

Case Study 1: The Blocked Drain Mystery

In a small town, people started noticing foul smell coming from the drains. During inspection, workers found that plastic bags, cooking oil, food waste, and sanitary products were clogging the pipelines. Because of this blockage, wastewater overflowed onto the streets, creating unhygienic conditions and increasing the risk of diseases. The municipality decided to conduct an awareness campaign on proper waste disposal.

Questions

1. What is wastewater?
2. Name two materials mentioned that should not be thrown into drains.
3. Why did the drains overflow?
4. State one health risk caused by stagnant wastewater.
5. Suggest one way citizens can help prevent such problems.

Case Study 2: Journey Through a Treatment Plant

Wastewater from a city is carried to a sewage treatment plant through underground pipes. First, large objects like sticks and rags are removed using bar screens. Then sand and grit settle at the bottom in a grit chamber. After that, microorganisms in aeration tanks break down organic waste. Finally, clean water is released into a nearby river while sludge is treated separately.

Questions

1. What is the function of bar screens?
2. Which process removes sand and small stones?
3. How do microorganisms help in wastewater treatment?
4. What happens to the treated water at the end?
5. Name the semi-solid waste separated during treatment.

Case Study 3: A Village Without Proper Sanitation

In a village without proper toilets, many people practiced open defecation near water sources. During rains, waste washed into ponds used for drinking and washing. Soon, villagers started suffering from stomach infections and water-borne diseases. Later, toilets and a simple wastewater management system were built, improving the village's health conditions.

Questions

1. What is open defecation?
2. How did rain worsen the problem?
3. Name one disease that can spread through contaminated water.
4. How did building toilets help the village?
5. Suggest one more measure to keep water sources clean.