Revised 8/06/02

PAPER AIRPLANES

What Makes An Airplane Fly?

Topic Hot List

Introduction: This is a collection of Internet sites for teachers and students exploring the forces of flight and the design process to create an aircraft (paper airplane).

Just Plane Fun
http://www.sonywonder.com/wonderland/sandbox/justplane/index.html

Air Force Link Jr.
http://www.af.mil/aflinkjr/

Jline Paper Airplanes
http://www.freehomepages.com/jline/

CBC 4 Kids: Laboratory – Flights of Fancy
http://www.cbc4kids.ca/general/the-lab/default.html

Nasa Explores
http://www.nasaexplores.com/browse_topics.html

Air Breathing Rockets
http://www.nasaexplores.com/lessons/01-047/k-4_index.html (teacher/student)
http://www.nasaexplores.com/lessons/01-047/5-8_index.html (teacher/student)

Souped-Up Shuttle Engine
http://www.nasaexplores.com/lessons/01-087/k-4_index.html (teacher/student)
http://www.nasaexplores.com/lessons/01-087/5-8_index.html (teacher/student)

Paper Rockets
http://nasaexplores.com/lessons/01-087/5-8_1-t.html (teacher)
http://nasaexplores.com/lessons/01-087/5-8_1.html (student)

Where's My Flying Car
Rotor Motor
http://www.nasaexplores.com/lessons/01-003/k-4_index.html (teacher/student)

The "Queen" of Outer Space
http://www.nasaexplores.com/lessons/01-008/k-4_index.html (teacher/student)

Revised 8/06/02

The Four Forces of Flight
http://www.nasaexplores.com/lessons/01-083/k-4_index.html

Aviation for Little Folks

http://spacelink.nasa.gov/Instructional.Materials/On-line.Educational.Activities/Aviation/index.html

How Things Fly
http://www.aero.hq.nasa.gov/edu/4forces.html

Centennial of Flight: Rediscovering the Challenges of Flight
http://quest.nasa.gov/projects/aero/centennial/

Educator Resources
http://quest.nasa.gov/projects/aero/centennial/ed.html#wright
http://quest.nasa.gov/projects/aero/centennial/wrightflyer.html (teacher)
http://quest.nasa.gov/projects/aero/centennial/problem.html
http://quest.nasa.gov/aero/planetary/atmospheric/forces.html

Flight Direction: Folding A Simple Airplane
http://connect.larc.nasa.gov/pdf/flightd.pdf (Flight Direction: Educators Guide)
http://edu.larc.nasa.gov/fdprint/a9.html

Paper Glider Kit The X-1Paper Glider Kit
http://spacelink.nasa.gov/Instructional.Materials/NASA.Educational.Products/X1.Paper.Glider.Kit/X1.Paper.Glider.Kit.pdf (educators guide)

Folding a Jet Airplane
http://www.grc.nasa.gov/WWW/K-12/TRC/Aeronautics/AeronauticActivitiesHome2.htm
http://www.grc.nasa.gov/WWW/K-12/Summer_Training/Elementary97/IsAirSomething.html
http://www.grc.nasa.gov/WWW/K-12/WindTunnel/Activities/foldairplane.html

Ken's Paper Airplanes
http://www.paperplane.org

Make your Own Planes
http://www.phoenix.gov/AVIATION/kids/airplanes.html

Note to Educator/Parents: A Topic Hotlist is an organized list of web resources centered on a theme or topic. This collection of Internet sites has information answering the question— ***What makes an airplane fly?*** It is designed for teachers who will use the resources to design and develop a unit of study on force, types of force and how objects behave under the influence of force. Kindergarten through second grade will require help, as accessibility of the sites will not be appropriate for the developmental level of the learner. The learners in grades three to five

should work cooperatively in groups to research the forces of flight. All students will demonstrate learning outcomes through various activities as they construct and fly their own paper airplanes. Students will learn about the parts of the airplane and what makes it fly as they create paper models and measure the distance and duration of the flight of their models. Using different paper airplane designs, student can chart the flight of each model observing which model will fly the greatest distance and why.

Curriculum Standards: This Topic Hotlist partially fulfills the following national standards from the National Science Education Standards, *National Science Teachers Association (NSTA)*, and the National Council of Teachers of Mathematics (NCTN)

Science Content Standards, Grades K – 4

A. Science as Inquiry
- Abilities necessary to do scientific inquiry
- Understanding about scientific inquiry

B. Physical Science
- Properties of objects and materials
- Position of motion of objects

E. Science and Technology
- Abilities of technological design
- Understanding about science and technology

Mathematics Content Standards K – 4

- **Algebra**

  Understand patterns, relations, and functions

  Represent and analyze patterns and functions, using words, tables, and graphs

- **Measurement**

  Understand measurable attributes of objects and the units, systems, and processes of measurement