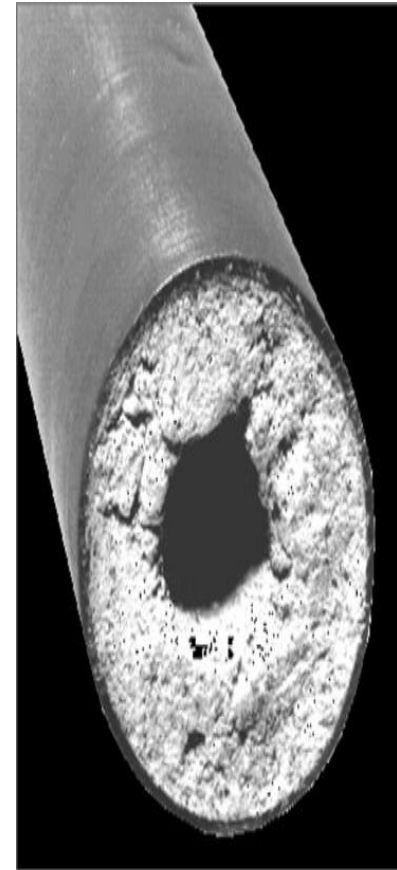


# Water – exam questions

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## 2012 - Higher

- Water had been flowing through the pipe shown in the photograph for some time. The pipe originally had no internal deposit.
- Give a possible reason for the formation of the deposit.
- What do you think the deposit is?



# 2012 - Higher

- The photograph shows a water treatment plant that produces water fit for domestic consumption.
- Name and describe four processes used in this treatment of water.



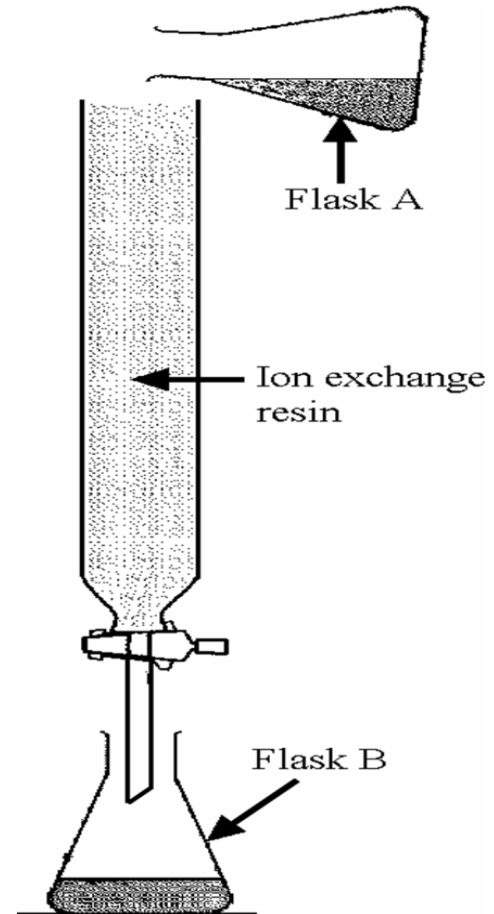
# 2012 - Ordinary

- Choose an **element** from the list whose compounds dissolve in water to cause hardness in water.
- How can hardness be removed from water?

Sodium  
Calcium  
Potassium

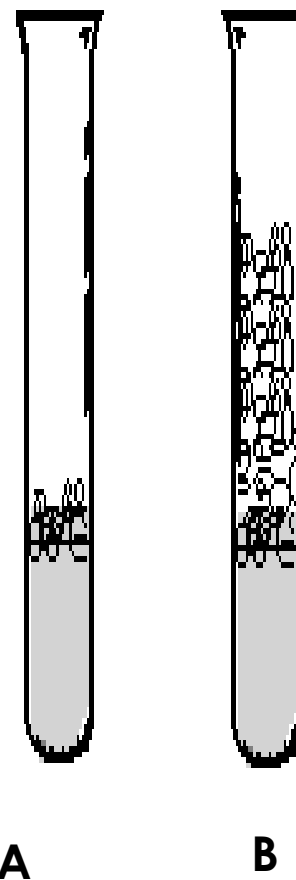
# 2011 - Higher

- Water hardness is a common problem. Describe a test that distinguishes between hard and soft water.
- Name a compound that causes hardness when it dissolves in water.
- Examine the diagram. Would you expect the water from the column of resin to be hard or soft? Justify your answer.
- How could you test the water to confirm this answer? What result would you expect?



