

## Check your progress

**3.1 a** Weight

**b** Mass

**3.2 a** The Sun has a larger mass than the other planets.

**b i**  $1 \times 10 = 10 \text{ N}$

**ii**  $150 \div 1000 = 0.15 \text{ kg}$

$0.15 \times 10 = 1.5 \text{ N}$

**c i** Its weight would be less on the Moon/greater on Earth

**ii** Its mass would be the same.

**3.3 a** Gravity; from the Sun

**b** (Force of) Sun's gravity is stronger on Mercury than Earth (must have idea that it is gravity from the Sun which is stronger, not just gravity.)

**3.4 a** B and D

**b** 12 (hours)

**c** Using M = Moon, E = Earth, S = Sun, the possibilities are M-E-S or S-E-M and E-M-S or S-M-E shown in line.

**d** The Moon causes a tidal **force** on the Earth.

**3.5** D: weight and force

**3.6 a** Dissipate

**b** Useful: kinetic

Wasted: thermal, sound

**3.7** B: air resistance no; gravity yes.

**3.8 a** Thermal

**b** Any two from:

into the container; into the air; into steam; into other named object in surroundings.