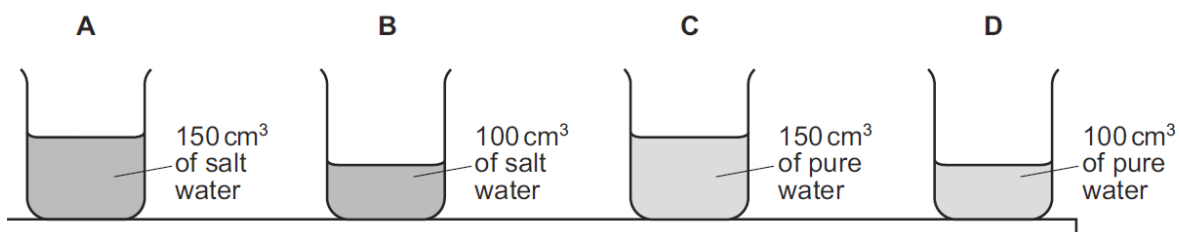


## PRESSURE-SET-2

1 A student places four identical beakers on a bench.

Two beakers contain salt water of density  $1.1\text{g/cm}^3$  and two beakers contain pure water of density  $1.0\text{g/cm}^3$ .

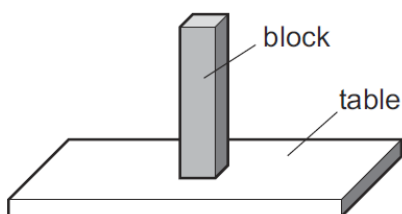
Which beaker exerts the greatest pressure on the bench?



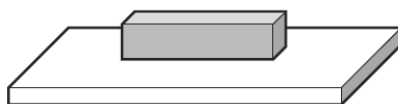
2 Which situation is an example of a force acting over a large area to produce a small pressure?

- A a builder hammering a nail into a piece of wood
- B a cook using a sharp knife to cut vegetables
- C a nurse pushing a needle into a patient's arm
- D a soldier marching in flat-soled boots

3 A block with flat, rectangular sides rests on a table.



The block is now turned so that it rests with its largest side on the table.

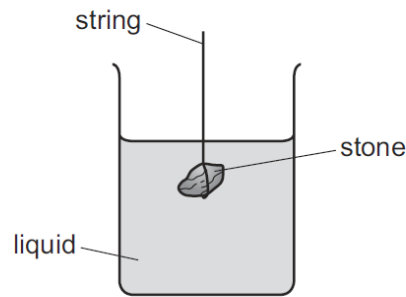


How has this change affected the force and the pressure exerted by the block on the table?

	force	pressure
A	decreased	decreased
B	decreased	unchanged
C	unchanged	decreased
D	unchanged	unchanged

4

The diagram shows a stone suspended under the surface of a liquid from a string. The stone experiences a pressure caused by the liquid.

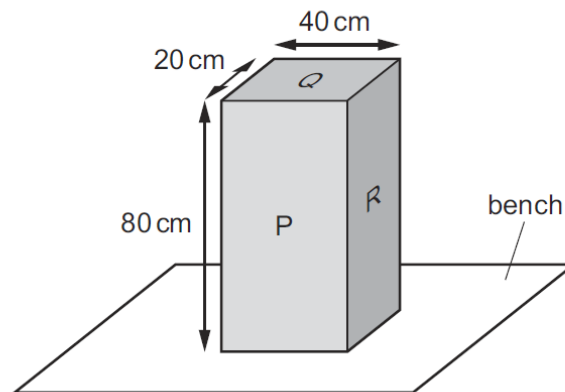


What would increase the pressure on the stone?

- A decreasing the surface area of the stone
- B increasing the mass of the stone
- C lowering the stone deeper into the liquid
- D using a liquid with a lower density

5

The diagram shows a solid block resting on a bench. The dimensions of the block are shown.

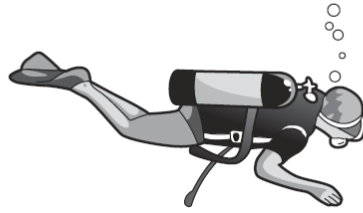


On which labelled surface should the block rest to produce the smallest pressure on the bench?

- A P
- B Q
- C R
- D any of P, Q or R

6

A diver under water uses breathing apparatus at a depth where the pressure is  $1.25 \times 10^5 \text{ Pa}$ .



A bubble of gas breathed out by the diver has a volume of  $20 \text{ cm}^3$  when it is released. The bubble moves upwards to the surface of the water.

At the surface of the water, the atmospheric pressure is  $1.00 \times 10^5 \text{ Pa}$ .

The temperature of the water is the same at all depths.

What is the volume of this bubble when it reaches the surface?

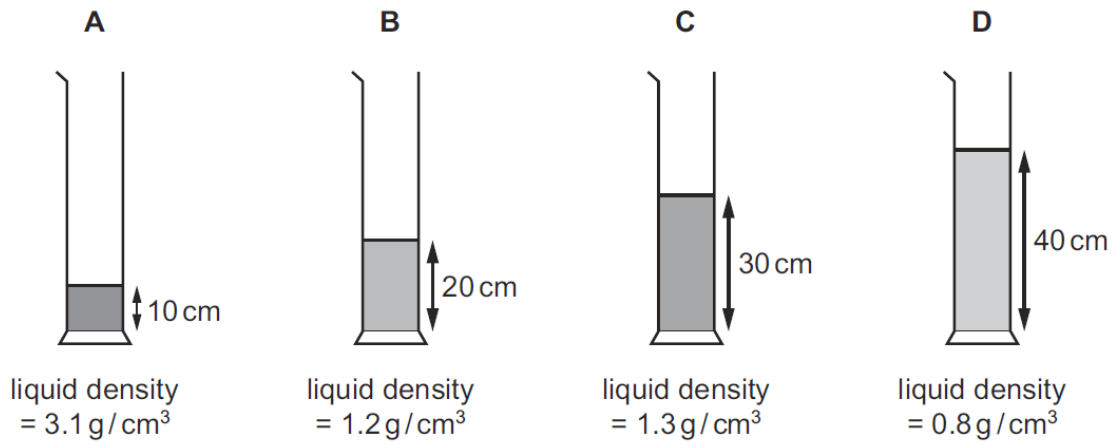
- A**  $15 \text{ cm}^3$       **B**  $16 \text{ cm}^3$       **C**  $20 \text{ cm}^3$       **D**  $25 \text{ cm}^3$

7

Four different liquids are poured into four containers.

