

WELCOME TO THE ONLINE CLASS

SESSION NO.: 8

CLASS: 5

SUBJECT: SCIENCE

CHAPTER NUMBER: 12

CHAPTER NAME: OUR LIFE SUPPORT

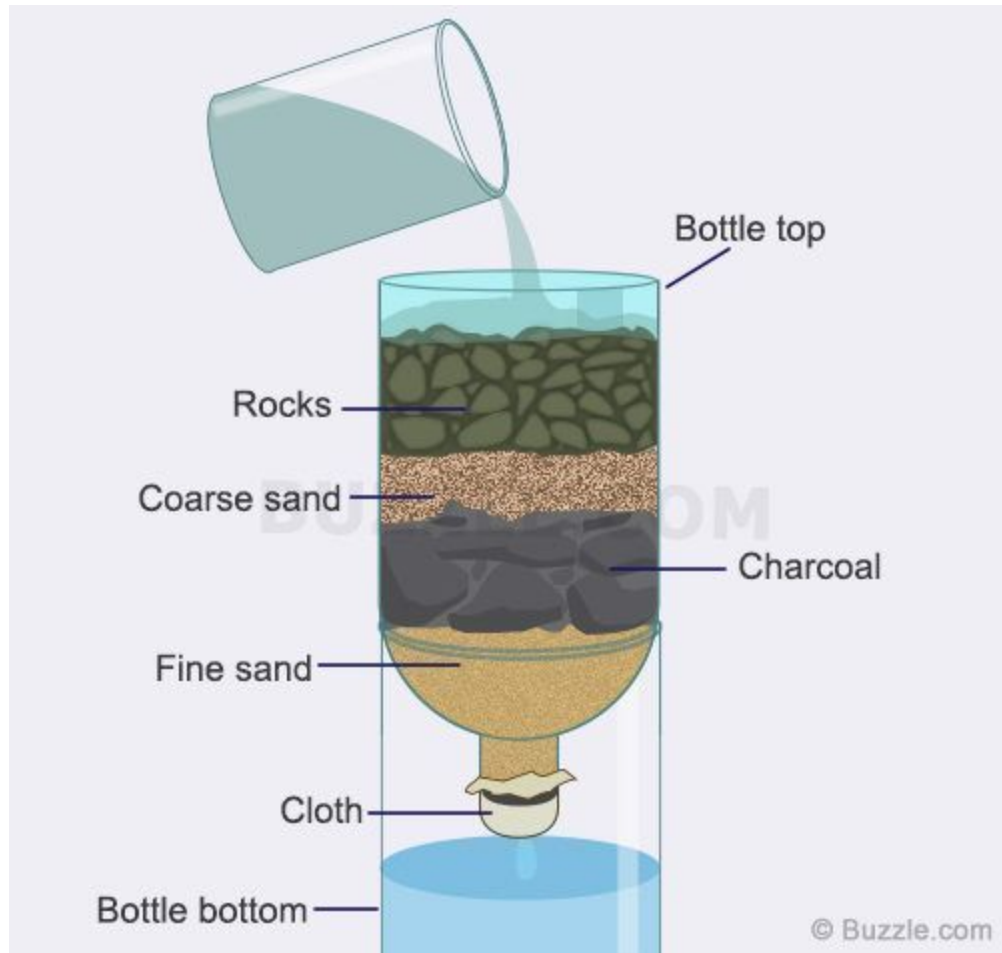
TOPIC: PURIFICATION OF DRINKING WATER

CHANGING YOUR TOMORROW

LEARNING OBJECTIVE

To enable the learner to:

- **learn the ways to remove the impurities on a large scale.**
- **importance of using clean water.**



LET'S RECAP

Read the passage and answer the following questions:

Rahul had been to a camp. He realised that there is no source of clean water. So, to clean the water and make it fit for consumption he thought of something. He took a clean bottle and cut off the bottom. He stuff the neck of the bottle with some clean cotton. Then he turned the bottle upside down and placed it on a clean glass. Over the cotton, he spread a layer of small pebbles, then gravel and above that a layer of sand which he has washed from before. Then, he poured dirty water over these layers of filter. He watched the water drops trickling down through the cotton. This way he filtered the dirty water. Finally, he took the cleaned water and boiled it in his kettle. Now, the water became fit for drinking.

1. Why has Rahul kept a clean glass under the bottle?

Ans: Rahul has kept a clean glass under the bottle to collect the clean water.

LET'S RECAP

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2. Some cotton was stuffed in the neck of the bottle. Why?

Ans: The cotton stuffed in the neck of the bottle doesn't allow the pebbles to escape the bottle.

LET'S RECAP

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3. Which method was used by Rahul to kill the germs?

