KNOWLEDGE ORGANISER

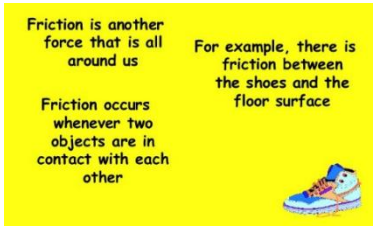
Science	FORCES	LKS2 – Year 3 & 4

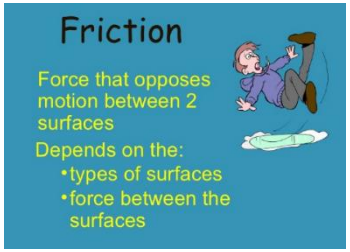
Cross curricular links

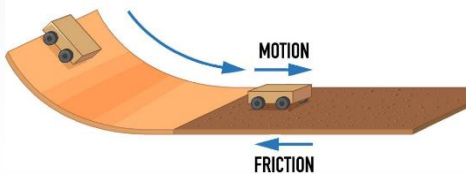
Maths: recording measurements / collecting data

Science: materials and their properties

Pictures/photos relevant to topic







Key skills

To investigate forces with practical investigations – fair and comparative testing.

To compare how different objects move on different surfaces.

To know that a friction force needs contact between two objects.

To ask relevant questions – forces / friction.

To use different types of scientific enquiries to answer questions.

To use straightforward scientific evidence to answer questions.

To use results to suggest improvements and raise further questions.

Key Vocabulary/definitions

Force: a push or a pull upon an object (resulting from an interaction with another object). It can cause a change in speed, direction and/or shape.

Movement: can be described as pushes or pulls / created by different forces.

Balanced forces: if two or more forces are equal but pull in opposite directions they will 'cancel each other out' and the object will remain still. **Unbalanced forces**: if two or more forces act on an object and are not in balance – the object will move.

Friction: is a force between two surfaces that are sliding, or trying to slide, across each other.

Key facts

- Forces are invisible but can be described by their effect eg make things **accelerate** / **decelerate** (begin to move more quickly / begin to move more slowly)
- Forces can be measured
- Some forces are caused by contact between objects and some act at a distance eg applied force and magnetism
- Common forces: applied force, friction, gravity, magnetism, air or water resistance

What is friction and how does it work? - BBC Bitesize

Try sliding over a wooden or laminate floor with socks and bare feet. You should find it's easier to slide with socks as there's less friction. What happens on a carpet?