The diagrams show the depth and the density of liquid in each container.

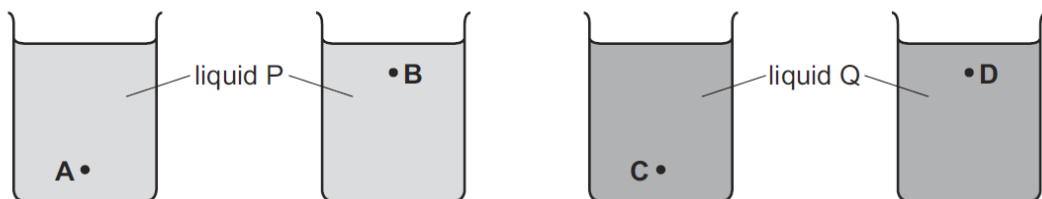
In which container is the pressure on its base the greatest?



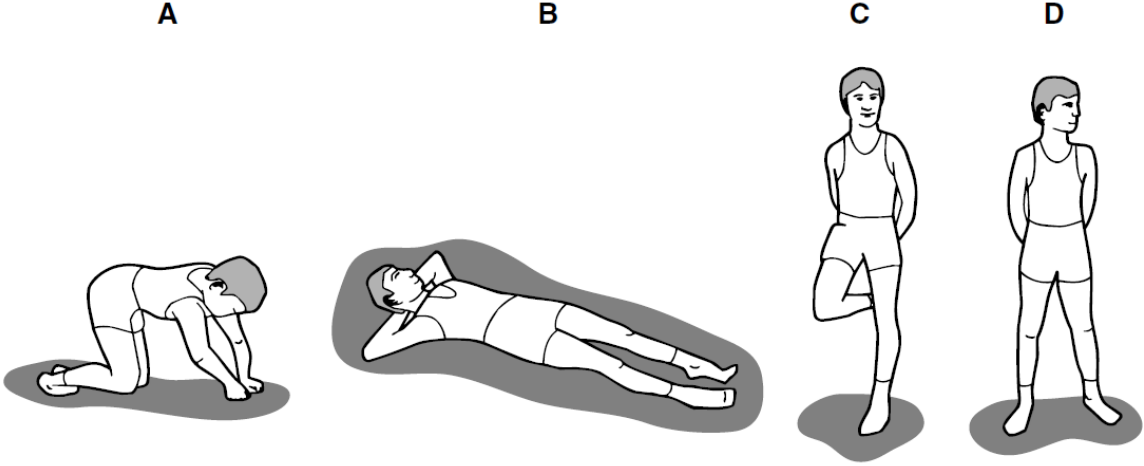
8

Four identical beakers are filled with equal volumes of liquids P or Q, as shown. Liquid P is more dense than liquid Q.

At which point is the pressure the least?

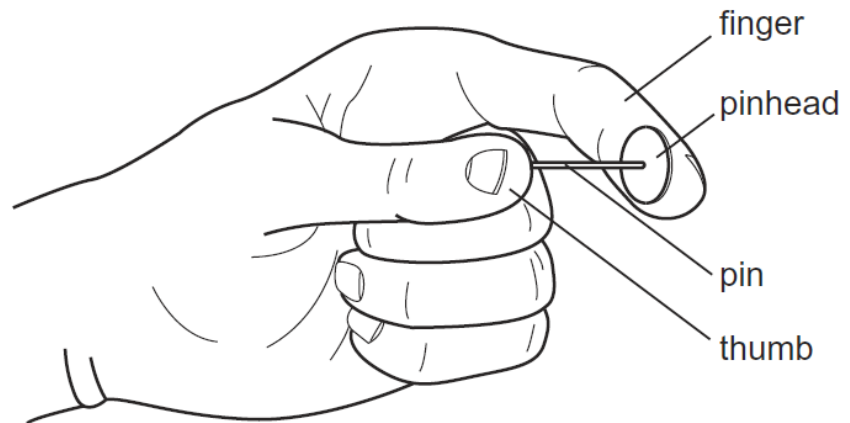


9	<p>A submarine is in water of density <math>1.0 \times 10^3 \text{ kg/m}^3</math>. The submarine changes its depth. This causes the pressure on it to change by <math>0.10 \text{ MPa}</math>.</p> <p>What is the change in depth of the submarine?</p> <p><b>A</b> 0.10 m      <b>B</b> 10 m      <b>C</b> 100 m      <b>D</b> 1000 m</p>
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10	<p>Which diagram shows the child exerting <b>least</b> pressure on the ground?</p> <p style="text-align: center;"><b>A</b>                      <b>B</b>                      <b>C</b>                      <b>D</b></p> <div style="text-align: center;">  </div>
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11

A pin is squeezed between finger and thumb.



Which statement is correct?

- A** The force of the pin is larger on the finger than on the thumb.
- B** The force of the pin is larger on the thumb than on the finger.
- C** The pressure of the pin is larger on the finger than on the thumb.
- D** The pressure of the pin is larger on the thumb than on the finger.