

Term: 2nd term

Subject: Basic science

Topic: Air pollution

Objective: By the end of the lesson, students should be able to;

- i. Define air pollution.
- ii. List some air pollutants.
- iii. Enumerate effects, sources and control of air pollution.

INTRODUCTION: Air is an important component of the environment. It is present everywhere. Most living organisms need air. However, air could be very dangerous when it is polluted.

DEFINITION OF AIR POLLUTION

Air pollution is the discharge of waste substances into the air in quantities that make the air we breathe harmful. Those substances generated from various human activities and discharged into air can be responsible for air pollution. They are referred to as **air pollutants**.

They can be in form of tiny solid particles referred to as **particulate air pollutants**. They can also be in the form of gases and are referred to as **gaseous air pollutants**.

Solid air pollutants

S/ N	Solid air pollutants	sources	Effects	control
1.	Dust particles	<ol style="list-style-type: none">i. Road construction.ii. Sweeping of rooms and dusty surroundings.iii. Movement of heavy trucks along untarred road.iv. Cultivation of farmland with tractors.	<ol style="list-style-type: none">i. Can block viewii. Irritate the respiratory tract.iii. Can cause suffocation.iv. Can block the exchange of gases on leaves, therefore the rate of photosynthesis is reduced.	<ol style="list-style-type: none">i. Mask the nose while dust is raised in the environmentii. Water the ground during road construction.
2.	Unburnt	<ol style="list-style-type: none">i. Burning of	<ol style="list-style-type: none">i. Irritates the eyes.	Service engines

	carbon in smoke and soot	<ul style="list-style-type: none"> ii. firewood, coal and plastics. iii. Cooking with faulty stoves. iv. Bush burning. iv. Exhaust pipe of unserviced engines. 	<ul style="list-style-type: none"> ii. Irritates the respiratory tract. iii. Causes cough iv. May cause respiratory disorder. 	regularly.
3.	Wood particles	<ul style="list-style-type: none"> i. Furniture industries ii. Carpenter's workshop. iii. Sawmills. iv. Paper industries. 	<ul style="list-style-type: none"> i. Irritates the respiratory tract. ii. Cause respiratory tract disorders. iii. Can trigger off crisis in asthmatic persons. 	<ul style="list-style-type: none"> i. Avoid inhalation of wood particles by masking the nose properly when working in sawmills and industries that generate wood particles. ii. Shield the industry to prevent the escape of wood particles into the air.
4.	Asbestos particles	Asbestos factories during production of ceiling boards and roofing sheets.	<ul style="list-style-type: none"> i. can accumulate and cause respiratory problems. ii. Can trigger off asthmatic crisis. 	<ul style="list-style-type: none"> i. Cover the nose. ii. Shield the factory

				to prevent the escape of particle into the air.
5.	Cement factories	1. Cement industries during the packaging of cement. 2. Building sites. 3. Cement shops during loading and off-loading.	i. Can accumulate and cause respiratory problems. ii. Cause cough.	i. Use mask and wear overall.

Gaseous air pollutants

S/N	Gaseous air pollutant	sources	effects	control
1.	ammonia	i. Decaying organic matter ii. Dirty gutters. iii. Stagnant water.	Poisonous to animals.	Good sanitation.
2.	smoke	Burning of wood and refuse.	i. Irritates the eyes. ii. Causes cough.	Use incinerators for burning refuse.
3.	insecticide	Sprayed in the environment by human beings.	i. Irritates the eye. ii. May cause death of human beings. iii. Causes cough.	i. Use minimum amount. ii. Leave room after spraying, till the effect clears.
4.	Carbon dioxide (carbon (1v) oxide)	i. Burning of wood ii. Burning of coal. iii. Burning of	i. Accumulates in the air. ii. Reduction of oxygen in the blood.	Plant trees that can use up the excess carbon dioxide for photosynthesis.

		kerosene.	iii. Blocks the passage of heat from the earth iv. to the atmosphere.	
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HOMEWORK

1. List any four other solid air pollutants.
2. List any four other gaseous air pollutants.
3. State the sources of Hydrogen Sulphide and its effects on human beings.