1. **Purpose of filtration in water treatment.**
   remove solids from water / remove insoluble substances

2. **Purpose of chlorination in water treatment.**
   sterilises / kill microbes / prevent illness

3.

Water is treated at a waterworks to make it fit to drink.

What is present in the water when it leaves the waterworks?

A   bacteria only

B   bacteria and insoluble substances

C   chlorine compounds only

D   chlorine compounds and soluble substances

Answer: D

4.

Oxides of nitrogen, such as NO and NO_2, are formed in the petrol engines of cars.

They are removed from the exhaust gases by reactions in the car's catalytic converter.

Which row describes how oxides of nitrogen are formed in a petrol engine, and a reaction that happens in the catalytic converter?

	how oxides of nitrogen are formed	a reaction that happens in the catalytic convertor
A	by the reaction between nitrogen and oxygen from the air	$2NO + 2CO \rightarrow N_2 + 2CO_2$
B	by the reaction between nitrogen and oxygen from the air	$2NO + 2H_2 \rightarrow N_2 + 2H_2O$
C	by the reaction between nitrogen compounds in petrol and oxygen from the air	$2NO + 2CO \rightarrow N_2 + 2CO_2$
D	by the reaction between nitrogen compounds in petrol and oxygen from the air	$2NO + 2H_2 \rightarrow N_2 + 2H_2O$

Answer: A

5. **How nitrogen dioxide is formed in car engine**
   - nitrogen (from air) and oxygen (from air) react
   - react due to high temperatures (of engine)

6. **Name the substance used to remove sulphur dioxide in flue gas desulfurization**
   Calcium oxide

7. **State one adverse effect of carbon monoxide**

   Toxic

8. **State one adverse effect of carbon dioxide**

   Increased global warming

9. **Explain, in terms of thermal energy, how greenhouse gases cause global warming**
   - Greenhouse gases absorb thermal energy from the earth

     AND (2 from:)

   - Energy from sun is absorbed by earth's surface
   - Earth emits/ reflects thermal energy
   - Greenhouse gases reduce/ stop thermal energy loss into space
   - Increasing amount of greenhouse gases results in higher atmospheric temperature