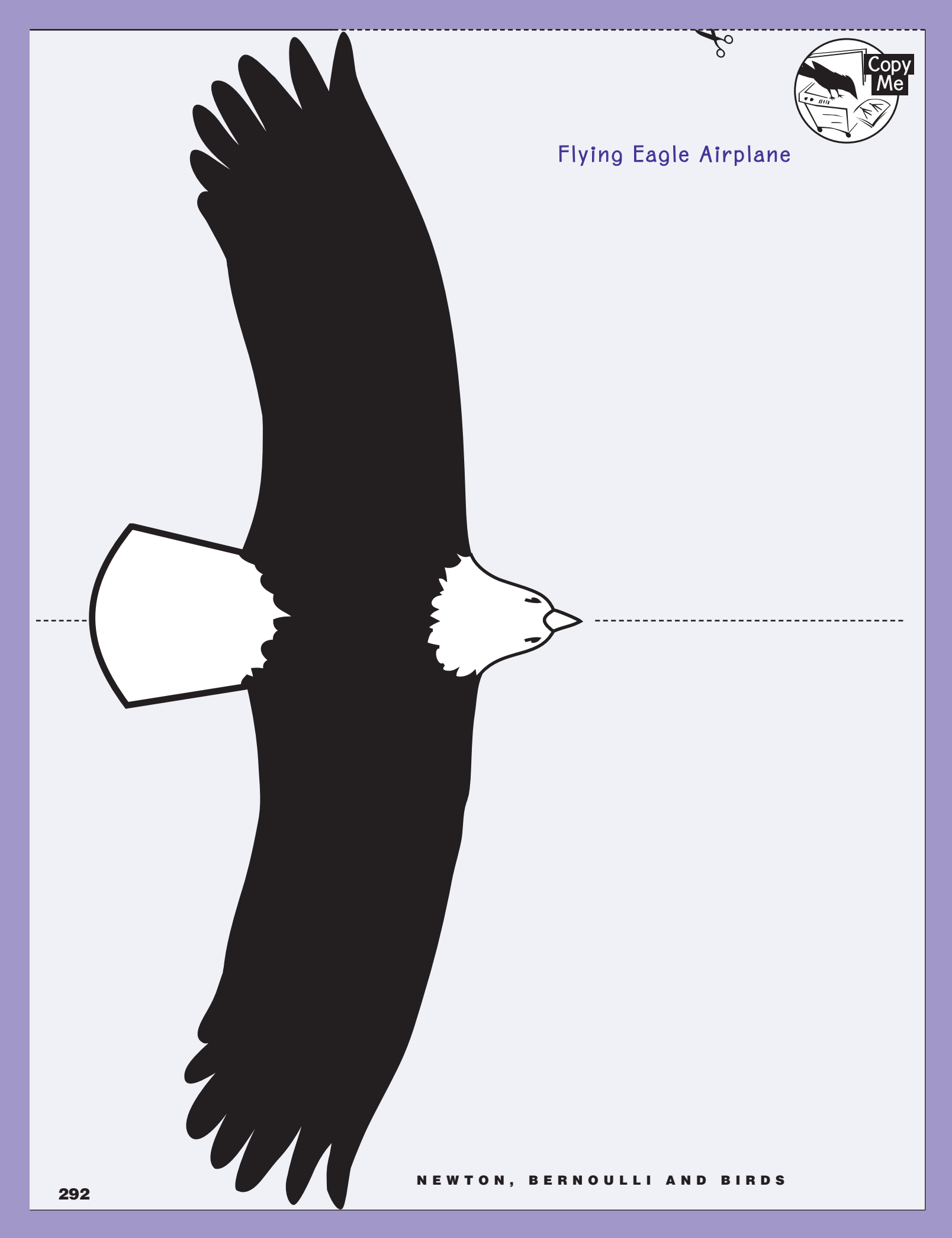
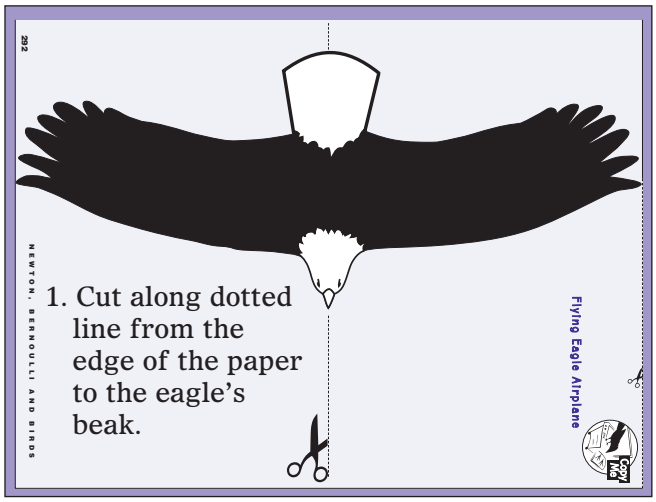
