

Organization Name: Society of Elementary Presidential Awardees (SEPA)

Activity Name: Flight!



Activity Description:

Participants will assemble (and fly) airplanes and helicopters made from one of these materials: balsa wood, foam egg cartons, or paper.

When flying the airplanes, students will be asked to measure the distance the plane goes and carefully describe its flight path. Next, students will be able to modify their planes using a variety of materials including paper clips and compare what happens to the plane's flight path and flying distance with these new adjustments to the front, back, and wings of their plane.

To make an airplane, use the top of a foam egg carton and the pattern at this website and a penny. The penny is used to "weight" the front of the plane like the paper clip on a paper airplane.

Suggested Grade Level / Age Range: 5 years to Adult

Science Content Covered: Force & Motion, Bernoulli's law

Time needed to complete the activity: 5 minutes

Materials required (per student): Paper Pattern for planes or helicopters, balsa airplane pieces, foam egg cartons, tape measure.

Questions to Consider During the Investigation:

- How far did your airplane go?
- What might you change to make it fly a longer distance?
- Do the materials you use to make your airplane have an effect on distance flown?
- What shape do you think works best and why?

Activity Success Tips for Parents and Teachers: Inquiry investigations about flight are easy and fun for families to do together. You will be amazed at what principles of flight you can learn from simple paper airplanes. By observing the height, distance, and direction of your student's plane flight and encouraging them to carefully adjust their plane and observe flight changes based on those changes they'll be honing their observation skills

Insert Any Images / Photos / Drawings needed to help describe or explain the activity:

1. Fold a sheet of paper in half lengthwise. Unfold so that the crease is 'valley' side up.
2. Fold the top corners down to the center fold.
3. Fold the top down.
4. Fold about one inch of the top up, unfold.
5. Fold the top corners down to the center fold so that the corners meet above the fold in the top. (Note that the top—the nose of the plane—should be blunt.)
6. Fold the top up. This is the tail.
7. Fold the entire plane in half so that the top is on the outside.
8. Fold the wings down. Trim and fly!

Possible follow-up, extension activities or ideas for children and parents to explore: You may want to check out the following URLs to learn more about flight and try out at www.avkids.com and www.nasa.gov

Safety comments: Make sure flying objects are not thrown toward people.

If your activity should be credited to any specific source or citation - indicate that here:

The plans for the foam egg carton airplane are by Paul Billings at the Academy of Model Aeronautics at this link:

<http://www.modelaircraft.org/education/priceless.aspx>

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