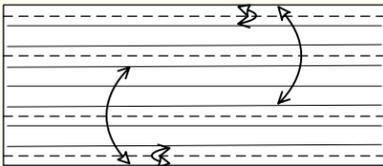
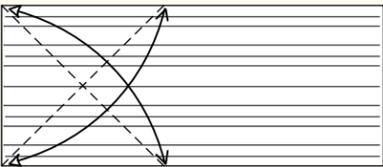
The completed stag beetle

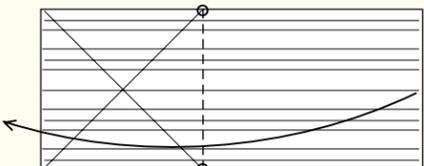
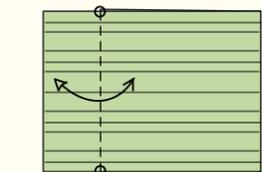
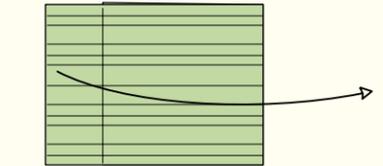
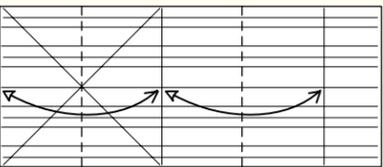
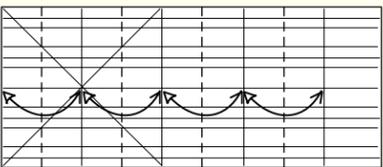


# CAR

You will need two pieces of paper for this model, one for the body and one for the chassis.

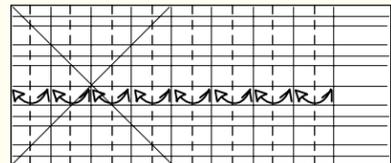
## Make the car body:

- 1 Fold in half. Unfold. 
- 2 Fold in quarters. Unfold. 
- 3 Fold the eighths. Unfold. 
- 4 Crease between the creases. 
- 5 Fold short edge along the long edges to make the angle bisectors. 

- 6 Valley fold between the reference points. 
- 7 Valley fold using the short edge on the back as a guide. Unfold. 
- 8 Unfold back to step 6. 
- 9 Crease between the vertical lines. 
- 10 Crease between the lines. 

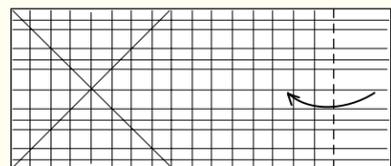
11

Crease between the lines.



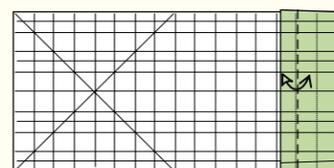
12

Valley fold on existing crease.



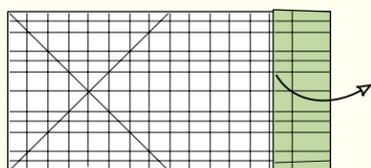
13

Valley fold using the crease on the back as a guide. Unfold.



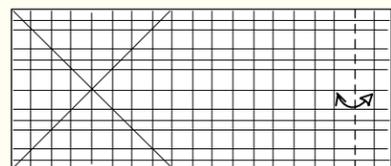
14

Unfold back to step 13.



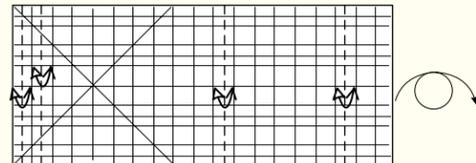
15

Crease between the lines.



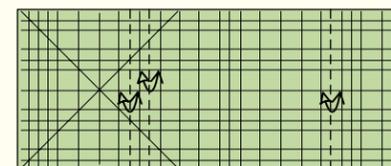
16

Crease between the lines. Turn over.



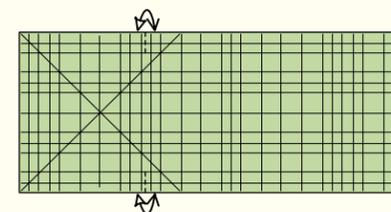
17

Crease between the lines.



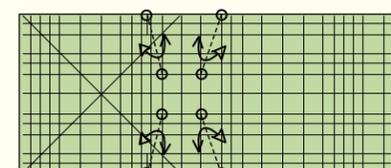
18

Pinch between the creases by the edges only.



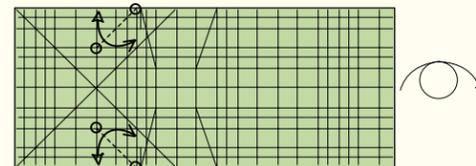
19

Crease between the reference points indicated.



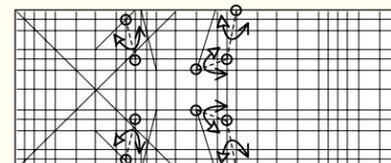
20

Crease between the reference points indicated. Turn over.



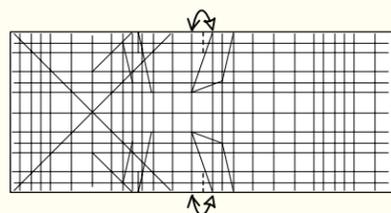
21

Crease between the reference points indicated.



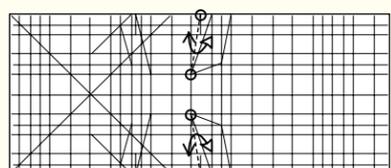
22

Pinch between the creases close to the edges.



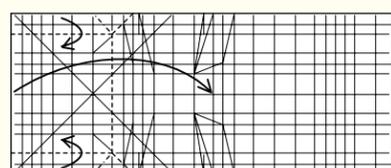
23

Crease between the reference points indicated.



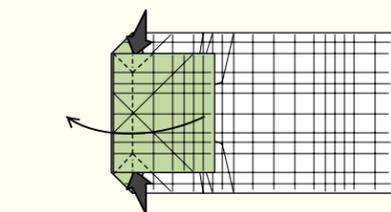
24

Fold the horizontal valley creases indicated, then swing the flap inward. This will create mountain creases.



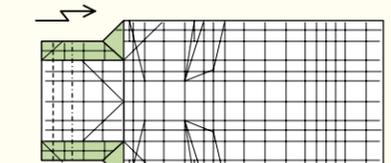
25

Inside reverse and swing the flap outward.



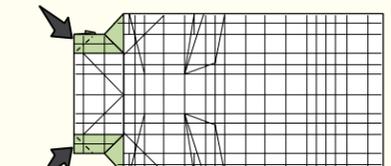
26

Pleat fold.



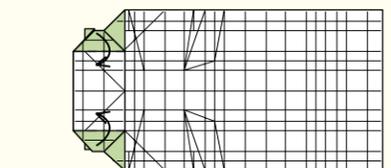
27

Inside reverse.



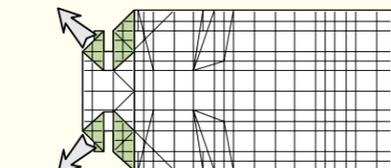
28

Valley fold.



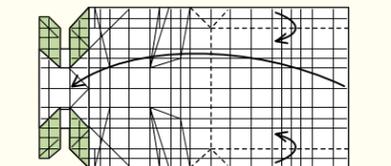
29

Release paper trapped.

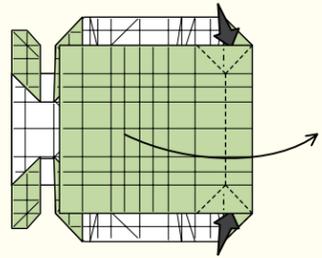


30

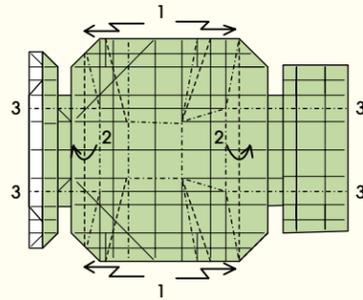
The next steps are similar to steps 24 to 28. Fold the horizontal valley creases indicated, then swing the flap inward. This will create mountain creases.



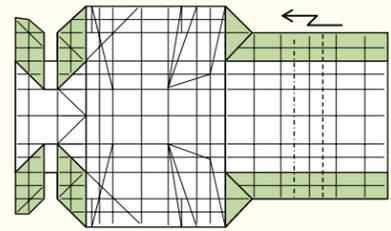
31 Inside reverse and swing the flap outward.



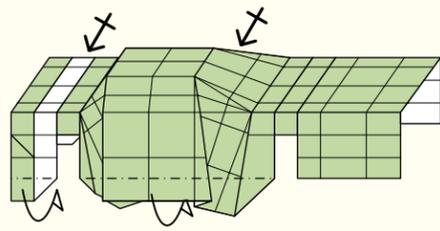
36 Make the body tridimensional: (1) Crimp along the sides. (2) Valley fold to form windshields. (3) Fold mountain creases along doors, trunk and hood to shape.



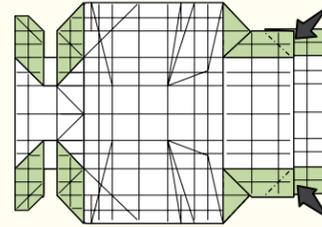
32 Pleat fold.



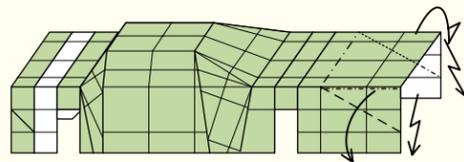
37 Mountain fold edges inside to maintain shape.



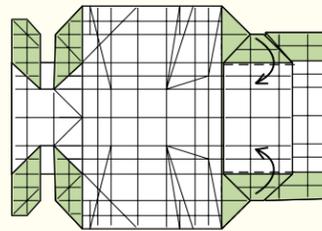
33 Inside reverse.



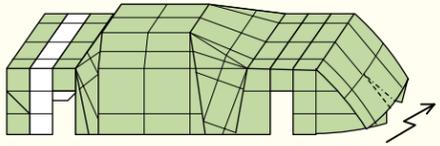
38 Crimp.



