



# Flap Your Wings for Bats!

Bats are amazing! They are the only mammals that truly fly. They don't glide, they actually fly! Other mammals such as the "flying" squirrel and "flying" lemurs glide or parachute by means of a furred membrane. This means that they have to climb a tree or other tall object to be able to glide. Only bats have the physical adaptations that allow for full powered flight.



A bat's wing is actually a modified hand. The wing bones are very long fingers. This elongation of the bones is required to support the wing membrane. The membrane of a bat's wing is living tissue similar to the tiny flaps of skin joining the bases of our human fingers. Because the membrane of skin joins their long fingers from the bases to the tips, a bat's fingers cannot flex independently. The muscles in the arm open up the hand/wing.

The structure of the wing membrane, the arrangement of the bones supporting it, and the positioning of the muscles provide the bat with the lightness and maneuverability necessary for catching insects, hovering above flowers, or quickly avoiding obstacles. **Learn more at <http://batslive.pwnet.org/edubat>.**



Below you will find the directions to make your own flying bat. When you have completed the project, you can flap your wings to show your support for these amazing fliers!

## Directions:

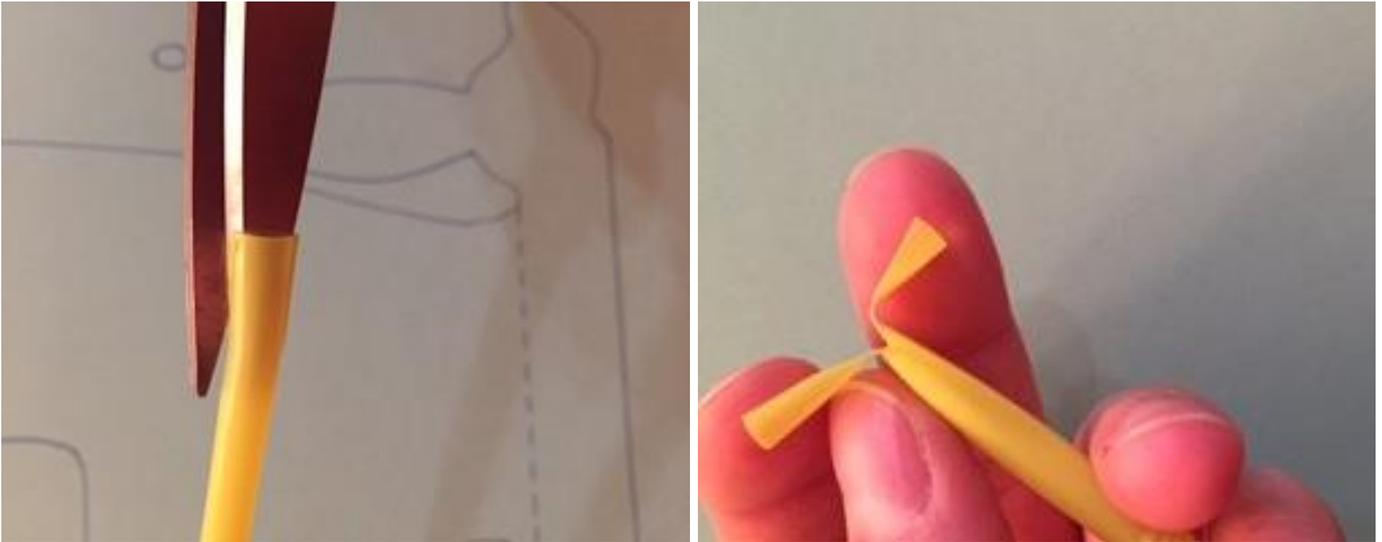
1. Print off the "Flap Your Wings for Bats!" template and cut out each of the shapes.
2. You will need to cut out two of each of the shapes to make your bat, so draw the outline of each of the shapes onto two 8 ½" by 11" pieces of paper. We recommend using black or brown paper, but bats do come in many colors. Use your favorite bat color.
3. Cut out all six pieces of the bat. If you want to make the eyes visible, you will need to cut out two circles from a lighter piece of paper. As long as they are bigger than the pupils, they will look great!
4. Stack the two sides of the body of the bat on top of each other and fold down the wings of your bat along the dotted line illustrated on the template. The wings should be folded in opposite directions (i.e. the right side of the bat will be folded towards you while the left side of the bat will be folded away from you).
5. Glue or tape the body of the bat (area below the dotted line) and the face of the bat together (don't glue the ears together). You may want to fold the ears away from each other (in the same direction as each of the wings). This will make your bat look a little more interesting.

## Materials Needed:

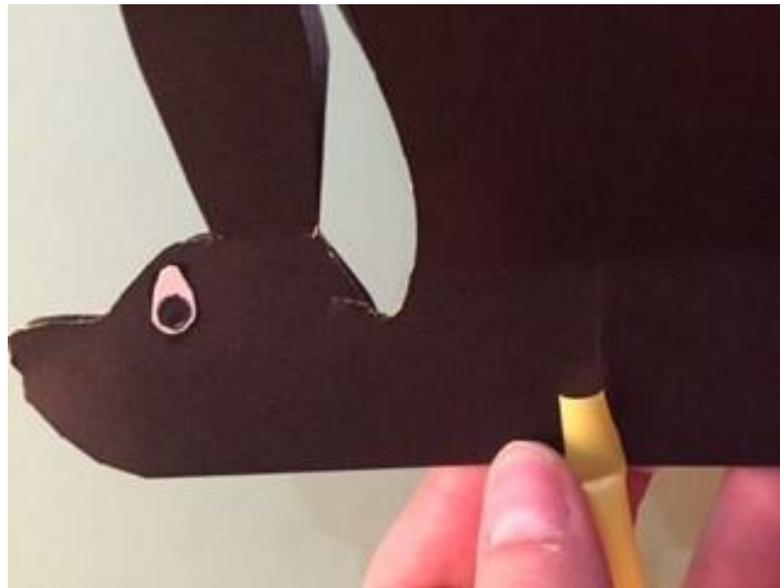
- Two pieces of cardstock (black, brown, or other batty color).
- Straw, bamboo skewer, small wooden dowel, etc.
- Printed Template
- Tape or Glue
- Scissors

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6. Glue the eyes and pupils of the bat on each side of the face (see picture below).
7. Pick up your straw and cut two vertical slices down opposite sides (about ½” deep).



8. Insert the middle of the body of the bat into the cut portion of your straw. Staple or tape the straw to each side of the bat. We used tape so that you can see each step of the directions. Staples will be less visible. If you are using a wooden dowel or other round object that cannot be cut, be sure to insert the item into the bat's body before taping the body together.



9. Grab the two flappers that were cut out in step #3. Place the top of the flapper (identified by the dashed line on the template) at about the center of each side of the bat's wings. Staple or tape the flapper to the bat's wing. Do not fold the flapper. You want it to remain stiff so that it can move the bat's wings.

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10. Laying the bat down so that the wings are straight up, place the bottom of the flappers on each side of the straw. You will tape the sides of the two flapper together, but do not tape the flappers to the straw. That's it! The taped flappers should move freely up and down the straw. This will make your bat's wings flap!



Flap your wings to show your support for these amazing fliers!



# Flap Your Wings for Bats Template