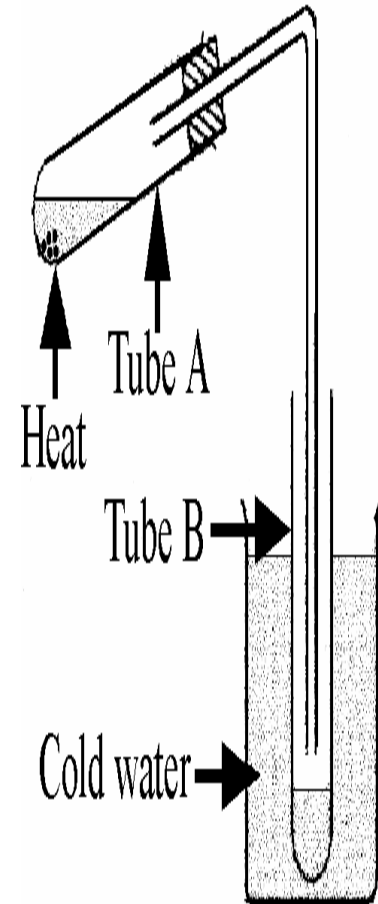
# 2011 - Ordinary

- A student investigated the **hardness** in two different water samples, **A** and **B**. She put the same amount of water into two test tubes and then she added the same number of soap flakes to each test tube.
- After shaking the mixtures she noticed that a lather formed in the test tube containing sample **B**. No lather formed in sample **A**.
- Which test tube, **A** or **B**, contained the **harder water**?
- Name an **element** whose compounds cause hardness in water.
- How can hardness be removed from water?



# 2010 - Higher

- Hard water in test tube A was heated and some water evaporated from it and condensed in test tube B. Is the water in test tube B **hard or soft**?
- Give a **reason** for your answer,

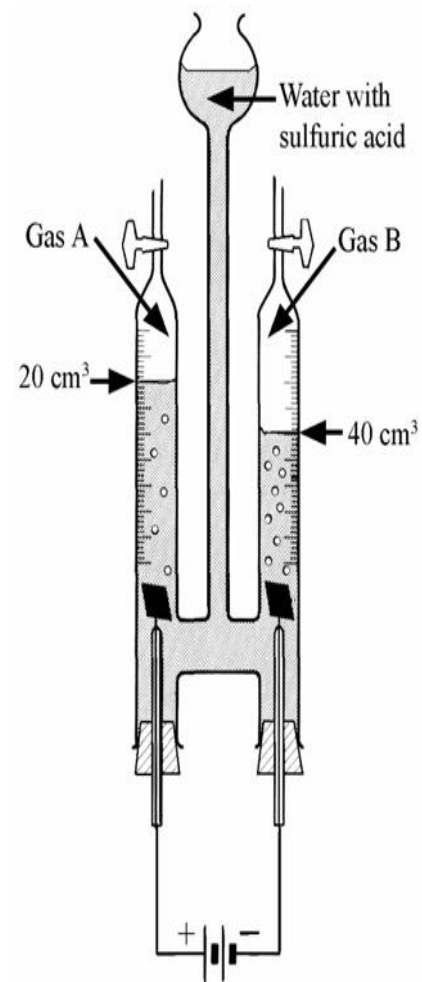


- Name **two processes** used in the treatment of water for safe use in our homes.



# 2010 - Higher

- Name the **process** which decomposes a substance when electric current is passed through it.
- Why is a small amount of **sulfuric acid** **added** to the water?
- Name **gas A** and give a **test** to confirm your answer.
- Name **gas B** and give a **test** to confirm your answer.
- Water is a compound formed by the chemical combination of elements **A** and **B**. In what **proportion** do **A** and **B** **combine** to form water?