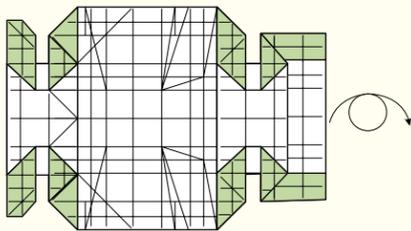
34 Valley fold.



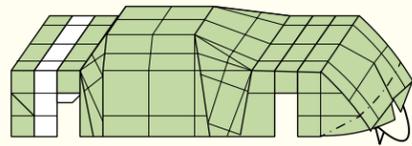
39 Crimp.



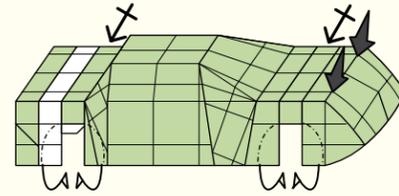
35 Turn over.



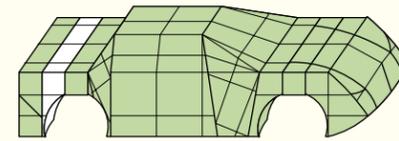
40 Mountain fold along a curve to shape the fenders.



41 Make fenders with curved mountain folds. Push lightly to shape the hood.

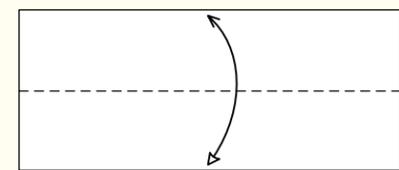


The car body is complete.

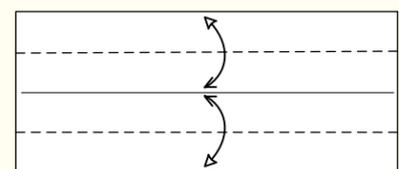


**Make the chassis:**

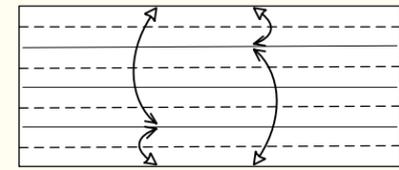
1 Fold in half. Unfold.



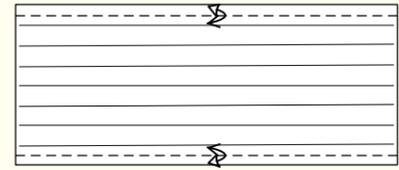
2 Fold in quarters. Unfold.



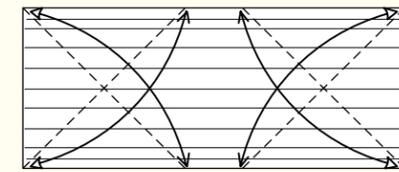
3 Fold the eighths. Unfold.



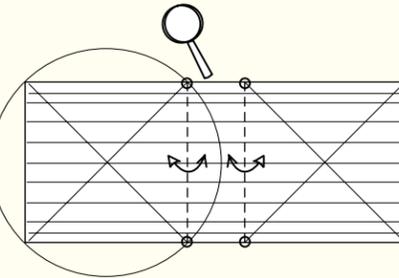
4 Crease between the lines (the sixteenths). Unfold.



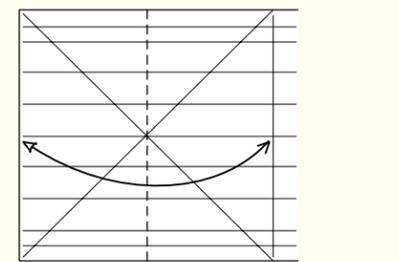
5 Fold short edge along the long edges to make the angle bisectors.



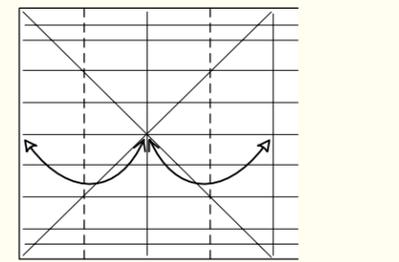
6 Valley fold between the points indicated. Only the left part will be shown for next steps, for clarity. But all steps should be repeated on the right side, too.



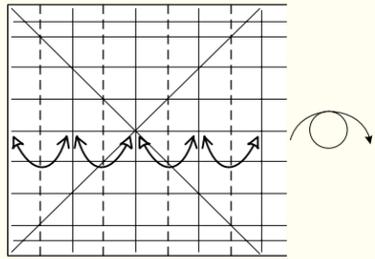
7 Crease between the lines.



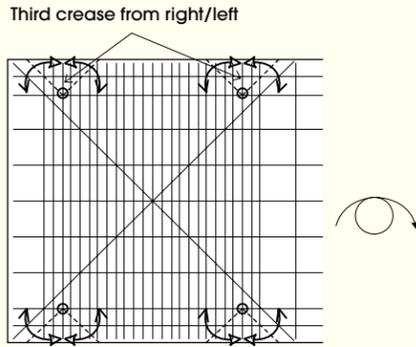
8 Crease between the lines.



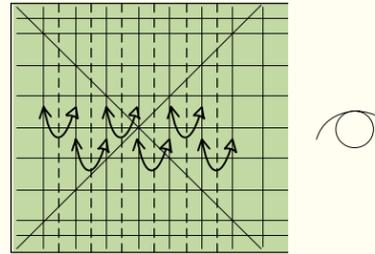
9 Crease between the lines.  
Turn over.



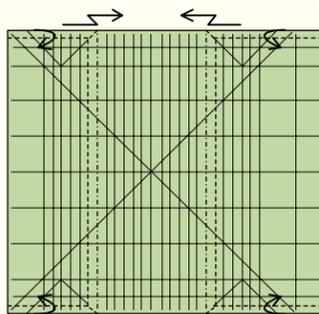
13 Crease the short diagonals.  
Turn over.



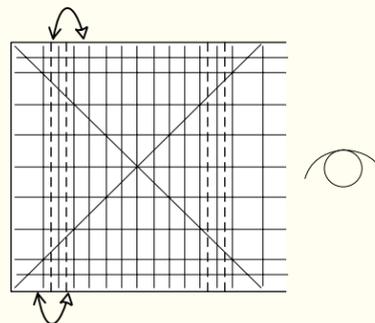
10 Crease between the lines.  
Turn over.



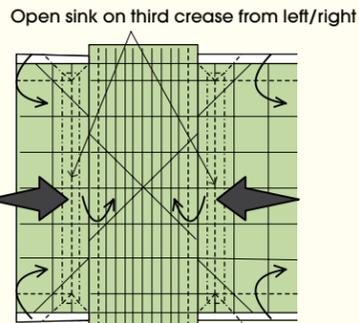
14 Fold a narrow hem, then pleat.



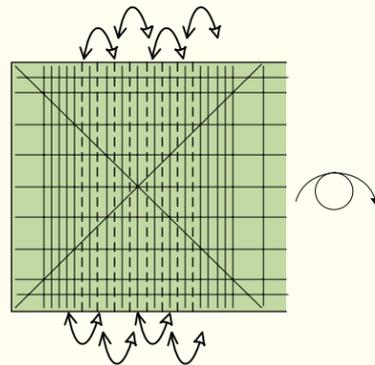
11 Crease between the lines.  
Turn over.



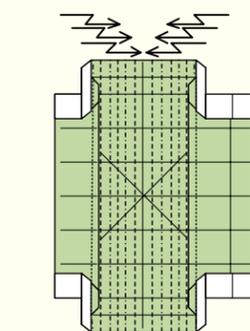
15 Valley fold, open sink on the third crease from the left/right, and fold inward.



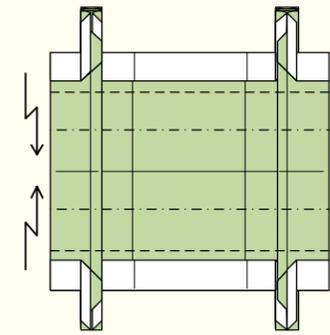
12 Crease between the lines.  
Turn over.



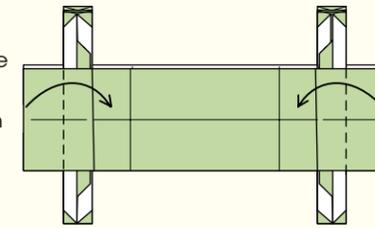
16 Sequence of pleats. Next steps show both sides.



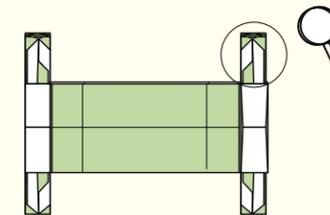
17 Pleat.



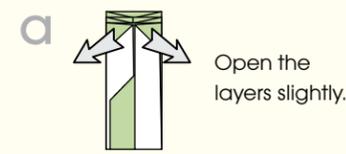
18 Valley fold the flaps along the folded edges. Helpful: Use clamps overnight to maintain the shape.



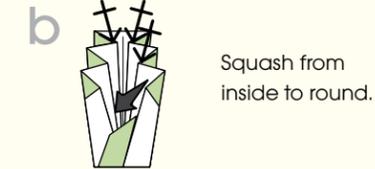
19 Details of the wheels next.



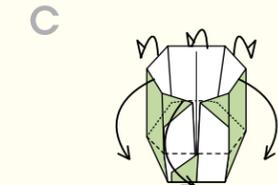
20 Make a wheel:



Open the layers slightly.

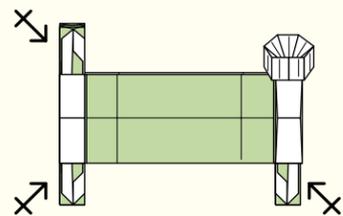


Squash from inside to round.

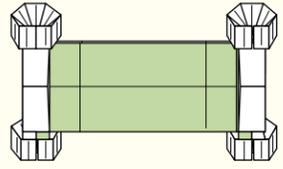


Fold edge to the outside. Helpful: Use tweezers to execute this fold.

