

Air Pressure and Lift

Developed by: Linda Fenton

Discipline / Subject: Science

Topic: Aviation

Grade Level: 3, 4, 5

Resources / References / Materials Teacher Needs:

2 Ping Pong Balls
2 8-Inch pieces of string
Tape
Straw
1 in x 11 in strips of paper
Activity Sheet

Lesson Summary:

Students will learn how faster moving air helps with lift.

Standard's Addressed: (Local, State, or National)
Common Core Standards Science (Draft) – Interaction of Forces

- a. Investigate the motion of objects to determine observable and measurable patterns to predict future motions.
- b. Investigate the motion of objects by comparing the relative sizes and direction of forces on an object at rest to the forces on an object whose motion is changing.

Learning Objectives:

1. Learn the very basic theory of air pressure.
2. Discover how the movement of air causes air pressure to create lift.

Method of assessment for learning

Teacher observation.
Activity sheet.

Procedural Activities**Activity One (I usually do this as whole class)**

1. Tape ping pong balls to the string and tape the string to a table so the balls hang at the same height.
2. Predict what will happen when air is blown through the ping pong balls.
3. Using a straw, blow between the ping pong balls.
4. Record observations.

Activity Two

5. Take a strip of paper 2 inches x 11 inches.
6. Predict what will happen if you hold the strip of paper under your lip and blow.
7. Hold the strip between thumb and pointer finger and place it on chin just under the bottom lip.
8. Blow.

Materials Students Need:

Strip of paper 1" x 11"

Technology Utilized to Enhance Learning:**Other Information:**

Students will be surprised to discover that the ping pong balls will move toward each other, not away. Same with the strip of paper, it should rise.

Lesson Plan modified from Experimental Aircraft Association (EAA) education curriculum.

Modifications for Special Learners/ Enrichment Opportunities:

All students should be able to participate in this activity.

Data Collection

Air Pressure and Lift

Name _____ Date _____

Ping Pong Balls Prediction	Ping Pong Balls Observation
Strip of Paper Prediction	Strip of Paper Observation

1. What surprised you most about your observations?

2. Explain why this happened.