

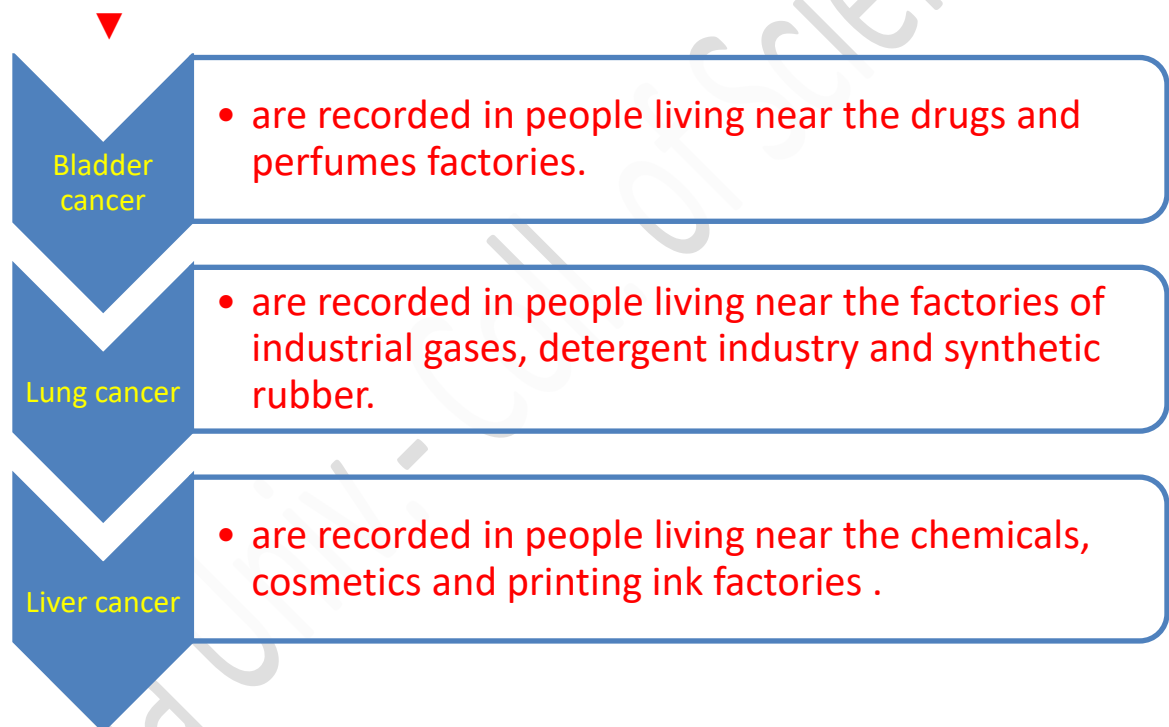
The effects of environmental pollution: -

Environmental pollutants of various kinds have important effects on humans, animals and plants, as well as materials. We will review some of these effects: -

1- The effect of pollutants on humans

I- Carcinogenicity (Cancer events) : can be observed through:

High rates of :



II- Mutagenicity (mutation events)

III- Teratogenicity events

IV- Various psychological and respiratory diseases and poisonings, some of which may lead to death.... etc.

2- The effect of pollutants on animals

I - Some pollutants in the water, including **oil and thermal pollution**, may cause to the death of millions of fish annually, as well as exhaust gases of cars that contain

lead salts causing poisoning to animals, especially to sheep and horses, and in general, many animals are affected faster than human because they are sensitive to low concentrations of pollutants.

II- Birds are affected by some pollutants, including pesticides, which leads to reduce reproduction in them.

III - Some pollutants cause irritation in the eyes of some animals as well as difficulty breathing.....etc.

3- The effect of pollutants on plants

I - *Partial effect*: which includes damage to leaves and fruits.

II - *Comprehensive effect*: Pollutants interfere with the physiological functions of the plant and then affect its growth, flowering, and fruit (this leads to a decrease in agricultural production, causing major economic losses).....etc.

Note: Some pollutants may contribute to increasing the growth of some types of plants, such as harmful algae.

4- The effect of pollutants on materials

I - Some pollutants such as sulfur dioxide (SO_2) and nitrogen oxides (NO_x) affect building materials.

II- Some water pollutants, such as some organic compounds, affect the performance of industrial pumps and equipment.

III- Air transport noise can cause glass breakage.....etc.

Sources of pollution:

There are two important sources of environmental pollution:

1- Natural sources: - Multiple pollutants can be produced due to climatic factors such as wind, rain, forest fires, volcanic eruptions ... etc., the most important of which are: -

I- Small particles in the air

II- Suspended matter in the water

III- Soil erosion

IV- Increasing the concentration of salts in water and soil

V- Toxic gases emitted from volcanoes

2- Pollution sources that result from human activities (The most dangerous):

I- **Household waste:** Such as detergents, household fuel,.... etc.

II- **Industrial waste:** such as the chemical industries, paper, oil, rubber, iron, sulfur, phosphates, etc.

III- **Agricultural waste:** Such as crop residues, animal waste, chemical fertilizers, pesticides, etc.

IV- **Wastes of vehicles:** - The car exhaust produces pollutants such as lead, carbon monoxide, nitrogen oxides and hydrocarbons.

V- **Radioactive materials:** as the materials resulting from nuclear reactors and nuclear explosions.

VI- **Noise:** - It makes people fast anger and may lead to ulcers, as well as may lead to hearing loss.