



Pressure

1 Name **four** things that a force can do. _____

Pressure on a surface

2 What is weight? Tick (✓) the correct box.

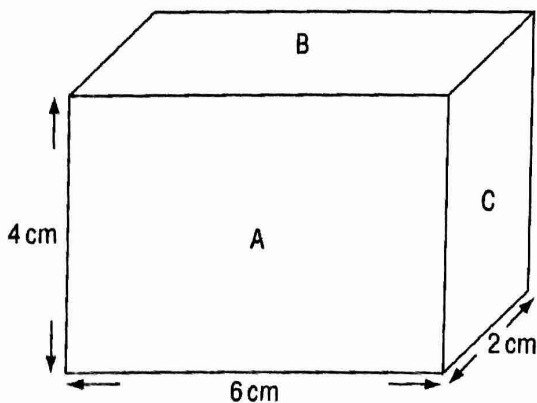
A force pushing out in all directions

The amount of matter in an object

The force produced by gravity acting on an object

The volume of matter in an object

3 A block has three surfaces labelled A, B and C.



a) What is the area of each of the three surfaces? Show your working.

A _____

B _____

C _____

The weight of the block is 48N.

b) What is the pressure on the ground when the block is stood on each surface?
Show your working.

A _____

B _____

C _____

4 Two identical cows fell into a muddy hole. One fell on its side and the other fell on its feet.

a) Which one sank furthest into the mud? _____

b) Explain your answer. _____

5 Ingrid goes outside to see if the snow is fit for skiing. She sinks into the snow but when she puts her skis on, she can move over it without sinking. Why?

6 Paulo is playing football in his trainers but keeps slipping. He changes to boots with studs and stops slipping. Why? _____

7 A drawing pin has a head and a point. When you push it into a board which part is under:

a) high pressure _____

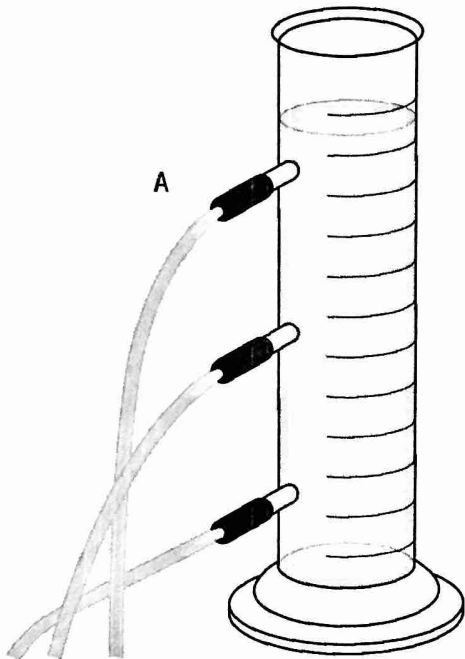
b) low pressure? _____

8 A chef is having difficulty cutting up onions because his knife is blunt. After he sharpens it, the knife cuts more easily. Why is this?

Pressure in liquids

9 A beaker contains a liquid. State **two** places where the liquid exerts a pressure.

10 The picture shows three jets of water flowing from a can.



a) When will jet A stop flowing? _____

b) As the water level falls, what happens to the middle jet of water?
Tick (✓) the correct box.

It stays the same.

It rises and becomes more horizontal.

It sinks and becomes more vertical.

11 a) What is hydraulic equipment used for? Tick (✓) the correct box.

Transmitting liquids from one place to another

Transmitting pressure from one place to another

Transmitting pressure in all directions

Transmitting pressure from one liquid to another

b) Name **two** uses of hydraulic systems. _____

Pressure in gases

12 A teacher is demonstrating the strength of the air pressure by using a steam can. Here are the events that occur in the demonstration but they are arranged in the wrong order. Arrange them correctly by writing the letter of each statement in the order in which it occurs.

- A The top is put on the can.
- B The can is crushed.
- C A small amount of water is poured into a can.
- D Steam comes out of the can.
- E The quantity and pressure of the air inside the can is reduced.
- F The can is heated.
- G Condensation of steam occurs inside the can.
- H The heat is switched off.

13 a) Why does the gas shoot out of an aerosol when its nozzle is opened?

An aerosol can has strong sides that keep their shape when the can is full.

b) (i) What would happen if the sides were weak?

(ii) Explain your answer. _____

● CHAPTER 14

14 a) What is used to collect the air under a hovercraft?

b) What prevents the air escaping? _____

c) What makes the hovercraft rise? _____

Teacher comments