[Potable water]

Q1.(2018)

Large scale desalination is used to make drinking water from seawater in hot countries.

What is the name of the technique used to remove the dissolved salts from seawater to get drinking water?

A Chromatography

B Evaporation

C Filtration

D Simple distillation

Your answer ☐ **[1]**

Q2.(2020)

Drinking water which comes from rivers needs to be made safe to drink.

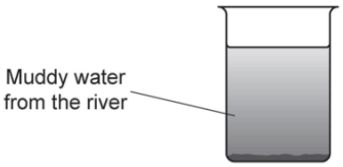
(a) What is the name of water that is safe to drink?

..... **[1]**

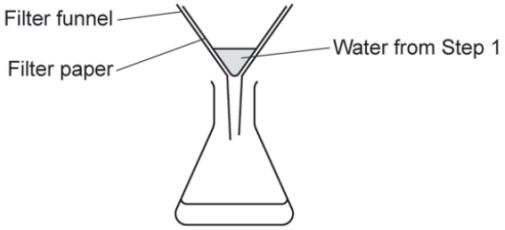
Q3.a(2020)

A student wants to produce water that is safe to drink from **muddy water** from a river.

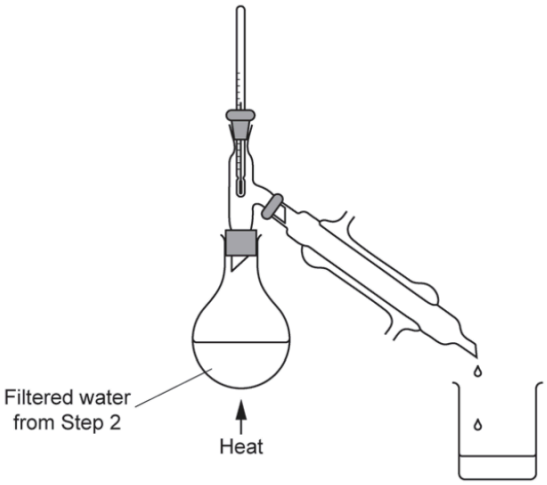
Step 1: He leaves the water from the river in a beaker for 24 hours.



Step 2: He filters the top half of the water in the beaker from Step 1.



Step 3: He distils the filtered water from Step 2.



Explain how **each** step purifies the water.

Step 1 .....

.....

Step 2 .....

.....

Step 3 .....

.....

[3]

Q3.b(2020)

Seawater can be turned into drinking water by desalination. There are two main methods for this, reverse osmosis and simple distillation.

Name of method	Description of method	Approximate cost of drinking water (£ per m^3)
Reverse osmosis	Seawater is pumped through 'ultrafilters', which trap salt and produce drinking water.	30
Simple distillation	Seawater is heated to separate pure water from salt which is left behind.	80

(i) Suggest why simple distillation is **more** expensive than reverse osmosis.

..... **[1]**

Q3.c(2020)

Suggest **one** environmental problem with both methods.

..... **[1]**

Q4.(2022)

Drinking water that comes from lakes and reservoirs must be made safe to drink.

(a) Which name is given to water that has been made safe to drink?

Tick (✓) **one** box.

Filtered ☐

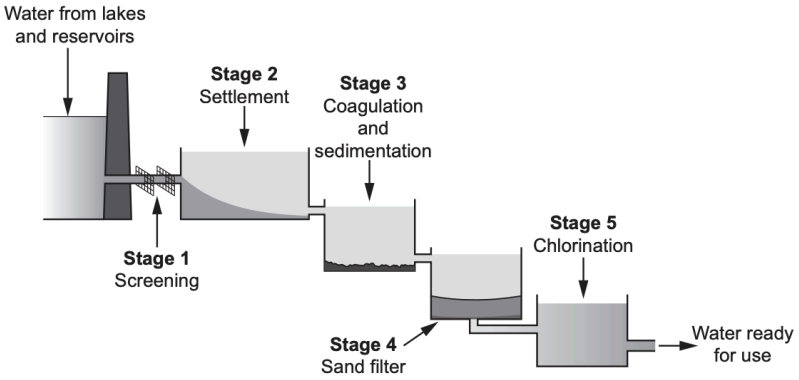
Ground ☐

Potable ☐

[1]

Q5.(2022)

The diagram shows the stages in the treatment of water from lakes and reservoirs.