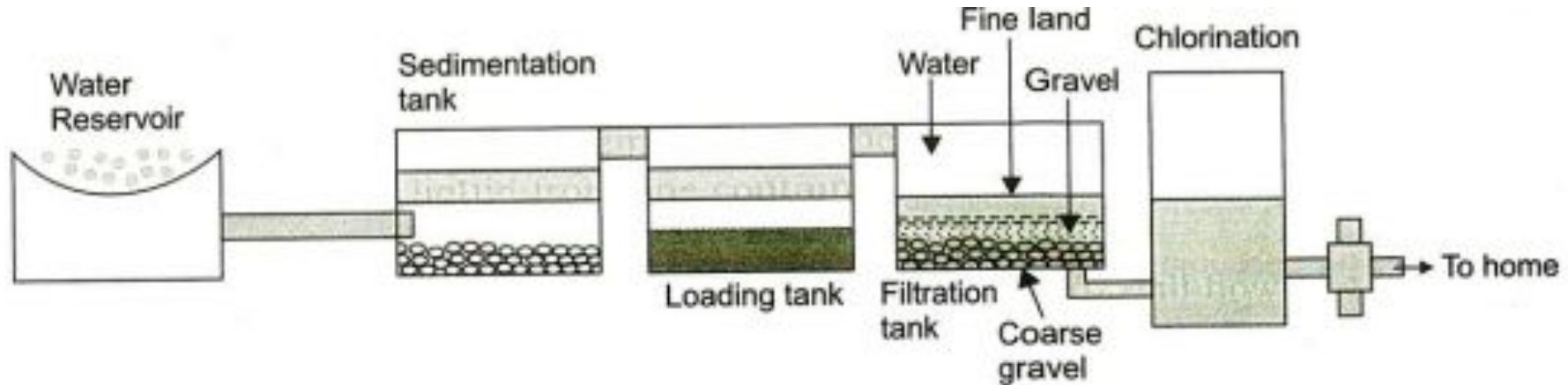
Ans: Boiling

PURIFICATION OF DRINKING WATER

- Clean water is necessary for drinking and cooking.
- Impure water contains many disease-causing germs like cholera, jaundice and dysentery.
- There are three methods mainly used for treatment of water.
- They are:
 - Sedimentation
 - Filtration
 - Chlorination

SEDIMENTATION

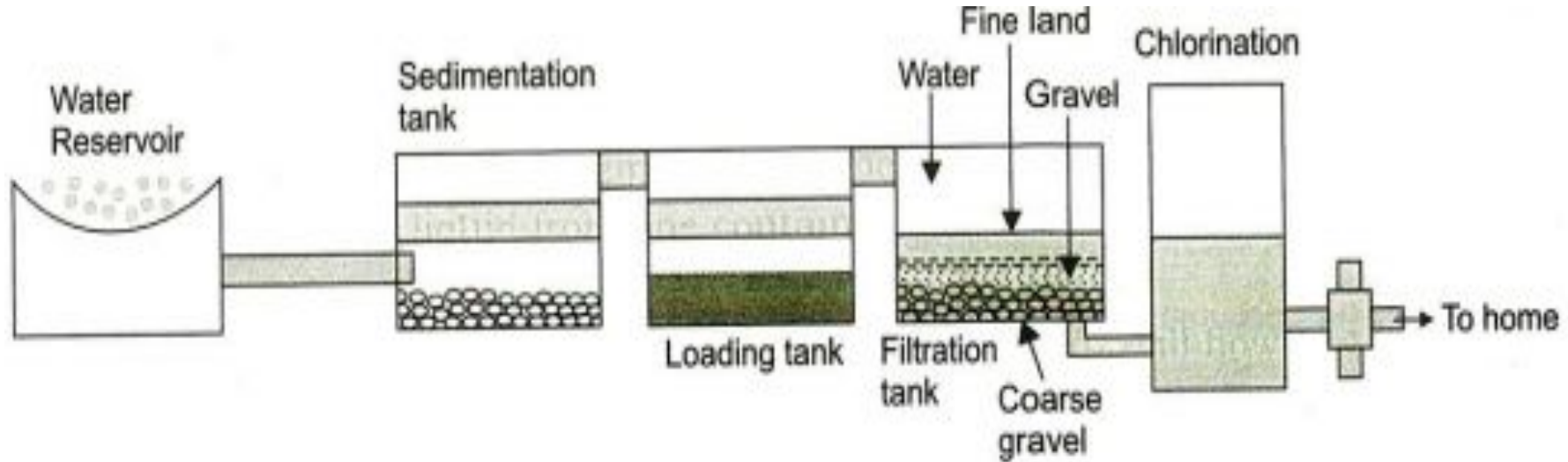
- Water is collected in large open tanks is left undisturbed for a few days.
- This way the heavier suspended impurities sink to the bottom.
- Air and sunlight kill many harmful bacteria.
- Chemicals like alum are also added to purify the water.



