

Key Vocabulary Overview	
forces	pushes or pulls that can make an object start or stop moving, change speed, change direction or change shape
contact forces	types of forces that occur between objects that are touching
push	a force that often moves an object further away
pull	a force that often moves an object closer
friction	a type of contact force, occurring between two touching surfaces that are trying to move or are already moving across each other

Force

Forces are **pushes** or **pulls**. They can make an object start or stop moving, change speed, change direction or change shape.



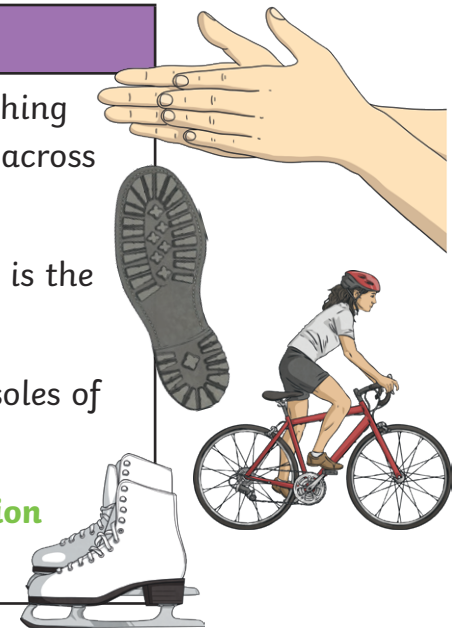
Friction

Friction is a type of **contact force**. It occurs between two touching surfaces that are either trying to move or are already moving across each other.

When you rub your hands together, you feel warmth. **Friction** is the **force** that is producing this heat.

Friction can be helpful. Bumpy surfaces, such as tyres or the soles of shoes, help to reduce the risk of slipping or skidding.

Sometimes, **friction** can be unhelpful. For example, more **friction** would make it harder for ice skates to glide on the ice.

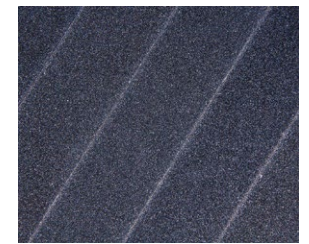


Key Vocabulary Overview	
smooth	describes a surface that feels and looks even
rough	describes a surface that feels and looks uneven
results	the information gathered in an investigation in order to answer an enquiry question
prediction	what you think might happen in an investigation, based on what you already know
data	information collected to answer a question

Smooth Surfaces

polished
marblelaminate
floor

Rough Surfaces

artificial
grass

sandpaper

Friction on Rough or Smooth Surfaces

The **rougher** the surface, the more **friction** that is produced. **Friction** is a **force** that makes it harder for objects to move, as it slows objects down. The **smoother** the surface, the less **friction** that is produced.

I **predict** that the **rough** surfaces will slow the car down because they are bumpy.

What effect does changing the surface of a ramp have on how far a car travels?

I could use a variety of **smooth** and **rough** surfaces to find out.

