



## Changing Motion Lessons

### Websites

#### [Pushes and Pulls](#)

This interactive website designed for younger students demonstrates the effect of different strengths of pushes and pulls on an object.

( [http://www.bbc.co.uk/schools/scienceclips/ages/5\\_6/pushes\\_pulls.shtml](http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml) )

#### [Forces and Movement](#)

An interactive track on which younger children can explore how mass, strength of force, and slope affect the motion of an object.

( [http://www.bbc.co.uk/schools/scienceclips/ages/6\\_7/forces\\_movement.shtml](http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml) )

#### [FETCH! Move it or Luge It!](#)

This fun, interactive game challenges students to apply their knowledge of pushes and friction to propel a luge down the track. The goal of this game is to have the fastest time.

( <http://pbskids.org/fetch/games/luge/game.html> )

#### [Design a Roller Coaster](#)

On this website, students build a conceptual roller coaster using the physics concepts that are used to design real coasters such as the height of the first hill, the shape of the first hill, the exit path, the height of the second hill, and the loop. This reading level at this site is more appropriate for upper elementary students.

( <http://www.learner.org/interactives/parkphysics/coaster/> )

#### [Digger and the Gang: Stuck on the Tracks](#)

This wonderful, interactive website challenges children to make a roller coaster car move by applying a push or a pull, or by changing the surface of the track to overcome friction.

( [http://www.bbc.co.uk/schools/digger/7\\_9entry/7.shtml](http://www.bbc.co.uk/schools/digger/7_9entry/7.shtml) )



### [Amusement Park Physics](#)

How do physics laws affect amusement park ride design? On this website, students will have a chance to find out by designing their own roller coaster. They can also experiment with bumper car collisions.

( <http://www.learner.org/interactives/parkphysics/> )

### [Roller Coaster Simulation](#)

This simulator is designed for people who want to design their own thrilling coaster and educators who want to use a cool activity to simulate the application of physics by using an exciting interactive tool and access to a wonderful reference source.

( <http://www.funderstanding.com/coaster> )

### [Forces in 1 Dimension – Force, Motion, Friction](#)

Children can explore the forces at work when they try to push a filing cabinet on this interactive website. Charts show the forces, position, velocity, and acceleration vs. time.

( <http://phet.colorado.edu/en/simulation/forces-1d> )

### [The Ramp](#)

Children explore forces, energy and work as they push household objects up and down a ramp on this interactive website. They can lower and raise the ramp to see how the angle of inclination affects the parallel forces acting on the file cabinet.

( <http://phet.colorado.edu/en/simulation/the-ramp> )

### [Forces in Action – Motion & Resistance](#)

On this website, children learn about forces in action as they experiment how gradients, weights, motion and resistance affect the movement of various objects with this fun science activity.

( <http://www.sciencekids.co.nz/gamesactivities/forcesinaction.html> )



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### Books

#### **What Makes Things Move? (First Science Book Series)**

By Althea; illustrated by Robina Green. (1990, Troll Associates)

Discusses how both living and non-living things move or are moved.

#### **Why Doesn't the Earth Fall Up? And Other Not Such Dumb Questions About Motion**

By Vicki Cobb; illustrated by Ted Enick. (1989, Dutton)

Answers nine questions about motion, explaining Newton's laws of motion, gravity, centrifugal force, and other principles of movement.