

Magic, science or mystery? (KS 2) PREPARATION GUIDE

Welcome to the world of the science magician where nothing is quite as it seems. This is magic with a difference - the audience is encouraged to figure out the science behind the tricks.

Our shows are designed to work flexibly as introductions to a topic or to revise a topic depending on what approach teachers would like us to adopt with particular audiences. Teachers may wish to use this overview to help to prepare their classes before the show. Introducing or revising key vocabulary and concepts in advance of the show tends to increase the learning outcomes from the presentation.



Key concepts and vocabulary

- a **force** is another word for a push or pull;
- objects don't move until they feel an unbalanced push or a pull (this is called **inertia**);
- **friction** is the force between surfaces that rub against each other;
- **gravity** is the force that pulls all objects on Earth down towards the ground;
- all objects have a centre of gravity/**centre of weight** - the point where all the weight of the object can be assumed to act;
- objects that have their centre of gravity over the point at which they are in contact with the ground will be **balanced**;
- how we see objects depends both on the **light** entering our eye and on how our brain makes sense of the information it gets from the eye;
- shiny surfaces and mirrors **reflect** most of the light back towards the direction from which it came
- air is all around us pushing in all directions (**air pressure**);
- fast-moving air cannot push as hard in all directions as slow-moving air (fast-moving air has lower pressure);
- all **sounds** are produced by something vibrating or shaking;
- these vibrations or sound waves can travel through gases, liquids and solids;
- the greater the volume of air you can make vibrate, the louder the sound will appear to our ears;
- differences between **liquids and solids** - liquids can flow and take the shape of the container whilst solids keep their shape;
- heat can be **conducted** through some materials;
- the greater the area or the number of points holding your weight, the more comfortable it will be - your weight is spread over the points (lower **pressure**).

Further information explaining the demonstrations and concepts used in the show, with some suggested follow-up activities, can be found in the support notes for this show at www.think-differently.co.uk