



Educator Viewing Guide



Flight Adventures (2012)

30 minutes

Discover the science of flight through the eyes of a young girl and her grandfather as they explore how birds, kites, planes and models fly. Learn about the history and future plans of flight and how NASA is discovering new and safer ways to travel with the help of future engineers and aviators - like YOU!

Topics covered:

History of flight, science of flight (aeronautics), astronomy, space flight

Interdisciplinary connections: history

Key Terms and Concepts:

Aeronautics, Atmosphere, Drag, Force, Gravity, Lift, Matter, Motion, Thrust

Combine with these KidSpace Activities:

Engineering Lab

Discover the six simple machines and other engineering principles used in designing spacecraft while operating wheels, levers, pulleys, and more.

Launch Lab

Learn the force needed to send rockets into the air. Take aim with our stomp rockets while investigating science concepts: rocket design, force, gravity, altitude, resistance, and more.

PlaySpace!

Science begins with imagination. The space-themed playground offers many opportunities for space-themed play, space-related discoveries, and demonstrations of science concepts: gravity, friction, force, laws of motion, and more.



Learning Resources and Activities:

Create learning units designed around a visit to KidSpace! These web resources and activities are designed to illustrate concepts and ideas presented in the show. Many of these can be adapted to various age groups.

Flight Adventures Educator's Guide; Children's Museum of Indianapolis and NASA

This educator's guide is a comprehensive resource on the science of flight. Contains background information and three lessons with activities: *Moving Through Air: Weight and Lift*, *Moving Through Air: Thrust and Drag*, and *Moving Through Air: Control*. Includes links to additional resources, teaching tips, assessment techniques, and national science standards.

<http://www.glastonburyplanetarium.org/show-catalog/flight-adventures>

Beginner's Guide to Aerodynamics; NASA Glenn Research Center

This site offers several links to classroom lessons and activities designed for all ages. Includes *Beginner's Guide to Aerodynamics*, *Kid's Page (for young children)*, *Re-living the Wright Way*, *Beginner's Guide to Propulsion*, *Aerodynamics of Baseball*, *Aerodynamics of Soccer*, *Beginner's Guide to Model Rockets*, *Water Rockets*, *Beginner's Guide to Kites*, *Beginner's Guide to Wind Tunnels*, and more.

<https://www.grc.nasa.gov/www/k-12/airplane/>

National Science Week Flight Special; The Surfing Scientist; Australian Broadcasting Company

This site contains teacher notes and links to several activities about flight. Includes *Paper Helicopters*, *Rotocopters*, *Tumblewing Gliders*, *Teabag Rockets*, and *Film Can Rockets*.

<http://www.abc.net.au/science/surfingscientist/scienceweek2009/>

Adventures in Rocket Science Educational Guide; NASA

This educator guide is a comprehensive resource for teaching rocketry using principles in physical science. Includes background information, history of rockets, glossary, science standards, and several activities for all ages. Activities include *Magic Marbles*, *Shuttle Drag Parachute*, *Paper Rockets*, *Newton Car*, *Pop Can Hero Engine*, *Balloon Staging*, *Water Bottle Rocket Assembly*, *Egg Drop Lander*, *Altitude Tracking*, and more.

https://www.nasa.gov/pdf/265386main_Adventures_In_Rocket_Science.pdf

NASA Space Place: Classroom Activities; NASA

This resource contains several space-related activities for the classroom. Must scroll down to find link to downloadable PDF of activity. Related activities include: *Dampen That Drift*, *Rising Above the Problem*, *Launch a Frisbee into Orbit*, *Navigating by Good Gyration*, *From Smoke Signals to Cell Phones: Tracing how technologies evolve*, *Two Approaches to Formation Flying* and more.

<https://spaceplace.nasa.gov/classroom-activities/en/>

This show covers content that addresses Colorado Academic Standard in Science (Physical Science and Earth Systems Science). See [Planetarium Show Academic Standard Chart](#) for details by grade.