

CONNECTIONS TO SCIENCE GUIDES

GEORGIA YOUTH SCIENCE & TECHNOLOGY CENTERS, INC.

AFTER THE FALL

BY: DON SANTAT

CAN'T FIND THE BOOK?
READ-ALOUDS ARE AVAILABLE
ON YOUTUBE.



ASK

- What is something you are afraid of? How could you conquer that fear?
- What attributes of a paper plane allow it to fly well?
- Does the amount of force you need to launch your paper airplane affect the distance it flies? The mass?
- Have you ever thought about being an aerospace engineer?

EXPLORE

PAPER AIRPLANE: DYNAMIC DART

Materials:

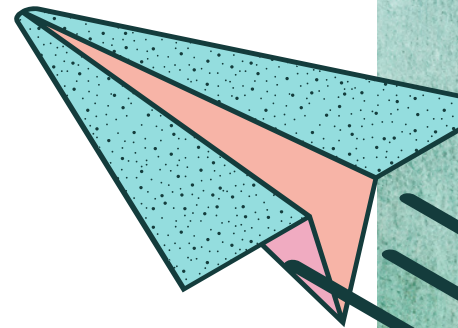
- Different types of paper
- Tape measure or yard stick

Directions:

- Fold your piece of paper in half along the long side.
- Unfold the paper, then fold the top corners into the center crease.
- Fold the top edges to the center crease.
- Fold the airplane in half.
- Fold the wings of the airplane down to meet the bottom edge of the airplane's body.
- Test your paper airplane. Record the distance it flew.
- Repeat for the other types of paper.
- After you have tested all your airplanes, think about:
 - What paper airplane flew the furthest? Why do you think that is?
 - How are force and mass related?

Fun Facts:

- The longest distance flown by a paper airplane is 226 feet, 10 inches.
- Force is measured in Newtons, named after Sir Isaac Newton.



EXPLAIN

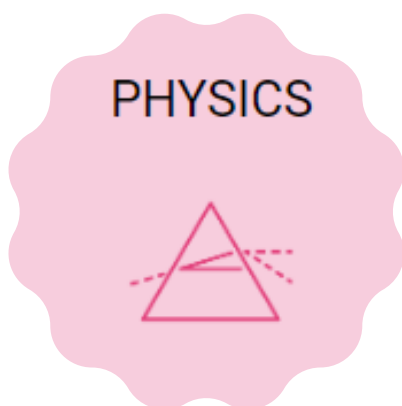
FORCE AND MOTION

A force is a push or pull on an object and can make things move. Newton's Second Law of Motion states that the greater the mass of an object, the more force it will take to accelerate the object or $F = ma$. For example, the harder you kick a ball, the farther it will go.



EXTEND

PHET PROJECTILE MOTION SIMULATION



Determine how each parameter (initial height, initial angle, initial speed, mass, diameter, and altitude) affects the trajectory of an object, with and without air resistance.

www.phet.colorado.edu

STEM CAREER

AEROSPACE ENGINEER

An aerospace engineer designs, develops, and tests aircraft, spacecraft, and missiles. They also develop new technologies for use in aviation, defense systems, and space exploration. If you are interested in designing air or spacecraft, being an aerospace engineer might be for you!



BACKGROUND

The Georgia Youth Science and Technology Centers, Inc. provides quality programs for teachers of STEM subjects that improve the teaching and learning process at the kindergarten through eighth grade levels. We present programs that change students' perceptions and inspire an appreciation for science, technology, engineering, and mathematics subjects.

ABOUT US

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