



## Friction is a force

### Background knowledge

Friction is a force that slows things down. When two surfaces come in contact with one another, there is a frictional force. The amount of friction depends on a number of factors. Rougher surfaces create more friction than smooth surfaces. It is a lot easier to ride a bike on a newly paved road than on a dirt trail. The weight of an object pushing on the surface causes friction. The amount of surface in contact with another surface also affects the amount of friction. For example, wheels reduce the amount of surface contact.

### Science activity

Chai covered a ramp with different materials and measured how far a wooden block slid on each surface before coming to a halt. Here are her results.

Type of surface	How far the block slid after being pushed
sandpaper	50 cm
glass	500 cm
wood	100 cm
plastic	300 cm
cardboard	90 cm

Which is the smoothest surface, and which is the roughest surface?

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Explain how you worked out the answers to the question above.

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### Science investigation

Using a spring balance, test out the friction of various objects on a wooden ramp. Keep in mind that if you want to test the effect of different surfaces, the same object must be tested each time. Make sure to explain how you will use the spring balance to measure friction.

