

Y5 Friction

KS2 Y5 Science · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

What is friction?

Step 1 · When does it act?

When two surfaces rub or try to slide over each other

Step 2 · Which way does it act?

Against the movement

Step 3 · What does it do?

Slows things down, stops them, or stops them starting to slide

Answer: Friction is a force between surfaces that acts against movement.

Check: Rub your hands together fast — friction also makes them warm.

2. Now try one with the steps

Why does a toy car roll further on a wooden floor than on carpet?

Step 1 · Compare the surfaces

Step 2 · Which has more friction?

Step 3 · So...

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. What is the force between two surfaces that slows movement called?

2. Does a rough or a smooth surface have more friction?

3. In which direction does friction act?

4. Give ONE example of useful friction.

5. Give ONE example of friction being a nuisance.

6. Name a liquid used to reduce friction in a bike chain.

7. Why do football boots have studs?

8. When you rub your hands together quickly, how do they feel, and which force causes it?

9. Why do councils spread grit on icy roads?

10. A trainer needs 6 N to pull on carpet and 1 N on ice. How many more newtons on carpet?

11. In a friction test, a toy car rolls 120 cm on wood and 45 cm on carpet. How much further on wood in cm?

12. Name TWO things to keep the same when testing which surface has most friction for a toy car.

13. Why is it easier to move a heavy box on wheels than to slide it?

14. Explain why worn, smooth tyres are dangerous on a wet road.

4. Before you hand it in

Friction is always bad.

Friction is useful for grip and braking, and a nuisance when it wears things out.

Friction only happens when things are moving.

Friction acts whenever surfaces try to slide over each other.

Heavier objects slide further because they are stronger.

Test one change at a time and measure.

Smooth means no friction.

Say 'less friction' rather than 'no friction'.