21 Repeat on remaining wheels.

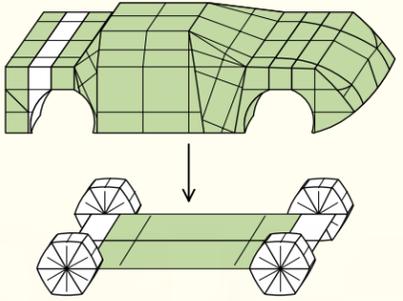


The chassis is complete.



**Assemble the car:**

Place the car body on top of the finished chassis.



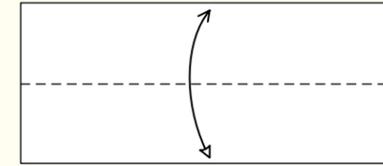
The completed car



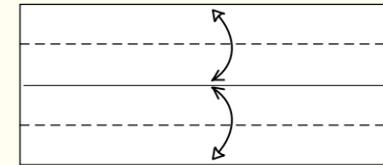
# FIGHTER JET



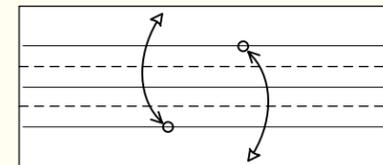
1 Fold in half. Unfold.



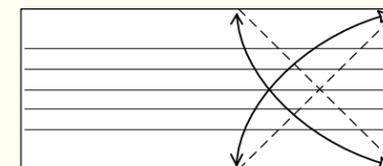
2 Fold edges to the crease and unfold.



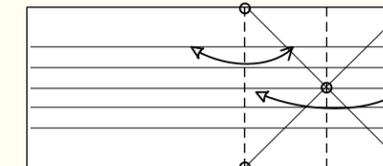
3 Fold edges to the new creases and unfold.



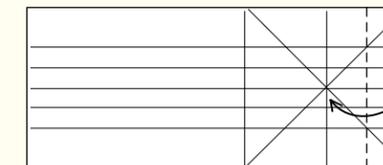
4 Fold short edge to the long edges and unfold to crease the angle bisectors.



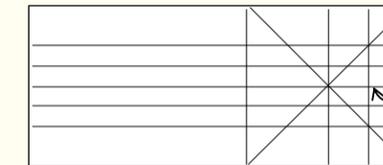
5 Crease at the points indicated.



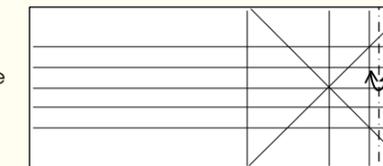
6 Fold the edge to the crease and unfold.



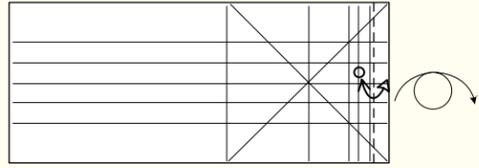
7 Fold the edge to the crease and unfold.



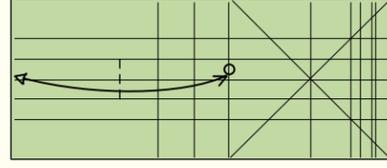
8 Crease between the folded edges. (Note: bring the folded edge to folded edge on the back to form this crease line.)



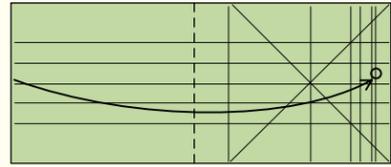
9 Fold edge to the crease formed in the last step (indicated). Turn over.



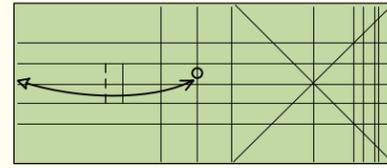
13 Fold edge to the crease indicated, creasing between the lines only. Unfold.



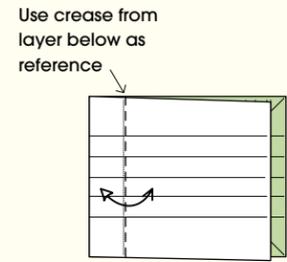
10 Fold edge to the crease formed in the last step (indicated).



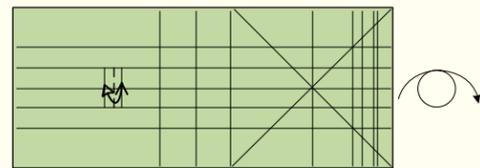
14 Fold edge to the crease indicated, creasing between the lines only. Unfold.



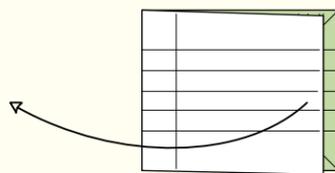
11 Crease, using the crease on the layer below as a guide.



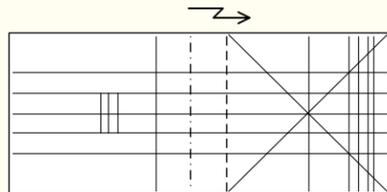
15 Fold between the last two creases. Turn over.



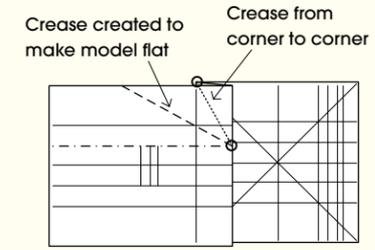
12 Unfold back to step 10.



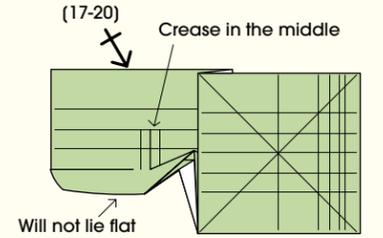
16 Pleat fold using existing creases.



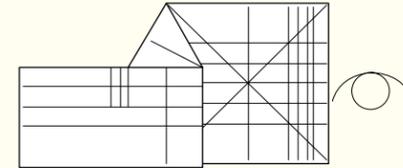
17 Inside reverse: use existing long crease, then form a new one from corner to corner shown. The last crease will be formed when the model is flattened (see next step for result).



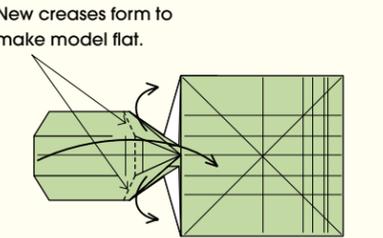
21 Repeat steps 17 to 20 on the other side.



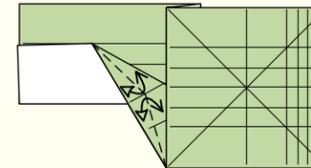
18 Turn over.



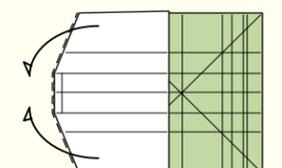
22 Collapse the model to make it lie flat. New creases will be formed on the sides and the tail end will fold along the crease in the middle.



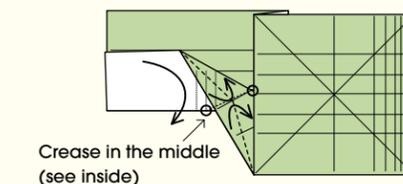
19 Crease the angle bisectors.



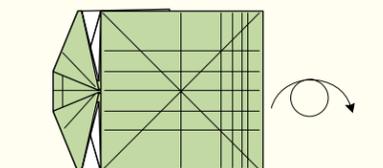
23 Outside reverse fold.



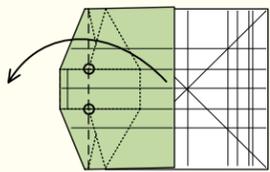
20 While folding the angle bisectors, form a new crease from folded edge to the crease in the middle as indicated. The model will not lie flat.



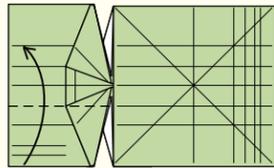
24 Turn over.



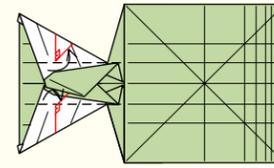
25 Valley fold using the reference points underneath (the intersection of the folded edges).



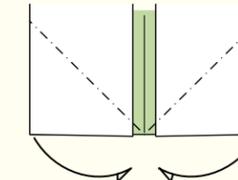
29 Fold edge to crease. Unfold.



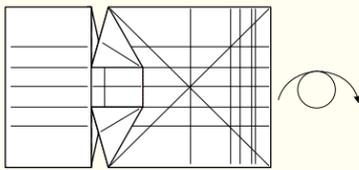
33 Fold the flaps so they stand up.



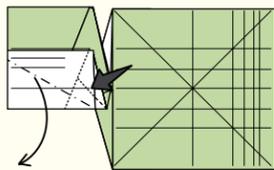
37 Fold diagonally to the back.



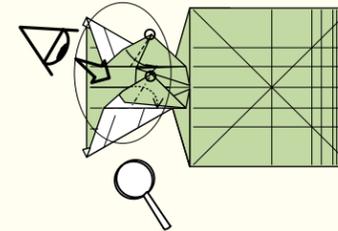
26 Turn over.



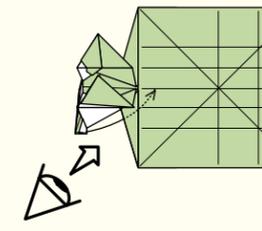
30 Open squash and flatten all layers.



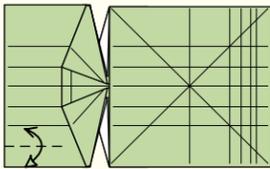
34 Details of the tail stabilizers next. Start collapse by folding the layers toward the inside.



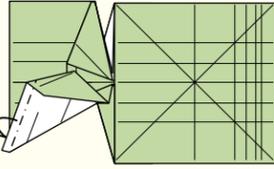
38 Fold flap to the bottom. View from underneath.



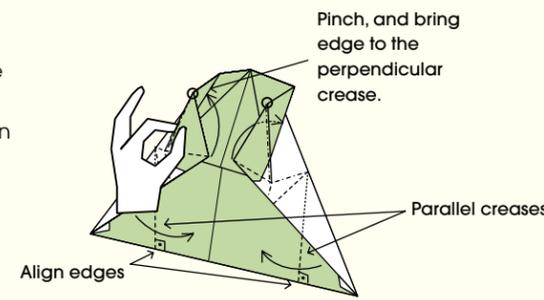
27 Fold edge to crease part way. Unfold.