# 2010 - Ordinary

- Water is a compound composed of **two elements**. **Name** these two elements.
- Name a chemical that can be used in a laboratory to **test for the presence of water**.
- What **colour change** is noticed in this test for water?
- Some elements form compounds that dissolve in water to cause hardness. Name an element whose compounds dissolve in water to cause **hardness**.
- How can hardness be removed from water?

Water sample	Number of Soap Flakes added
A	8
B	25

- The same volume of two water samples **A** and **B** were tested with soap flakes to test for hardness.
- The number of soap flakes needed to form a lather was measured..
- Which sample **A** or **B** had the most hardness?

- Germs and bacteria are killed by adding
  - Floating materials are removed by
- 

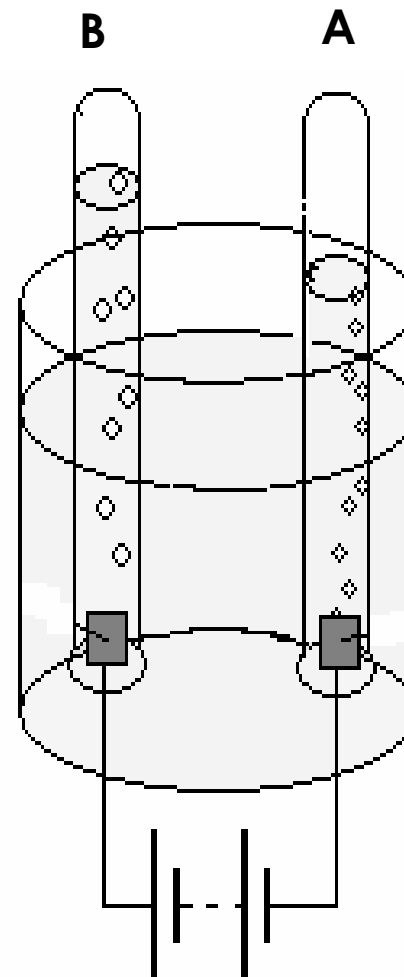
**Fluoride  
Chlorine  
Ozone  
Screening**

## 2009 - Higher

- State how to **test** water to **confirm the presence of hardness**?
- Name a **metallic element** some of whose compounds **cause hardness** in water.
- Give one **effect** of hard water.

## 2009 - Ordinary

- The apparatus on the right can be used to decompose water by **electrolysis**.
- Acid is added to the water to allow an electric current to flow through the water.
- Hydrogen gas is collected at **A**. What **test** could you carry out in the laboratory to show that this gas is **hydrogen**?
- **Name** the gas collected at **B**.



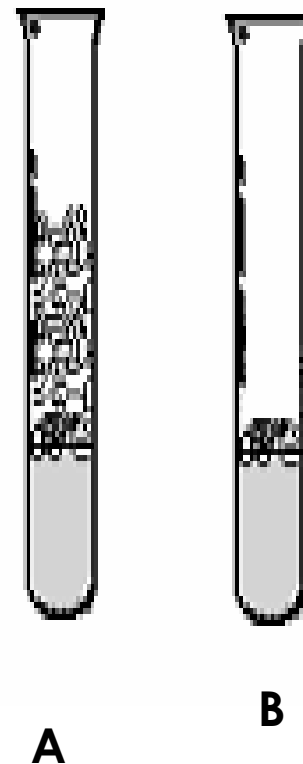
# 2008 - Ordinary

- In the table write the letter **R** beside the name of the treatment used to **remove large floating debris** from the water.
- In the table write the letter **T** beside the treatment used to help **prevent tooth decay**.