In **Stage 1** large objects such as leaves and twigs are removed.

What happens at **Stages 2**, **3** and **4**?

Tick (✓) **one** box in each row.

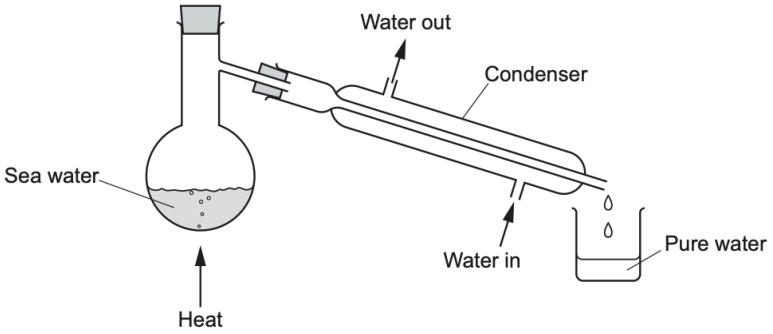
	Stage 2 Settlement	**Stage 3** Coagulation and sedimentation	**Stage 4** Sand filter
Any remaining mud or grit is removed.			
Sand and soil sink to the bottom of the tank.			
Small particles of dirt clump together to form sludge.			

[2]

Q6.(2022)

Water can also be purified by simple distillation.

The diagram shows the equipment used by a student to distil sea water.



Give **two** reasons why this equipment is **not** suitable to produce water on a large scale.

1 .....

.....

2 .....

.....

[2]

Q7.(2022)

On average **one person** in the UK uses 149 litres of water every day.

Only 3% of this water is used for drinking.

Calculate the amount of drinking water a family of **four** uses every day.

Give your answer to **3** significant figures.

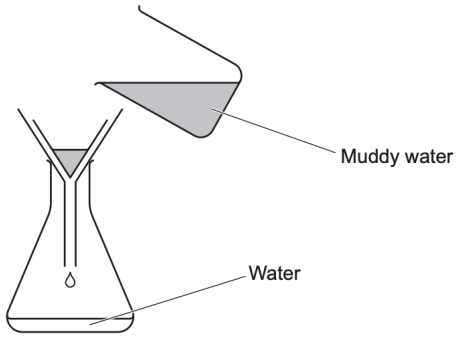
Amount of drinking water = ... litres **[3]**

Q8.a(2024)

A student does some experiments to separate water from muddy water.

Fig. 11.1 shows the equipment the student uses in their first experiment.

Fig. 11.1



What is the name of this separation technique?

..... **[1]**

Q8.b(2024)

The water produced in the experiment is a very light brown colour.

Why is the student **not** sure that the water produced is **potable**?

Tick (✓) **two** boxes.

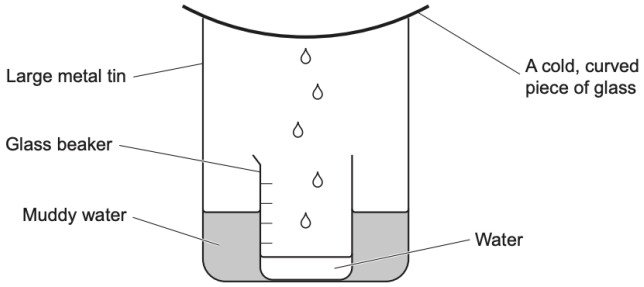
- Only small amounts of water are produced. ☐
- The experiment takes too long. ☐
- The water may contain bacteria. ☐
- The water may contain tiny particles of mud. ☐

[2]

Q8.c(2024)

Fig. 11.2 shows the equipment the student uses in their second experiment.

Fig. 11.2



The student leaves the equipment in a sunny place.

The statements describe how the experiment produces water.

The statements are **not** in the correct order.

A The water drips into the beaker.

B The sun heats up the muddy water.

C The water evaporates.

D The water vapour cools and condenses.

E The water vapour rises upwards.

F The water vapour touches the cold piece of glass.

Write the remaining letters in the boxes to show the correct order of the statements.

B	→		→	E	→		→		→	A

[2]