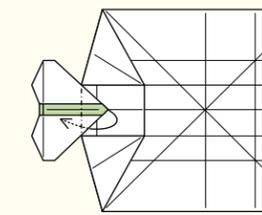
31 Mountain fold on the existing crease.



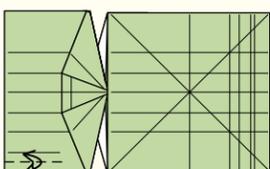
35 Make all folds that are close to the fuselage so that it becomes a single layer, then pinch to flatten. Then form additional parallel creases shown.



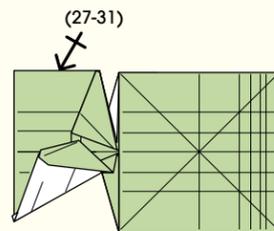
39 Tuck inside the pocket.



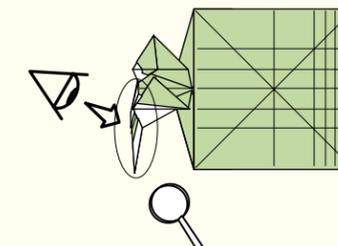
28 Fold edge to new crease. Unfold.



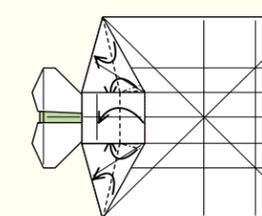
32 Repeat steps 27 to 31 on the other side.



36 Details of the tail flap.

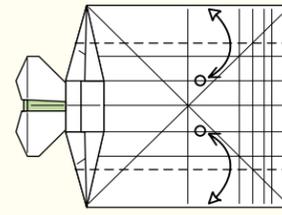


40 Fold edge to crease and tuck small pleats inside.



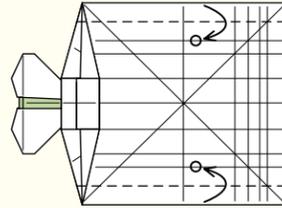
41

Fold edges to the creases indicated. Unfold.



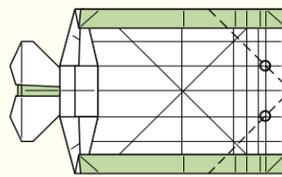
42

Fold edges to the new creases formed in the last step.



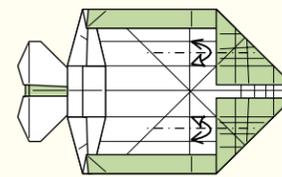
43

Fold diagonally using the references indicated. See next picture for result.



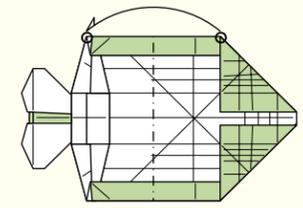
44

Mountain fold between the creases and unfold. This is a partial pre-crease that will be used for a collapse in a future step.



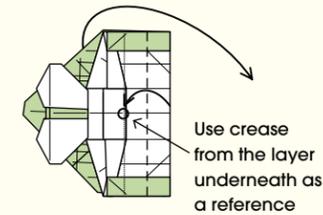
45

Mountain fold between the creases. This is a partial pre-crease that will be used for a collapse in a future step.



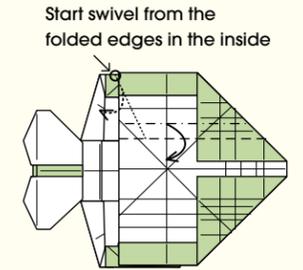
46

Fold edge to the crease from the layer underneath, letting the flap flip out.



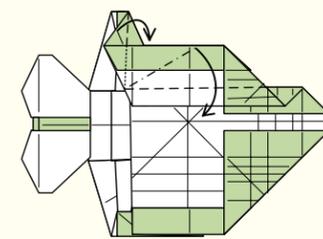
47

Pleat on the top layer. This will require a swivel under to make the model lie flat.



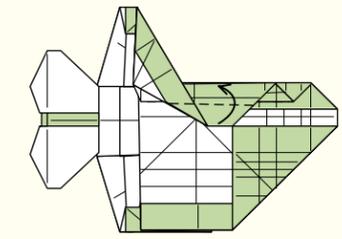
48

Swivel fold.



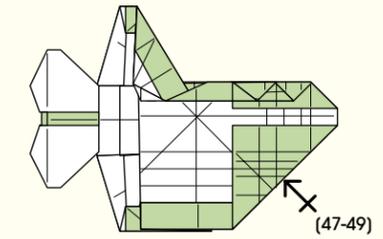
49

Fold edge to edge.



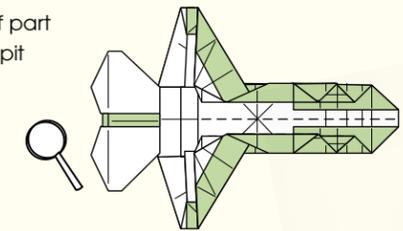
50

Repeat steps 47 to 49 on the other side.

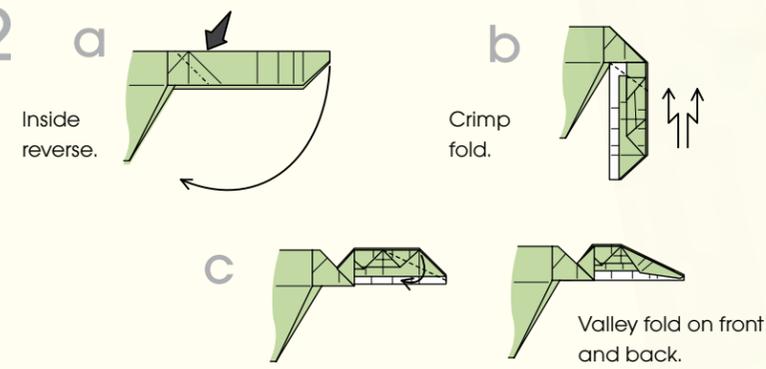


51

Fold the fuselage in half part way. Details of the cockpit next.

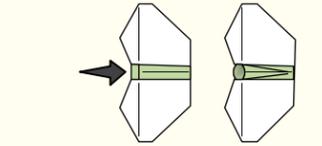


52



53

Make the model 3-D: press to round the exhaust, then fold the wings up to shape them.



The completed fighter jet

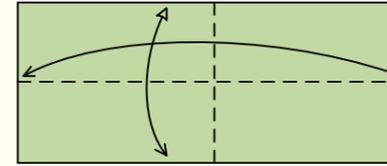




# BAT

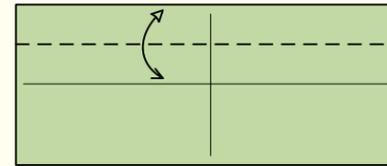
1

Fold and unfold.



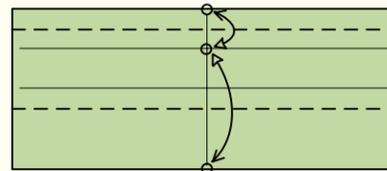
2

Fold and unfold top  $\frac{1}{4}$ .



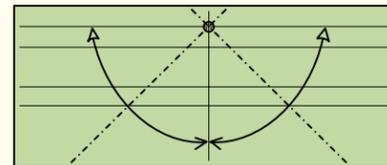
3

Fold and unfold the  $\frac{1}{8}$  and the  $\frac{5}{8}$  lines from the top.



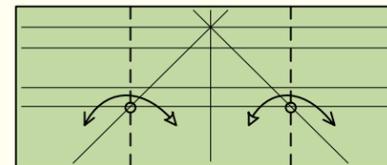
4

Mountain fold and unfold on both sides, aligning the first  $\frac{1}{8}$  horizontal crease line with the vertical center crease. The folds will intersect at the reference point.



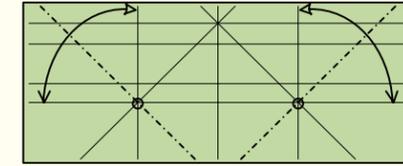
5

Fold and unfold parallel to the vertical center crease line on both sides. The vertical creases go through the intersection points shown.



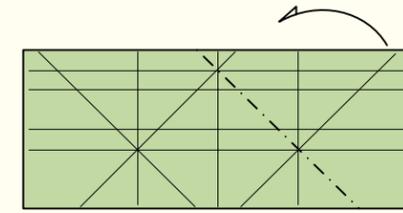
6

Mountain fold the  $\frac{5}{8}$  crease line to the vertical creases made in step 5. Unfold.



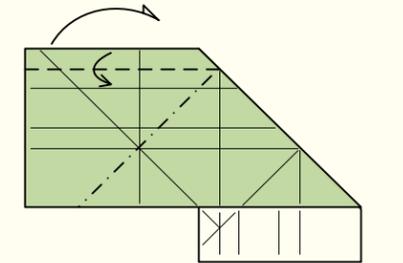
7

Mountain fold along the existing diagonal crease.



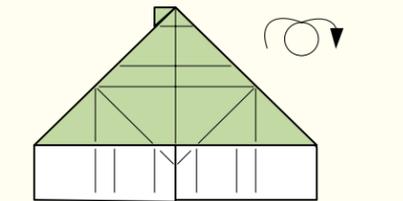
8

Mountain fold along the existing diagonal crease on the other side. Valley fold the flap to the side.



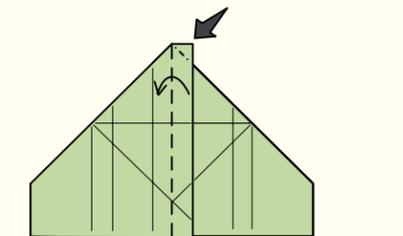
9

Turn over.



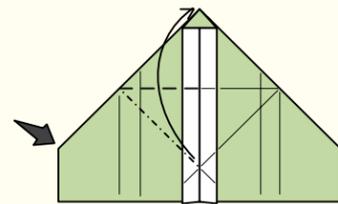
10

Use existing crease to flip one layer to the left. Squash the top.