	<b>Chlorination</b>
	Fluoridation
	Settling
	screening

## 2008 - Ordinary

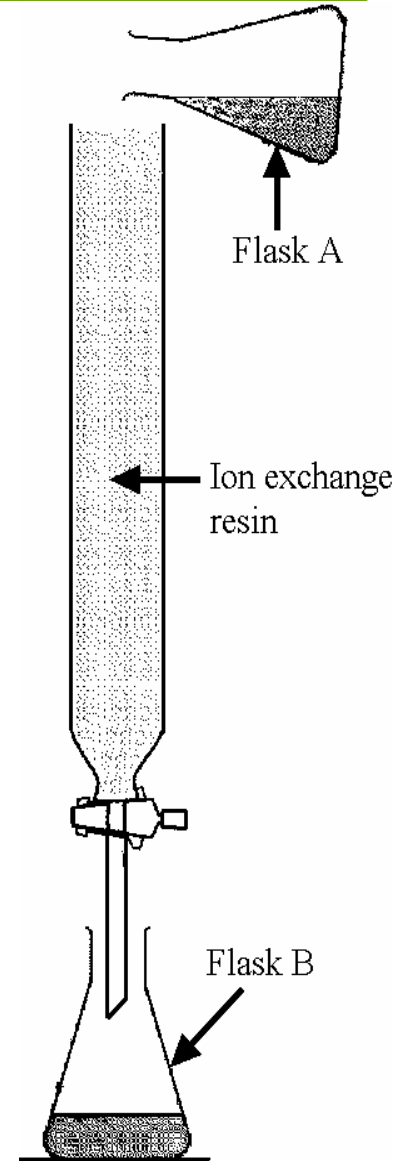
- One test tube has hard water while the other has soft water.
- Why is it necessary to use the same amount of water in each test tube and to add the same volume of soap solution to each test tube?
- When both tubes were shaken a lather formed in test tube **A** but not in test tube **B**.
- What does this tell you about the water in test tube **A**?
- Name an element whose compounds contribute to hardness in water.





# 2007 - Higher

- Flask **A** contains hard water. Some of this water was poured into the tube containing an ion exchange resin.
- The water that passed through the ion exchange resin was collected in flask **B**.
- Describe a **test** that you could perform on water samples from flask **A** and from flask **B** to compare their hardness?
- What result would you expect from this test?
- What **causes** hardness in water?

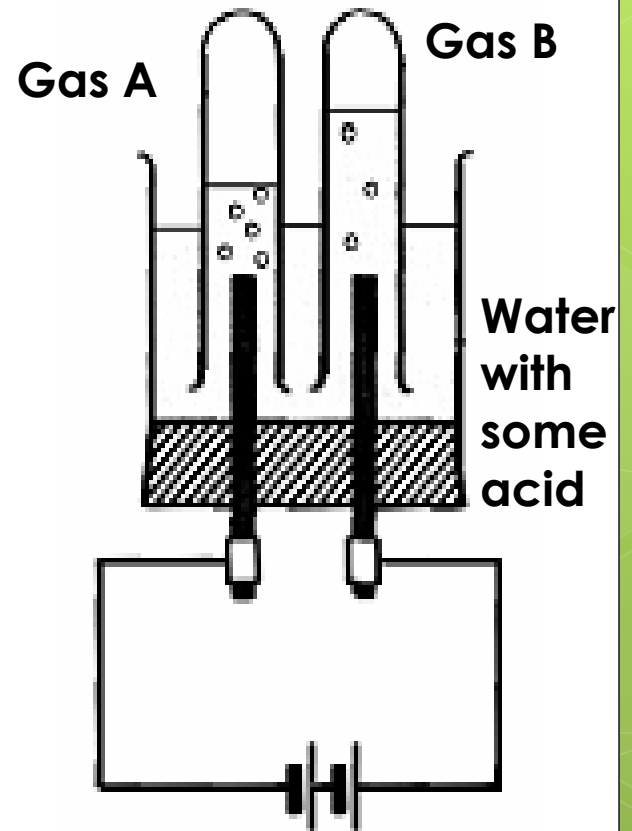


- Water supplied to domestic consumers has undergone five or more different processes in a water treatment plant.
- Name **one** of the **processes** carried out on water in a treatment plant.
- Give a **reason** why the treatment that you have named is carried out.

## 2006 - Higher

- How would you show that **water contains dissolved solids**?

- Why is **some acid added** to the water?
- Give a **test** for **gas A**.
- The volume of gas **A** is twice that of gas **B**. What does this tell us about the composition of water?



## 2006 - Ordinary

- **Water** is essential for life and is composed of two elements.
- **Name** one of the elements that make up water.
- Name a **chemical** that can be used to test for the presence of water.

## 2006 - Ordinary

- **Name** the gas produced at the electrode **X** and **state a test** for this gas.

