

L.O: I can compare how things move on different surfaces



Have you ever walked
or run on an icy road?
What happened?

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Did you slip or fall over?

If so, why do you think this happened?

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The answer is – lack of friction!

Friction is a force between two different surfaces that slide against each other.

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The smoother the surface, the less friction there is. Ice is smooth so it's easier to slip!



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Rub your hands together. What do you feel?

Do your hands feel hot?

Rubbing your hands together creates heat.



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Have you noticed that car tyres have ridges in them? This means the tyres aren't smooth.

Friction is useful because it helps to stop cars from skidding all over the road.

Look at the bottom of your shoe.
What can you see?

If your shoes have a bumpy pattern on the sole, you are using friction! The pattern creates friction which helps stop you from slipping over.



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Have you ever played with a toy car which you pull back and then let go? Using one of these cars is a good way to explore friction on different surfaces.



Which of these surfaces would cause a **lot of friction** for a toy car and which would cause **little friction**?



sandpaper



bubble wrap



shiny wooden floor



ice



carpet

Lots of friction

Little friction

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Lots of friction
sandpaper
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carpet

Little friction
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Now it's time for an experiment!

You are going to investigate surfaces in your own home.

Get five different shoes with different soles. (A high heel? A trainer? A slipper?)

Push each shoe across the floor. Try and do it with the same strength each time!

Measure how far each shoe has travelled. Use a ruler or measuring tape. If you don't have these, place something on the floor to mark how far each shoe has travelled.

Record your results on the 'Science Task 7.1.21'. Include your measurements if you are able to measure the distances!

What have you learnt about the different surfaces of the soles?