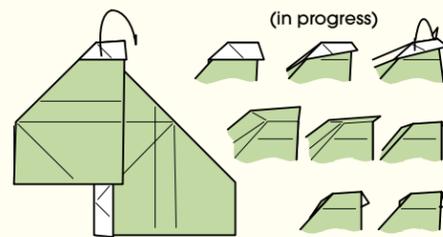
11

Fold on existing creases, squashing the left side.



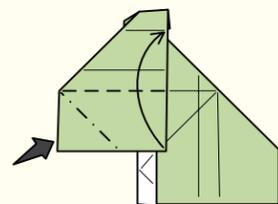
12

Open the model part way to allow the paper to flip to the back, reversing the valley crease to mountain.



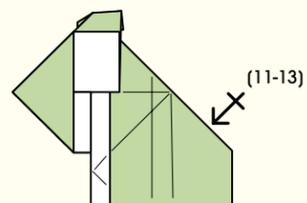
13

Fold on existing creases, squashing the bottom.



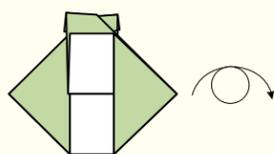
14

Repeat steps 11 to 13 on the right side.



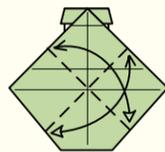
15

Turn over.



16

Valley fold the top layer only. You may have to move the flaps beneath out of the way. Unfold.



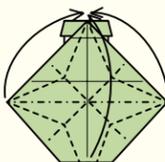
17

Fold the edges along the creases made in step 16 to create angle bisectors.



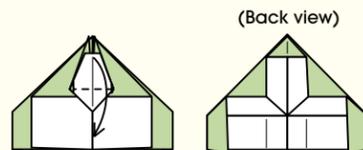
18

Using the creases made in the previous two steps, collapse the top layer into something resembling an upside-down bird base.



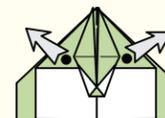
19

Fold the top flap down.



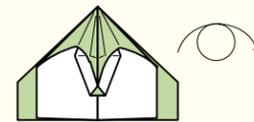
20

Pull out one layer of paper (indicated by the dots). The model will not lie flat.



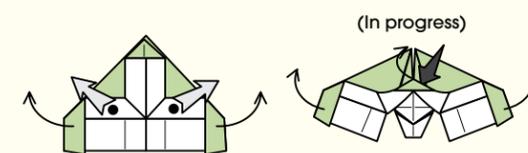
21

Turn over.



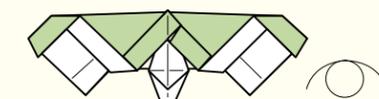
22

Pull out one layer of paper (indicated by the dots). Move left and right flaps as far as they can go until the top edges are in line. At that point, the model will lie flat again.



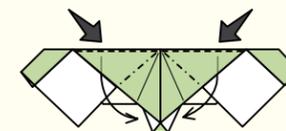
23

Turn over.



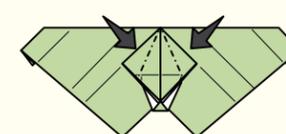
24

Inside reverse fold on both sides.



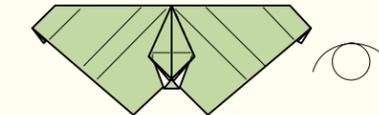
25

Inside reverse fold on both sides. Insert the flaps under the folded edges.



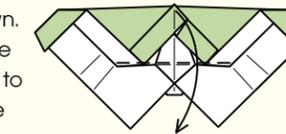
26

Turn over.



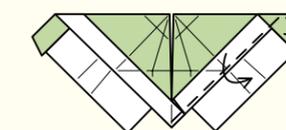
27

Fold the entire top flap down. You will have to open up the folds to allow the raw edge to switch sides and stay on the outside of the model.



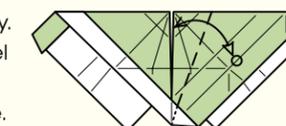
28

Fold the raw edge out.



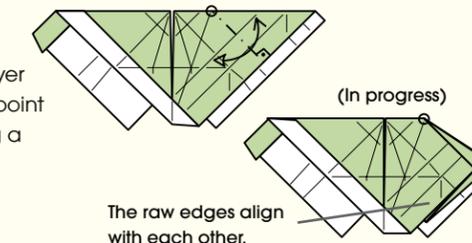
29

Valley fold the top layer only. Align the first crease parallel to the raw edge with the vertical center folded edge. Unfold.



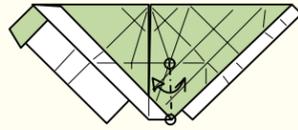
30

Mountain fold the top layer only from the reference point to the raw edge, forming a right angle.



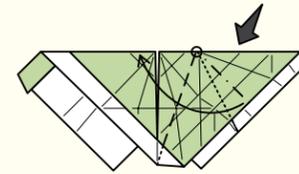
31

Pre-crease for future step: mountain fold top layer only between the reference points. Unfold.



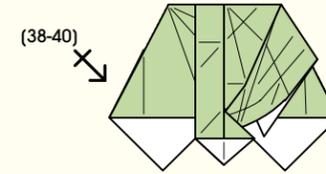
36

Squash using the creases created in steps 29, 30 and 35. See next picture.



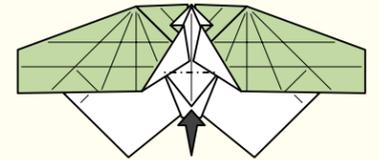
41

Repeat steps 38 to 40 on the other side.



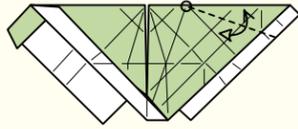
46

Open sink.



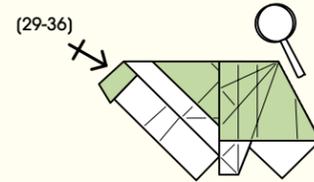
32

Pre-crease for future step: valley fold all layers, aligning the top edge with the crease formed in step 30, bisecting the angle. Unfold.



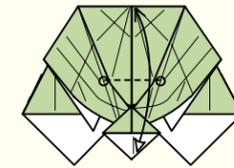
37

Repeat steps 29 to 36 on the left side. Next steps are shown in magnified view.



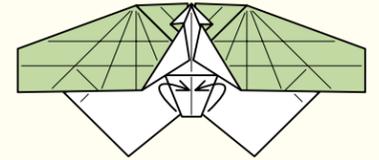
42

Fold what is going to become the head all the way to the top along the horizontal line of the bird base, and extend the crease to the left and right as you flatten until it intersects with the diagonal created in step 33. Unfold.



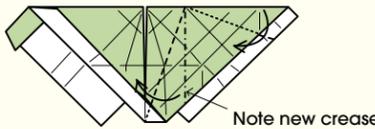
47

Move the flaps back to their original position in step 45.



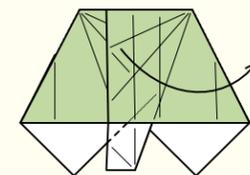
33

Pre-crease for future step: swivel using valley crease formed in previous step and the crease made in step 29. This creates a news mountain crease to flatten the model. See the next diagram.



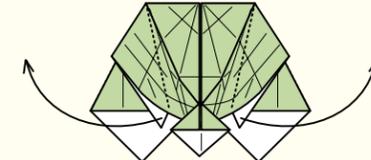
38

Use mountain crease created in step 31 to open right flap part way and form a wing. The model will not lie flat.



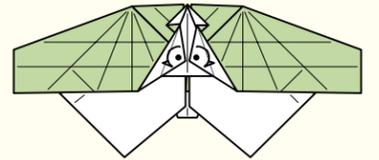
43

Open the wings and fold along the creases created in step 32 (the one from the back side).



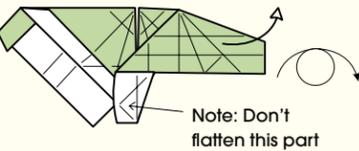
48

Tuck the corners inside the pockets beneath without making any new folds.



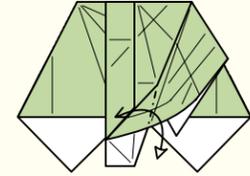
34

Flatten the model just enough to create the new mountain crease from step 33. Don't bother to flatten the bottom part. Unfold. Turn over.



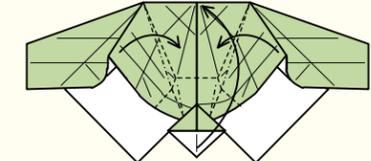
39

Create mountain crease on the top layer, using the folded edge beneath it as a guide.



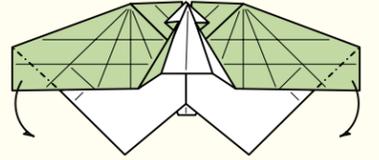
44

Flatten the head, neck and wings using existing creases. As you collapse, some new creases will form so the model will lie flat.



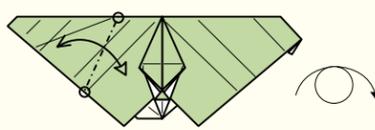
49

Mountain fold the top layer along the raw edge, then tuck it inside.



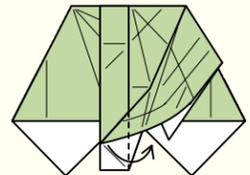
35

Mountain fold from the same reference point shown in step 32 (intersection of the diagonal crease with folded edge) to the reference point on the raw edge. Unfold. Turn over.



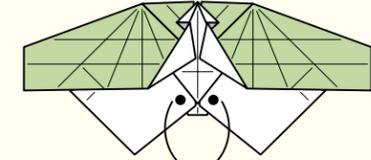
40

Valley fold along the vertical center line, squashing the bottom.



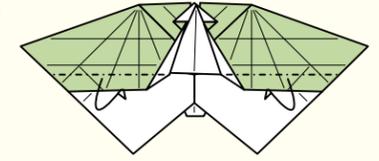
45

Move the top layer one layer beneath. No new creases will be formed.



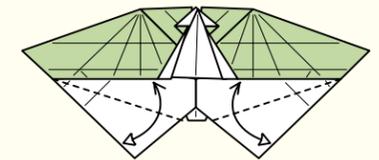
50

Mountain fold the top layer of the wings horizontally along what will become the neck of the bat.

