

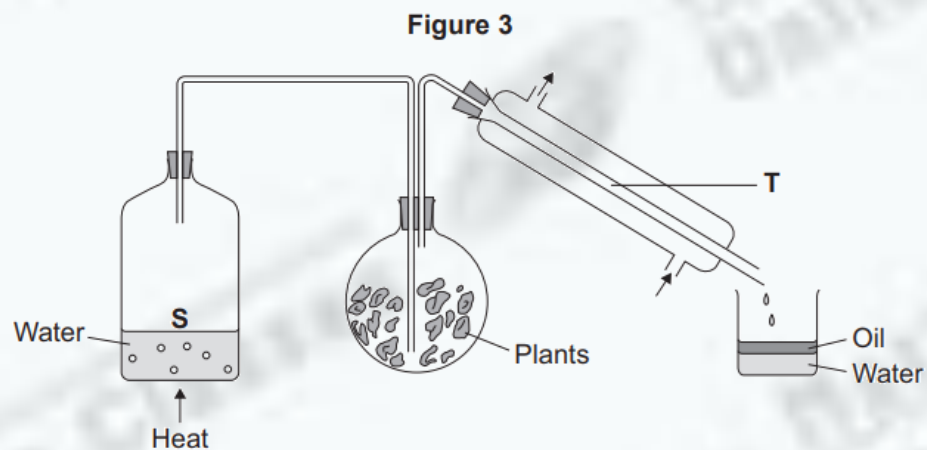
Simple Techniques

Total Mark – 15

Question: 1

- 4 Some plants contain oils that can be extracted.

Figure 3 shows a process used to separate oils from plants.



- 4 (a) What is the name of this process?

[1 mark]

[1 mark]

Tick (✓) **one** box.

Displacement

☐

Distillation

☐

Pressing

☐

4 (b) (i) Describe the change of state at **S**.

[1 mark]

4 (b) (ii) Describe the change of state at **T**.

[1 mark]

- 4 (c) **Table 1** gives the melting points and boiling points of some plant oils.

Table 1

| Plant oil | Melting point in °C | Boiling point in °C |
|-----------|---------------------|---------------------|
| Olive | −41 | +216 |
| Sunflower | −17 | +227 |
| Corn | −11 | +232 |
| Peanut | −2 | +232 |
| Coconut | +25 | +177 |

- 4 (c) (i) An article stated that:

‘plant oils with lower melting points are healthier because they are high in unsaturated oils’.

Which plant oil in **Table 1** is the healthiest according to the article?

[1 mark]

- 4 (c) (ii) Which plant oil in **Table 1** is solid at room temperature (20 °C)?

[1 mark]

- 4 (c) (iii) Which plant oil in **Table 1** is liquid over the greatest temperature range?

[1 mark]

- 4 (d) Give **two** ways that food cooked in plant oils would be different from the same food cooked in water.

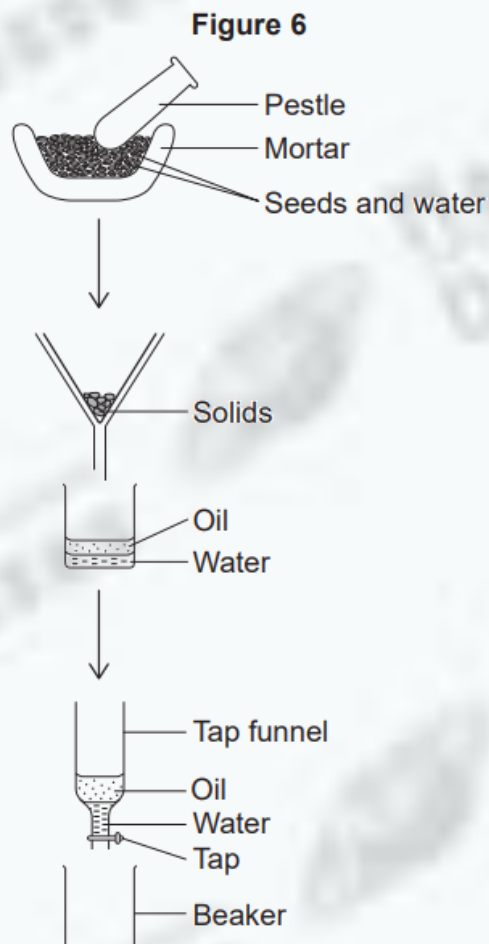
[2 marks]

1

2

Question: 2

- 4 (b) Some plants have seeds that contain vegetable oils.
The flow diagram in **Figure 6** shows how the oil can be extracted.



4 (b) (i) Use the correct word from the box to complete each sentence.

[2 marks]

| | | | |
|---------|----------|------------|-----------|
| burning | crushing | distilling | filtering |
|---------|----------|------------|-----------|

Oil is released from the seeds by.....

Solids are removed from the oil and water by

4 (b) (ii) Describe how the tap funnel can be used to separate the oil from the water.

[2 marks]

.....

.....

.....

.....

4 (c) Vegetable oils are used as foods and fuels.

4 (c) (i) Why are vegetable oils important foods and fuels?

[1 mark]

Tick (✓) **one** box.

They are used as emulsifiers.

☐

They have high boiling points.

☐

They provide a lot of energy.

☐

4 (c) (ii) Burning fossil fuels made from crude oil increases the overall percentage of carbon dioxide in the atmosphere.

Burning biofuels made from vegetable oil does **not** increase the overall percentage of carbon dioxide in the atmosphere.

Explain why.

[2 marks]

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.....

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