

***move it!* is a fast-moving, interactive show that explores the science behind the forces and pressures all around us.**

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 – they can either change the **speed, direction** or shape of objects;
- sometimes, however, there can be forces on an object without causing any changes – in these cases the forces cancel each other out;
- **gravity** on Earth pulls everything down towards the centre of the Earth. We call this force the **weight** of the object;
- the **centre of gravity** of an object is the point at which it would balance – the point where all the weight of the object could be assumed to act;
- if the centre of gravity of an object is directly over the point it is resting on, then the object will **balance**;
- when you warm a region of air it expands and becomes less **dense** than the cooler air around it – the warm air then rises on top of the cooler air;
- we are surrounded by air pushing on us in every direction all the time (**air pressure**) – the moving molecules in the air constantly push on any surface with which they come into contact;
- when an object contains air that pushes harder than the air surrounding it, then the object will tend to be pushed outwards; if the air outside the object pushes harder than the air inside then it will get squashed.
- **friction** is the force opposing motion when surfaces move past each other;
- in a world without friction objects would keep on moving for ever and ever, until they felt another force – they wouldn't slow down or change direction as we are used to on Earth;
- forces always come in pairs – if you give an object a force it gives you an equal and opposite force;
- **energy** is hard to define but energy is what allows things to happen or change;
- to help us think about energy changes scientists like to think of different **forms of energy** eg light, heat, chemical energy, movement energy, electricity, etc;
- you cannot create or destroy energy but we say it can change from one form into another;

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](http://www.think-differently.co.uk)