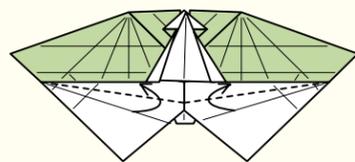


51

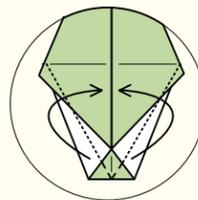
Fold the raw edges along the horizontal folded edge, bisecting the angle. Unfold.



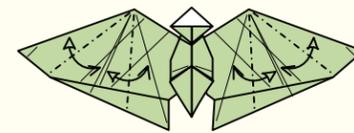
52 Fold the creases created in the last step along the horizontal folded edge, bisecting the angles.



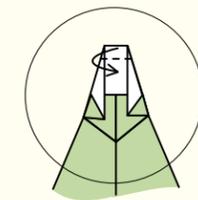
58 Start by swiveling the edges to the center vertical line. The model will not lie flat because of the extra paper.



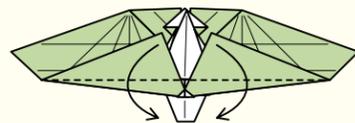
63 Create angle bisectors and unfold.



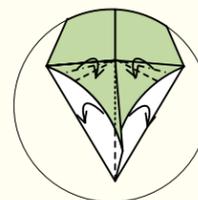
68 Valley fold horizontally to form the bat's face.



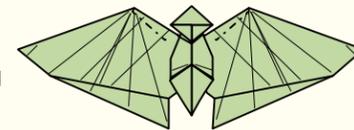
53 Valley fold.



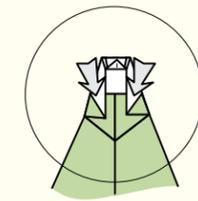
59 Fold the extra paper along the center vertical line. At this point, the raw edges should align with the folded edge. Create small crimps to flatten the model.



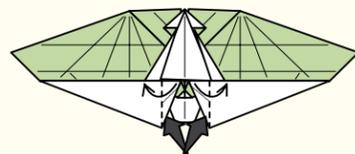
64 Add mountain folds shown to shape the wings and give them more dimension. Round the wings using the creases made in steps 61 to 63.



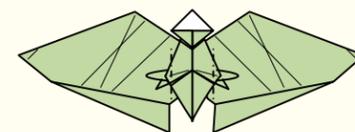
69 Open the ears. Use the tip of a pen or pencil or some tweezers to round the openings.



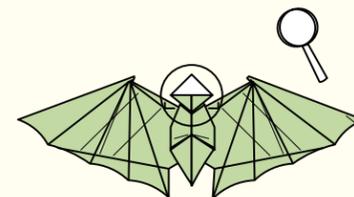
54 Valley fold the raw edges while squashing to flatten.



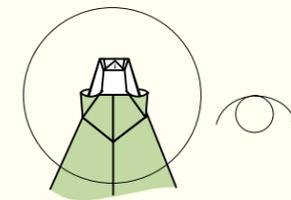
60 Fold the corners under.



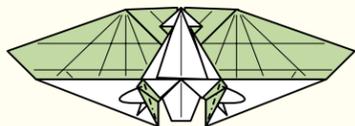
65 Next steps are magnified for details of the head.



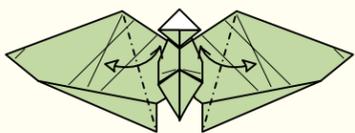
70 Turn over.



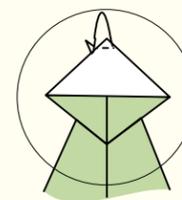
55 Mountain fold the raw edges, tucking them under.



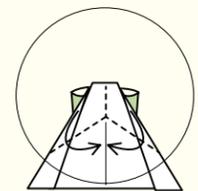
61 Mountain fold diagonally from top corner to the bottom corner of each wing. Unfold.



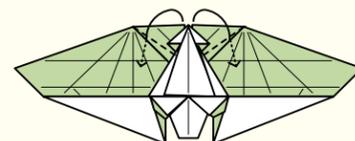
66 Mountain fold the tip to create the bat's nose.



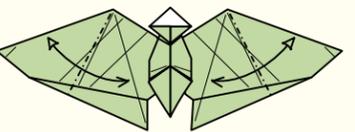
71 Rabbit-ear slightly to form the neck and give it some dimension.



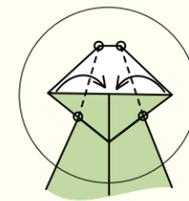
56 Valley fold the wing corners, tucking them inside.



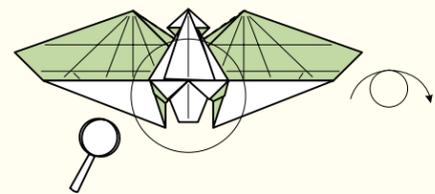
62 Mountain fold the upper edges of the wings to the creases made in the previous step, bisecting the angle. Unfold.



67 Valley fold from the corners of the nose to where the top folded edges overlap the layer beneath.



57 Turn over. Magnified views of the tail are next.



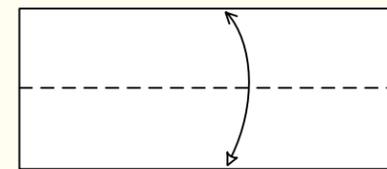
The completed bat



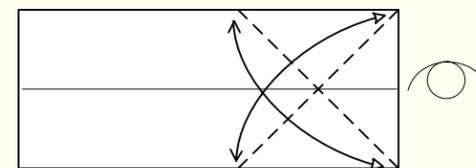
# SCORPION



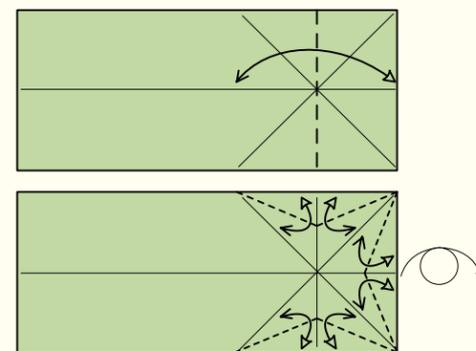
1 Fold in half. Unfold.



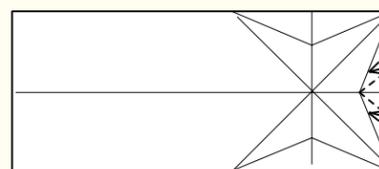
2 Fold the short edge to the long ones. Unfold. Turn over, flipping top to bottom. Valley fold on the intersection. Unfold.



3 Crease the angle bisectors by aligning the edges to the creases. Turn over.



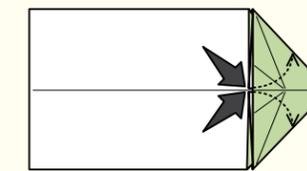
4 Crease the angle bisectors by aligning the creases to the creases.



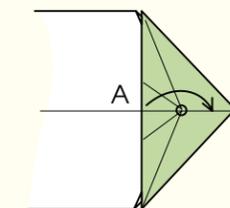
5 Collapse the waterbomb base.



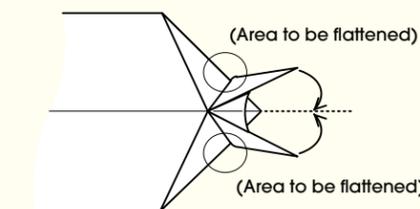
6 Inside reverse fold the inner flaps using existing creases.



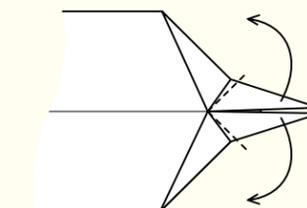
7 Pivoting from the intersection of the creases, fold point A and align the crease lines. Note that it will not reach the tip. No crease is created on this step, and the model will not lie flat.



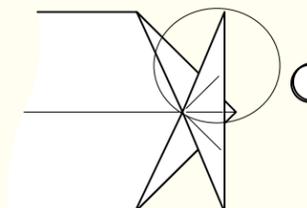
8 Bring the flaps to meet, then press the areas indicated to flatten, making new creases. The inner layer should lie flat on existing creases.



9 Valley fold using the crease on the layer inside as a reference, so that the flap will stretch out and flatten completely.

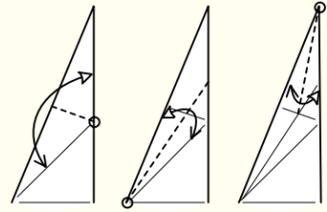


10 Detailed view.



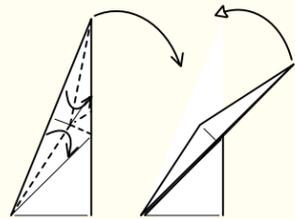
11

Make these creases for a rabbit-ear fold in the next step. After each crease, make the mirror image on the opposite flap.



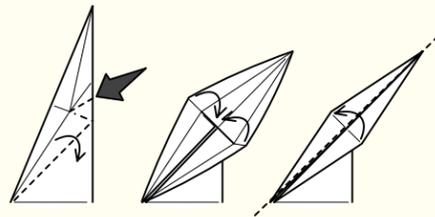
12

Rabbit-ear fold. Crease well. Unfold. Repeat on the other flap.



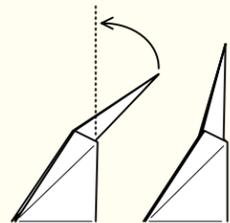
13

Valley fold the top layer to open up flap; press the center to flatten. Petal fold, then fold in half. Repeat sequence on other flap.



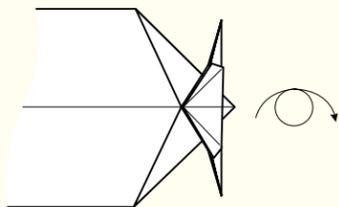
14

Create a small crimp fold inside so that the flap aligns with the edge. Repeat on the other flap.



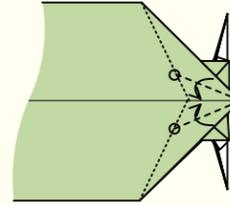
15

Turn over.