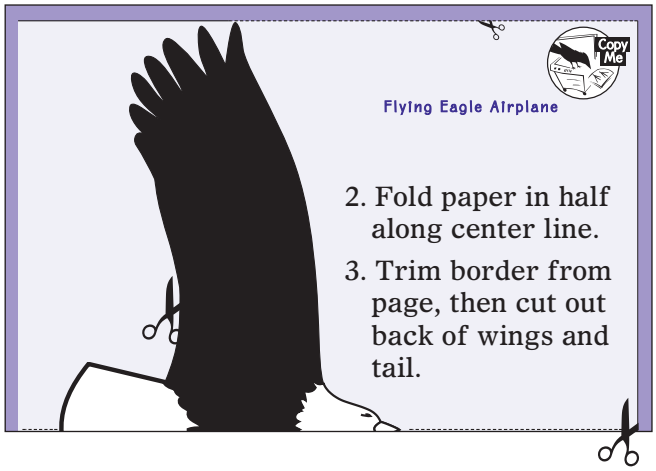
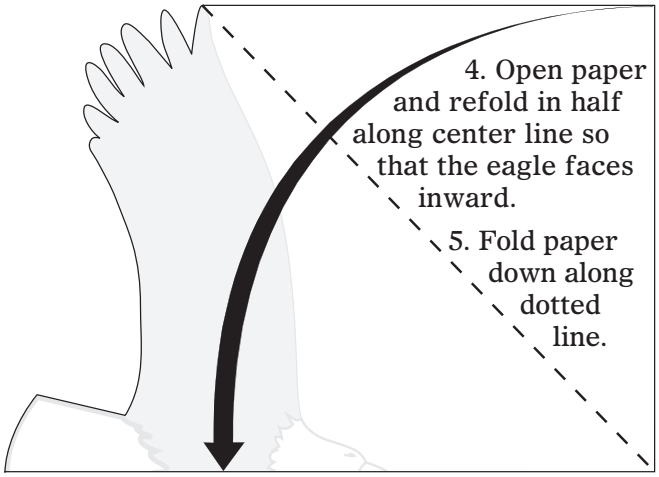


