

## May the force be with you!



### Background knowledge

Gravity is a pull or force of attraction between two objects, and is a property of all matter. The more mass an object has, the bigger its attraction to another object. Earth is a huge object with a lot of mass. Everything on Earth is pulled towards its center. Our weight is caused by the pull of gravity. The more mass we have, the greater our response to the pull of gravity. Our weight is a force that is measured in units called Newtons (N). The force of gravity on one kilogram of mass equals about 10 Newtons. The force of gravity does not change on Earth. What changes is an object's response to the force. Prove this by dropping a heavy book and a light book from the same height. Since the force of gravity is the same on both objects, they will hit the ground at the same time.

### Science activity

Draw an arrow to show the direction of the force extending the spring.



What is the name of the force? \_\_\_\_\_

### Science investigation

What is your body's response to the pull of gravity? This value is your body's response to the pull of gravity. Who in your family has the greatest response to the pull of gravity? If you don't have Internet, use the following conversions: 1 kg = 2.2 pounds (lb); 1 kg = 10 N.