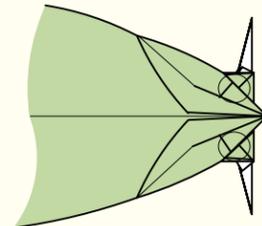
16

Fold the edges of the top layer to align with the center crease, from the tip to the folded edges hidden underneath. The model will not lie flat.



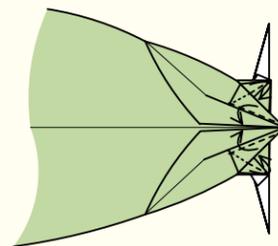
17

Release the layer that is trapped.



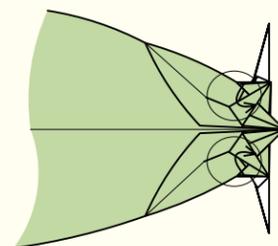
18

Swivel fold.



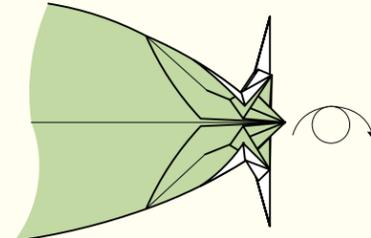
19

Shift the edges around the folded edges, allowing some paper to stretch to flatten.



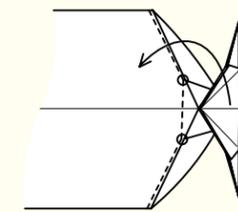
20

Turn over.



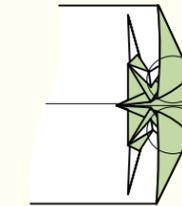
21

Start creasing along the edges from the sides. Crease to connect the references. Let the head fold over.



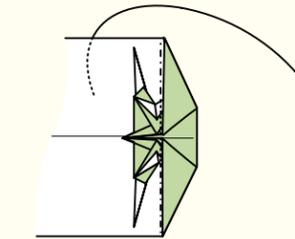
22

Flatten the area indicated. The model should lie flat.



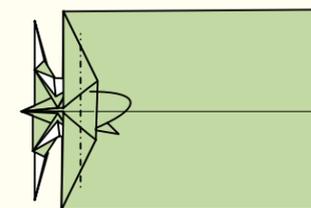
23

Fold the entire flap to the back.



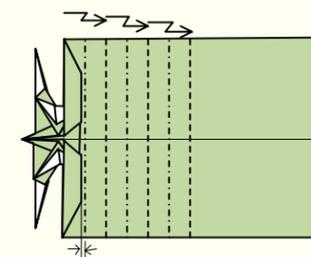
24

Mountain crease the folded edge.



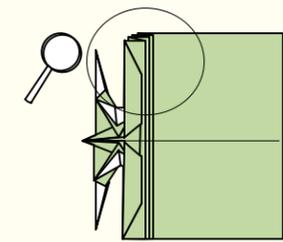
25

Pleat. Start the first crease slightly below the edge, not on it.



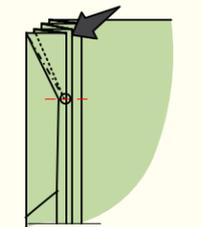
26

Detailed view of the pleats.



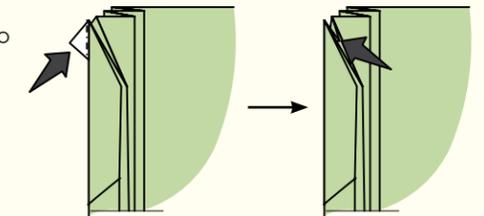
27

Inside reverse folding asymmetrically, starting from a point parallel to the center line, and ending in a point.



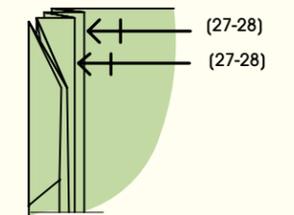
28

Continue reverse folding so that the edges becomes flush.



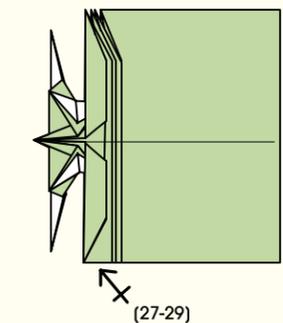
29

Repeat the inside reverse folds on the other pleats.



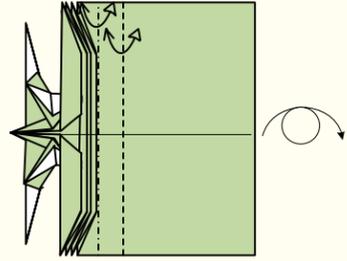
30

Repeat steps 27 to 29 on the other side.



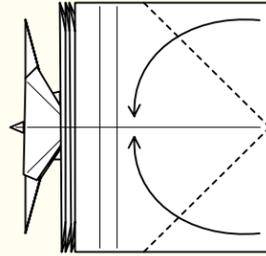
31

Pleat fold. The first mountain should align with the folded edge. The valley fold should leave the same gap used on step 26. Unfold. Turn over.



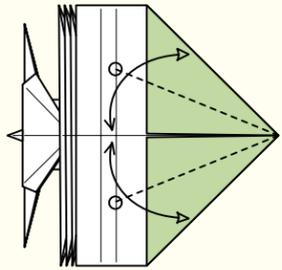
32

Fold the edges to the center line.



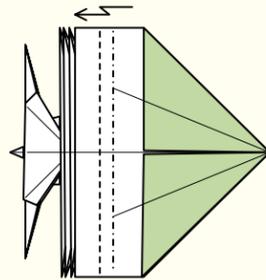
33

Fold the edges to the center crease, only to the first perpendicular crease. Unfold.



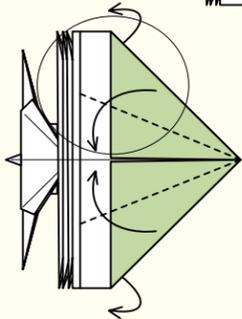
34

Pleat on existing creases.



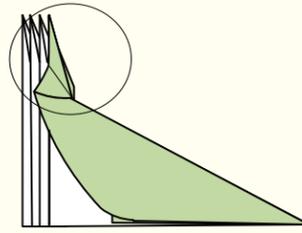
35

Fold the edges to the center crease, allowing some of the paper to lift. The model will not lie flat.



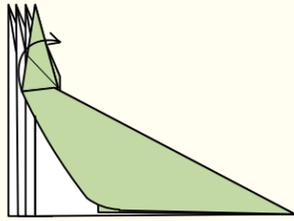
36

Press the area indicated, creating new creases to flatten.



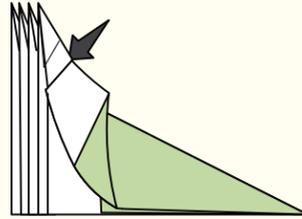
37

Fold upright to view the inside.



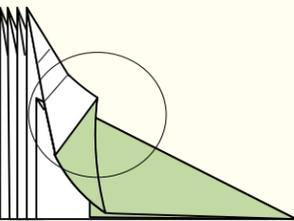
38

Push from back to pop up one layer, eliminating the edge on the front and defining the edges on this side.



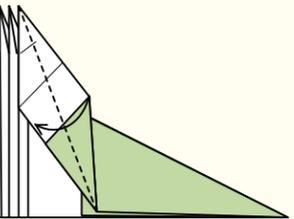
39

Press the area indicated, creating new creases to flatten. The model should lie flat now.



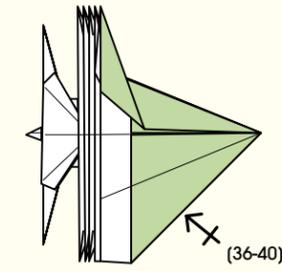
40

Fold from corner to corner.



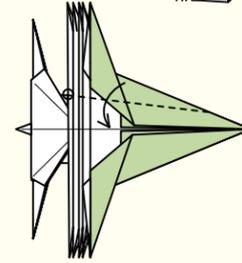
41

Repeat steps 36 to 40 on the other side.



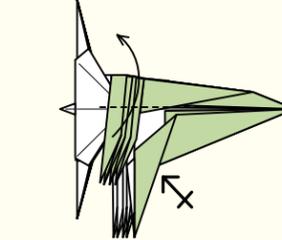
42

Fold the edge almost to the center crease of the tail.



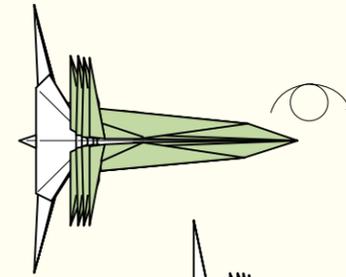
43

Fold the legs back out along the center line. Repeat this sequence on the other side.



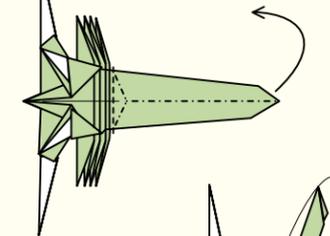
44

Turn over.



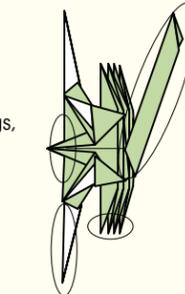
45

Rabbit-ear the tail to lift it up.



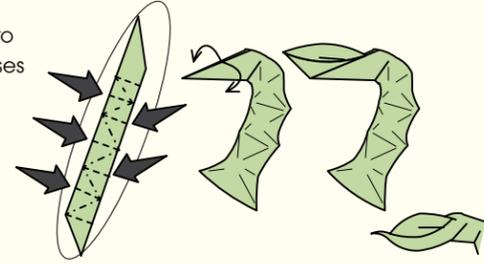
46

The next steps show the shaping of the tail, legs, pincers, and head.



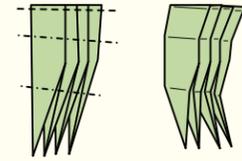
47

Start by pinching the tail into a series of water bomb bases to make segments; curve; open the tip for the venom bulb; pinch and curve to make the stinger.