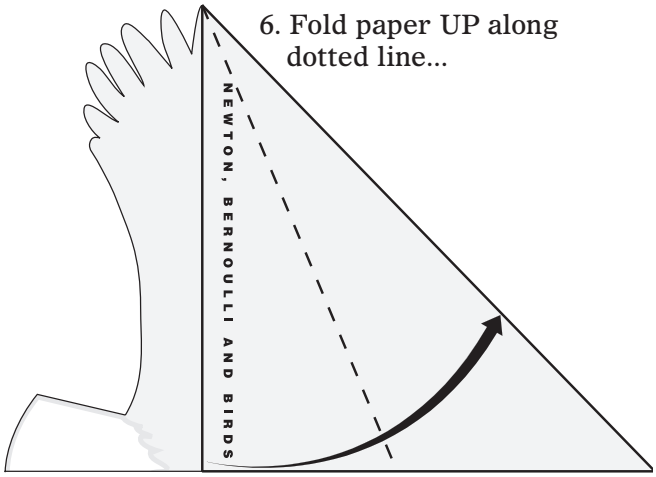
Flying Eagle Airplane

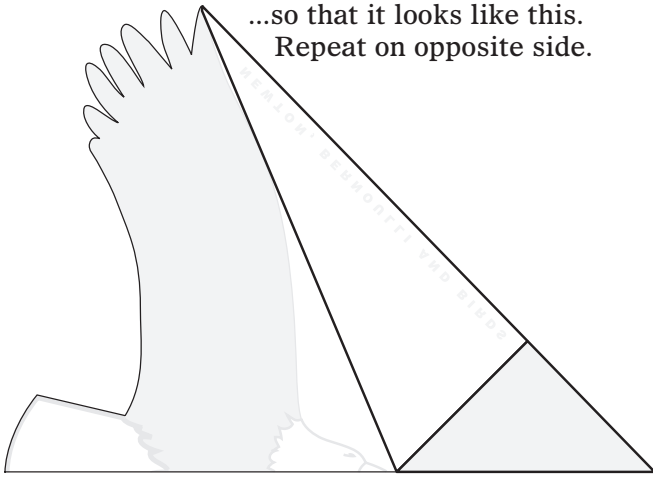
Flying Eagle Airplane Instructions

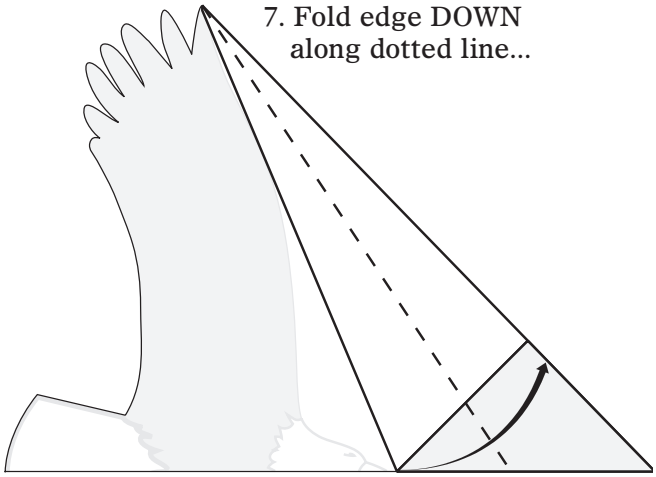




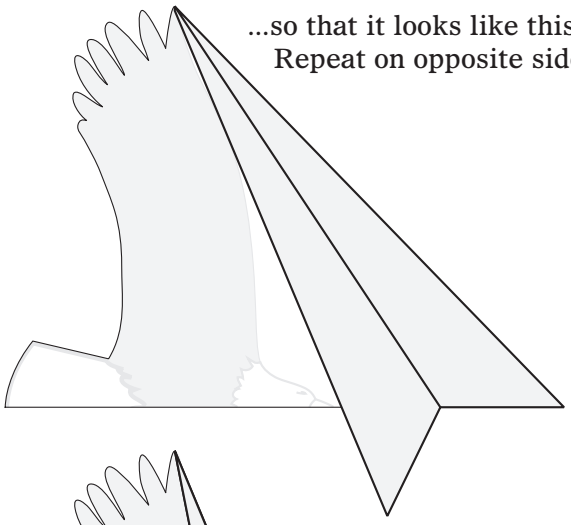








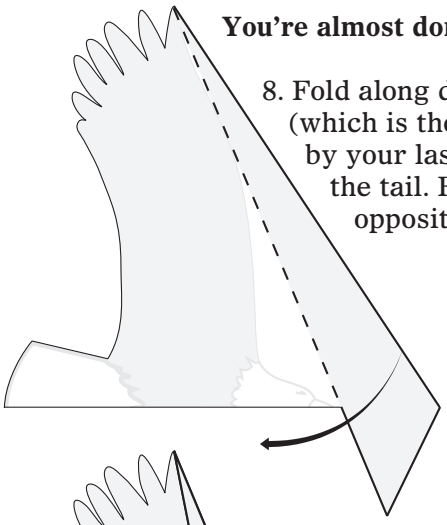
Flying Eagle Airplane Instructions

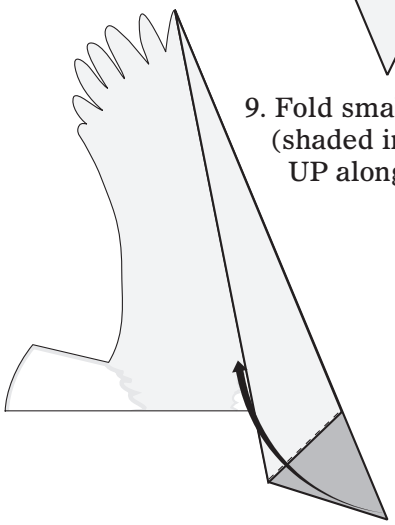


...so that it looks like this. Repeat on opposite side.