Water purification system in water works

FILTRATION

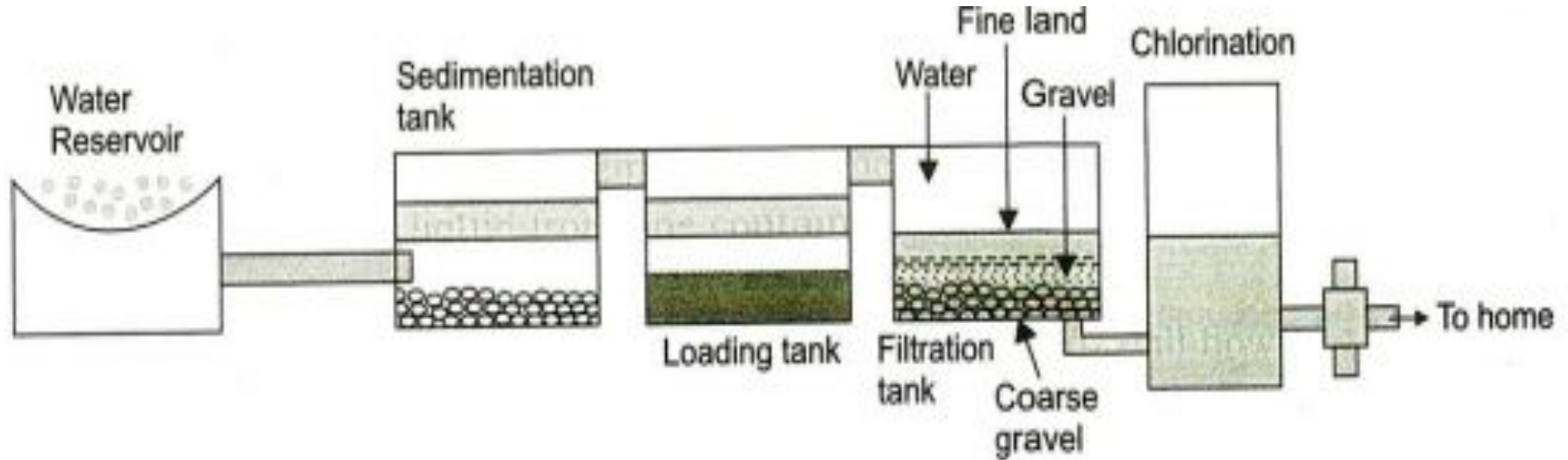
- After sedimentation, the water is filtered through a clean sand bed to remove finer suspended particles.



Water purification system in water works

CHLORINATION

- Water is then disinfected with a very small quantity of chlorine gas to kill bacteria and make it safe for drinking.



Water purification system in water works

OTHER METHODS OF PURIFICATION OF WATER



Water filter



**Using potassium
permanganate crystals
to clean well water**



Boiling

SUMMARY

- There are three methods mainly used for treatment of water.
- They are:
 - Sedimentation
 - Filtration
 - Chlorination
- Other methods of purification includes:
 - Boiling
 - Water filter
 - Using potassium permanganate tablets

READY FOR A
QUIZ ?

- 1. Disease causing germs can be killed by**
 - a. Evaporation**
 - b. Chlorination**
 - c. Boiling**
 - d. Both b and c**

Ans: d. Both b and c

2. Which is not a method of purification of water?

- a. Evaporation**
- b. Distillation**
- c. Freezing**
- d. sedimentation**

Ans: c. Freezing

- 3. Chlorine gas is passed through water to**
- a. kill the germs**
 - b. to promote the growth of germs**
 - c. remove soluble impurities**
 - d. remove insoluble impurities**

Ans: a. kill the germs

HOMEWORK

- **Draw the picture of purification of town water supply.**

C. Write short answers.

1. Name any four gases present in the air.

Ans: Nitrogen, hydrogen, oxygen, carbon dioxide are some of the gases present in the air.

2. How does water vapor form in the atmosphere?

Ans: Water vapour is formed because of the evaporation of water from the surface of water bodies like seas rivers and lakes.

3. Why should drinking water be purified?

Ans: Drinking water should be purified to remove disease-causing germs.

4. Name three processes involved in the treatment of the town water supply.

Ans: The three processes involved in the treatment of the town water supply are:

- Sedimentation
- Filtration
- Chlorination

D. Answer these questions.

1. How is air useful to us?

Ans: Air is useful to us in the following ways:

- It is used for breathing.
- It is used for burning.
- Moving air can support parachutes, gliders and kites.
- It is used to inflate footballs and tubes of vehicles.
- It can also push sailboats.
- It can turn the blades of windmills.
- It is used to draw water and generate electricity.

2. How is stratosphere a very important layer of atmosphere?

Ans: Stratosphere is a very important layer of atmosphere because it contains ozone layer which absorbs ultraviolet rays from the sun which causes skin cancer.

LEARNING OUTCOME

The learner will be able to:

- **understand the importance of water.**
- **know the types of impurities.**
- **learn the ways to remove the impurities.**
- **list the uses of water in our real life.**

THANKING YOU
ODM EDUCATIONAL GROUP