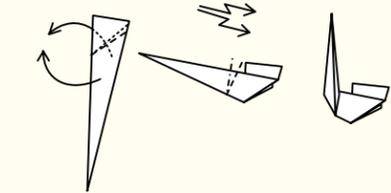
48

Make leg articulations with valley and mountain creases.



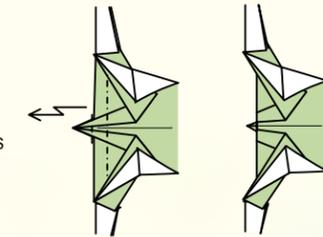
49

For the pincers, make an outside reverse fold, then crimp and leave the flap slightly open.



50

Fold the head down as far as possible. Fold the mouthparts (the tip) forward.



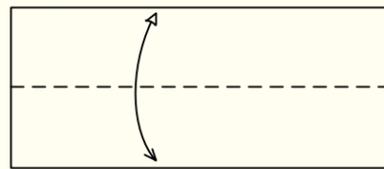
The completed scorpion



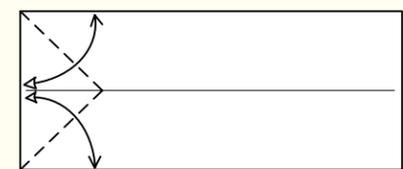
# KOI FISH



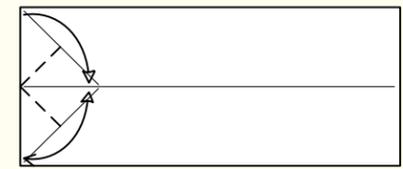
**1** If using real money, start with the face side visible, but position the bill so George Washington is upside down. Fold in half lengthwise and unfold.



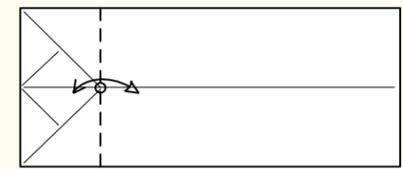
**2** Fold the short edge to the long edges and crease only up to the central horizontal crease. Unfold.



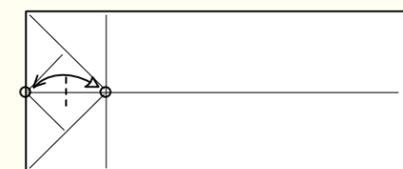
**3** Fold short edges to the central horizontal crease only up to the diagonals made in step 2. Unfold.



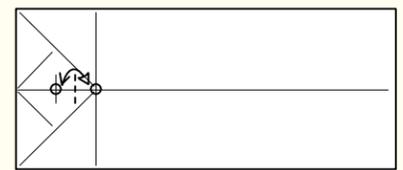
**4** Fold vertically at the intersection of the creases. Unfold.



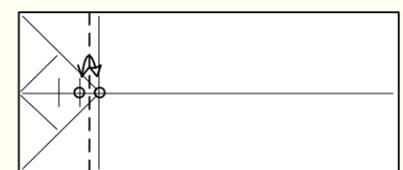
**5** Pinch midway between the reference points.



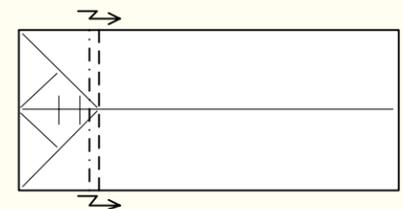
**6** Pinch midway between the reference points.



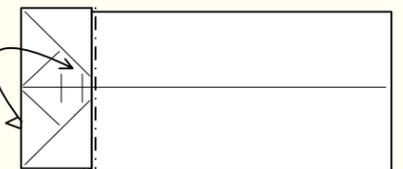
**7** Valley fold midway between the reference points. Unfold.



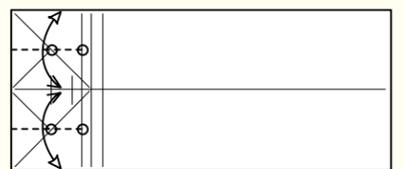
**8** Pleat using the creases, reversing the last crease from valley to mountain fold.



**9** Mountain fold vertically along the folded edge. Unfold. Unfold the pleat back to the position in previous step.



**10** Fold the edges to the central horizontal crease, creasing between the vertical edge and the pleat crease line.



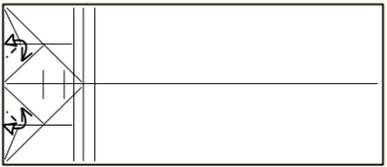
11

Pre-crease for a future step. Mountain fold the raw edge along the diagonal, from the corner to the horizontal line.



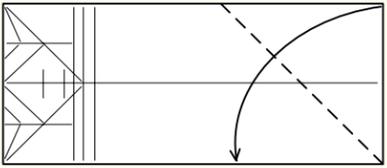
12

Pre-crease for a future step. Mountain fold parallel to the diagonal created in step 3.



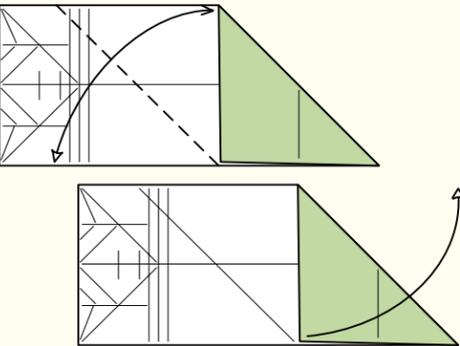
13

Fold short edge along the long edge.



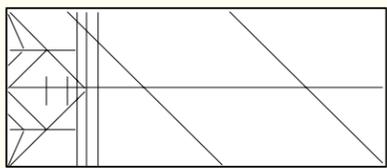
14

Fold the corner to the long edge and unfold. Unfold the flap made in step 13.



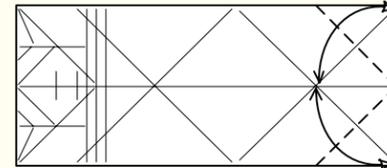
15

Repeat steps 13 and 14 on the other side, creating mirror-image creases.



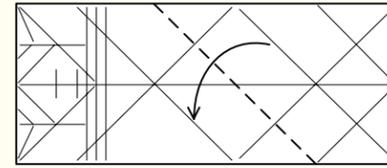
16

Fold and unfold.



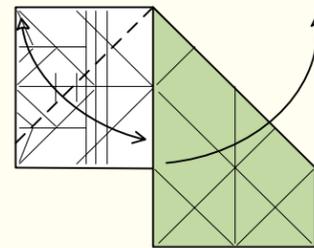
17

Fold in half (crease to crease).



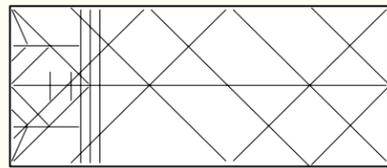
18

Fold edge to edge, unfold. Unfold the flap created in the previous step.



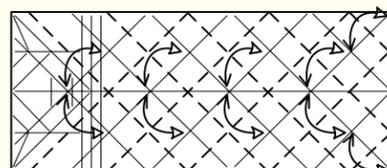
19

Repeat steps 17 and 18 on the other side, creating mirror-image creases.



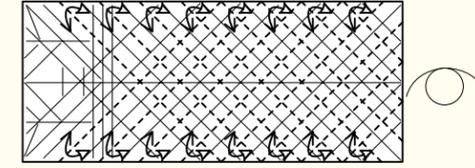
20

Fold between the lines, crease to crease. Unfold.



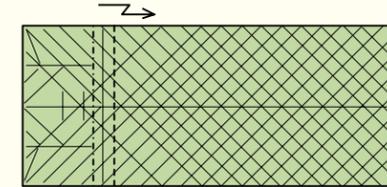
21

Fold between the lines once more, crease to crease. Unfold. Turn over.



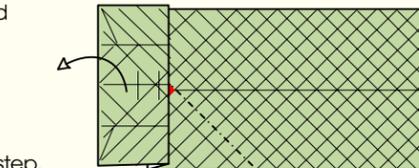
22

On the color (green) side, pleat using the existing creases (created in steps 7 to 9).



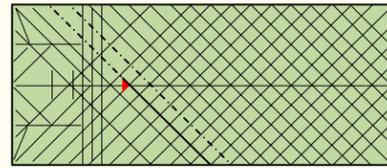
23

Find the small triangle immediately next to the folded edge, along the center. Using that triangle as a reference, mountain fold the crease that goes along its side. Unfold the pleat created in the previous step.



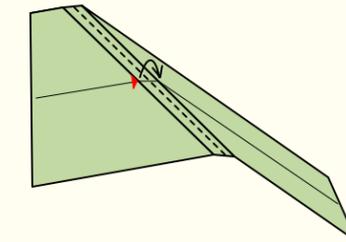
24

Extend the mountain crease started in the previous step. Mountain fold the next crease too.



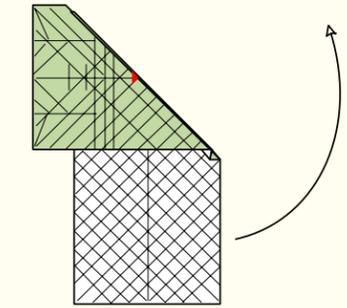
25

Bring the edges together creating a valley crease in the middle. Be as precise as possible and crease well.



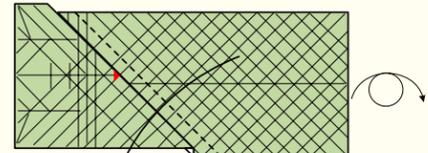
26

Unfold the long flap on the back.



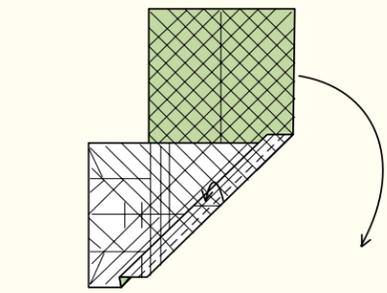
27

Valley fold using the next crease line. Turn over.



28

Bring folded edge to the crease line, allowing the flap to flip out from behind.



29

Turn over. Repeat the pleating process (steps 24 to 28) to the end of the dollar bill.

