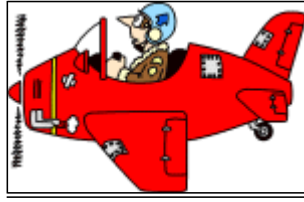


## ACTS SCIENCE Schedule

### Motion/Flight Unit



Resources Used for Motion/Flight Unit:

All About Aircraft and Flight by Peter Mellett & John Rostron

**\*\*Parents---** *Mellot & Rostron's book will be available on a lending basis from Mrs. Pierson's science library.*

#### **Week #1** Forces and Motion (assignment is from the handouts labeled week #1) 9/12

Prior to class,

Read: p1 'Newton's Laws of Motion' (front & back of page) & page 2 'Pushing and Pulling'

Complete: Homework sheet week #1

**Recommended Website Activity:**

<http://teachertech.rice.edu/Participants/louviere/Newton/law1.html>

The above website is an animation of examples of Newton's laws. This is an excellent follow up to the handouts on Newton's laws.

[http://www.walter-fendt.de/html5/phen/newtoncradle\\_en.htm](http://www.walter-fendt.de/html5/phen/newtoncradle_en.htm)

A Newton's cradle shows the laws of motion very well

Classtime: Experiments will focus on Newton's laws of motion using balloons, matchbox cars and water bottle rockets

#### **Week #2** What is Flight? Curve and Lift, history of Flight, Bernoulli's principle 9/19

Reading for the remainder of the unit is from All About Aircraft and Flight

Prior to class,

Read: p4-7 on flight, curve and lift & p58-59 on the history of flight

Complete: Homework sheet week #2

**Website suggestion:** <https://www.youtube.com/watch?v=QggNdV9TmvA> How do planes fly? National Geographic kids

<https://www.youtube.com/watch?v=bv3m57u6ViE> Good explanation of Bernoulli's principle

Classtime: Motion & flight projects, Bernoulli's principle

#### **Week #3** Air Resistance, Gliding and Soaring, Kites and Sails

9/26 Prior to class, Read: p10-11, 14-17

Optional: Make a kite p18,19 as an extra at-home project.

Website suggestion: <https://www.youtube.com/watch?v=AiTk5r-4coc>

Youtube video of the inner workings of an airplane

Complete: Homework sheet week #3

Classtime: we will complete 'streamlining and shape' p12,13 & students will be launching parachute men to demonstrate the concept of 'drag'. Students will be flying model airplanes such as those made on p 28,29.

## Week #4 of flight

10/3

Lighter than air, What's in a wing, Taking flight, propellers

Prior to class, Read: p20,21,24-27, 30, 31, 34- 37, 46, 47

Complete: Homework sheet week #4

Website suggestion: <https://www.youtube.com/watch?v=pQ24NtnaLI8>

Animation of flight terms and how they turn an airplane

In preparation for next week's reading, we will be launching rockets

Optional: Read p48,49, 52-55 Make a propeller model p32,33 & a turbine on p 36,37

Optional: Complete 'how birds fly' activity p50,51

Parental Caution: 'Prehistoric Flyers' p56,57 contains evolutionary material.

Classtime: hot air balloon model demonstration p22,23

Airplane propellers

## Week #5 of flight

10/10

Propellers, jet engines, rockets and flying through space

Prior to class, Read: p30,31,34,35,46,47

Complete: homework sheet week #5

Optional: Make a propeller model p32,33 & make a turbine on p36, 37

Read p38-43 and complete activity on p44,45 'speeding through water' Read p 60,61 'Fly into the Future'

Parental caution: note the evolutionary reference to the age of birds in the first sentence p60.

Classtime: Projects focusing on today's reading

