

WHAT ARE WE INVESTIGATING?

How can you make your paper airplane fly the farthest?

MATERIALS:

- Different types of paper (computer, construction paper, cardstock, etc.)
- Tape
- Coins
- Paper Clips
- Strive Academy's Engineering Design Process Handout (found at www.striveacademy.org)
- Pencil or Pen

EXTENSION:

- * Google different types of paper airplanes such as The Basic, The Sprinter, and The Buzz. Try to make these airplanes.
- * After you have made the airplanes listed above, write down what makes each of them a good paper airplane.



Paper Airplane Challenge



DIRECTIONS:

1. Gather all your materials. Our materials are just suggestions - feel free to add other things too!
2. On your handout (found at www.striveacademy.org), fill in the title of your experiment (Paper Airplane Challenge).
3. On your handout, fill in your hypothesis. You want to answer the question: What will make my airplane fly the farthest (type of paper, adding weight, folding, etc.)?
4. On your handout, draw a design of what your original paper airplane will look like. This paper airplane will only be made out of a piece of paper - no extras!
5. Make your original paper airplane.
6. Make a starting line on the floor (you can use a piece of tape or an object). Fly your paper airplane. Measure how far it flew from the starting line to where it landed. You can use a tape measure, ruler, or just count with your feet to measure. Just keep the measurements consistent.
7. Under "Data Collection/Observation", record the distance that your plane flew.
8. Repeat steps #6 and 7 two more times for your original airplane.
9. Now, add a variable to your airplane. You can make a new one from a different type of paper, add weight to your original airplane using paper clips or coins, or make more folds.
10. Repeat steps 6-8 with your new airplane. Feel free to add even more changes and repeat these steps as many times as you want.
11. Under "Results", write which airplane flew the farthest distance and which one flew the least farthest distance.
12. Answer the "Analysis" questions on your handout:
 - What changes did you make to your original airplane?
 - How did your changes affect the flight of your airplane?
 - If you were to design your paper airplane again, what changes would you make so it would fly farther?

**** Try the extension activities on the first page for more fun! ****