Describing Motion Lessons

Websites

DESIGNit BUILDit FIDGIT
This fun, interactive site challenges children to use physics and engineering principles to create paths that little Fidgit creatures can bounce and roll through to get to their destination.
(http://pbskids.org/designsquad/games/fidgit/index.html)

Laws of Motion – Kids Science Videos, Games and Lessons that Make Learning Fun and Easy
This website offers a variety of video clips about different aspects of motion.
(http://www.neok12.com/Laws-of-Motion.htm)

Matter and Motion: Roller Coaster Design
Where do you feel the most g's on a roller coaster? In this video clip, children can observe the use of a measuring device called an accelerometer to find out which part of simulator roller coaster gave the participants the most g-forces.
(http://pbskids.org/dragonflytv/show/rollercoasterdesign.html)

Matter and Motion – Waterslides
Children learn more about the motion associated with soggy, waterslide thrill rides on the video clip found on this website.
(http://pbskids.org/dragonflytv/show/waterslides.html)

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Books

Eyewitness: Force and Motion
By Peter Lafferty. (1999, Dorling Kindersley)
Focuses on contemporary and historical developments in the study of forces that set the world in motion, including what they are and how they can be harnessed by machines. Includes black and white and color photos, charts, graphics, and three dimensional models.

Forces and Movement (Making Sense of Science)
By Peter Riley. (2008, Franklin Watts Ltd.)
Discusses many of the concepts introduced in the Motion Unit and presents experiments to show how they work. A good reference book to keep in the Science Center throughout the unit.

Isaac Newton and Gravity (Science Discoveries)
By Steve Parker. (1994, Chelsea House)
A brief, but substantive, scientific biography. Explains the three laws of motion, and includes a glossary. Written for higher grades, but appropriate as a reference.

** The animation and paper airplane books mentioned here are just a sampling of the numerous books of this type available in libraries and bookstores. For classroom experimentation, any book of this kind will work.

Animation: How to Draw Your Own Flipbooks, and Other Fun Ways to Make Cartoons Move
By Patrick Jenkins. (1991, Addison Wesley)
Originally published as Flipbook Animation, by Kids Can Press. Includes instructions for creating drawings that give the illusion of various kinds of movement and special effects. Also describes several early motion picture devices.

Cartoons and Animation
By Ivan Bulloch, Shona Hynes, and Jeffrey Lewis; illustrated by
Peter Bull. (2002, Franklin Watts Ltd.)
Provides information about different kinds of cartoons and how to create them, including a simple look at the process of animation and a section on flipbooks.

Making "Movies" Without a Camera: Inexpensive Fun with Flipbooks and Other Animation Gadgets
By Lafe Locke. (1992, Betterway Books)
Demonstrates how to create animation without a camera and provides instructions for making flipbooks and other animation devices.

The Paper Airplane Book
By Seymour Simon; illustrated by Byron Barton. (1976, Puffin)
Highlights principles of flight and airplane design through entertaining experiments with paper airplanes. Includes directions for several paper airplane models. Too text-dense and difficult for most first graders to read or understand independently, but a great resource if you want to help students experiment with motion using paper airplanes.

Super Simple Paper Airplanes
By Nick Robinson. (2009, Sterling)
Features directions for 40 types of paper airplanes, from simple to very sophisticated, based on origami folding techniques. Most first graders will need help following the directions and diagrams.

The World's Greatest Paper Airplane and Toy Book
By Keith Laux. (1987, McGraw Hill)
Features directions for numerous different paper airplane models, as well as other paper creations. Aimed at a slightly younger audience than most other paper airplane books.