

- 1 Make it change speed, direction or shape.
- 2 Any sensible suggestions are valid. Examples include:
  - Friction: stop tyres slipping on a road, allow you to pull a rope, make brakes work.
  - Upthrust: make ships/balloons float.
  - Gravity: pull things downwards/make things fall.
  - Magnetism: attract iron objects, stick notes to fridges, hold doors closed.
  - Air resistance: slow down things moving through air, make things move when the wind blows.
  - Static electricity: attract things.
- 3 gravity, magnetism, static electricity
- 4 **a** A
  - b** The arrow is longest.
  - c** Arrow drawn with a length shorter than those shown.
  - d** They will start to move/move faster.
- 5 **a** A large arrow pointing to the left drawn to the left of A.
  - b** An arrow pointing to the right drawn to the right of B.
  - c** A small arrow to the left drawn to the left of C.
- 6 **a, b** Upwards arrow labelled upthrust; downwards arrow labelled gravity (or weight). These arrows should be the same size as each other.
  - Left arrow labelled (forwards) force from engines/propellers; right arrow labelled air resistance. Equal sizes.
  - The vertical arrows should be much larger than the horizontal ones, but students are not expected to know this.
- 7 **a** The force of gravity pulling on something.
  - b** newtons (N)
  - c** The amount of matter in something.
  - d** kilograms (or grams) (kg or g)
- 8 Gravity is not as strong on the Moon as it is on the Earth.
- 9 **a** Any sensible answer such as eating/drinking, going to the toilet.
  - b** Your weight also changes, because the force of gravity on you depends on how much mass you have.