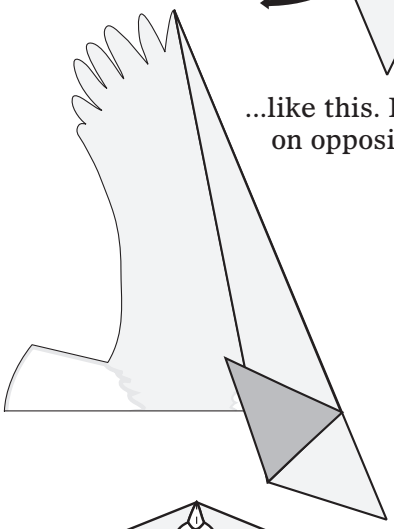
You're almost done!

8. Fold along dotted line (which is the edge created by your last fold), toward the tail. Repeat on opposite side.



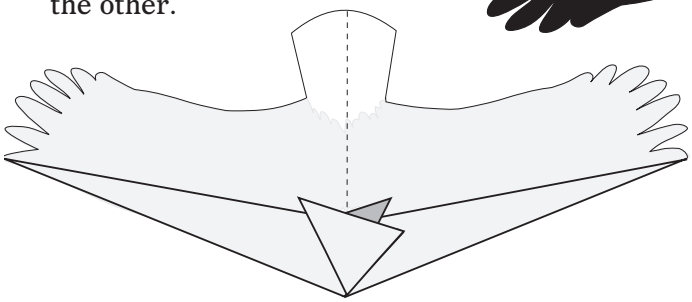


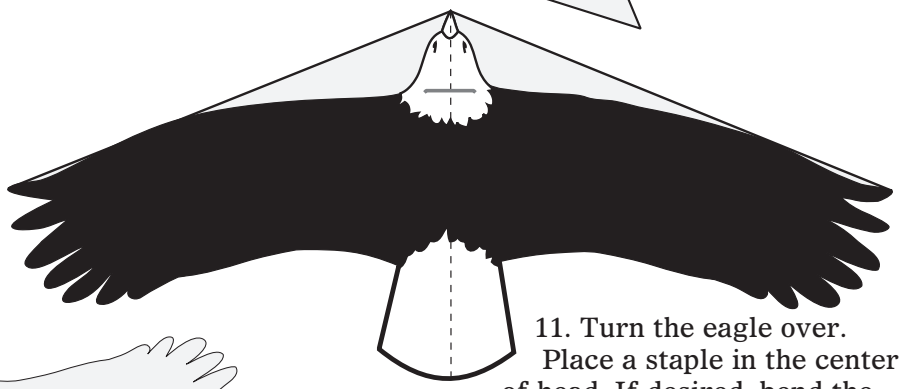
9. Fold small tab (shaded in diagram) UP along dotted line.



...like this. Repeat on opposite side.

10. Turn eagle upside down and open along center line. One folded tab should naturally lie underneath the other.





11. Turn the eagle over. Place a staple in the center of head. If desired, bend the staple slightly at the center fold (this will give the eagle a slight "v" shape when viewed head on).

12. Adjust wings; hold tail between thumb and forefinger; give a gentle push and watch the eagle fly!

This procedure has been developed from "Eagle Airbirds" an activity by Al Parker of the Indiana Department of Natural Resources, adapted with permission from Dr. Edmond Hui's "Paperang" design. Visit Dr. Hui's website *www.paperang.com* for more information on the Paperang.

Newton, Bernoulli and Birds

What Did You Learn?

1. What does Newton's Third Law state? What is Bernoulli's Principle?

2. Explain how adjustments made to the wings of the Flying Eagle Airplane affected the speed and gliding time.

3. The size and shape of different birds' wings vary greatly. In addition to creating lift, for what specialized purposes do birds use their wings when they fly?

Wanted: Your Feedback

1. How effective was the How an Airfoil Works diagram? Was this effective in helping participants understand Newton's Third Law and Bernoulli's Principle?

2. What would you change about this activity?

3. What new information did participants learn?

Question for Reflection

1. The size and shape of different birds' wings vary greatly. In addition to flight, for what specialized purposes do birds use their wings?
2. Compare a hawk and a hummingbird. How do the shapes of their wings vary according to the purposes they serve?
3. Do you think insects and flying mammals have wing designs similar to birds'?