

PSA

CLASS VIII SCIENCE

PASSAGE - 1

We can survive for sometime without food, but we cannot survive even for a few minutes without air. This simple fact tells us how important clean air is to us. We know air is a mixture of gases. When air is contaminated with unwanted substance which has a harmful effect on both living and non-living, it is referred to as air pollution.

Respiratory problems are caused by air pollutants. Carbon-monoxide produced by incomplete burning of fuels reduces oxygen carrying capacity of blood. Thick layers of fog and smoke form smog during winters. Oxides of sulphur and nitrogen combine with water and lead to acid rain. Chlorofluorocarbons (CFC's) used in refrigeration, air conditioners and aerosols damage the ozone layer. The ozone layer protects us from harmful ultraviolet rays of the sun.

Increase in concentration of CO₂ in the atmosphere leads to trapping of heat radiations by the atmosphere. This leads to increase in temperature of earth. This phenomenon is known as global warming. We should hence take all steps to prevent pollution of air.

- (1) Identify a disease that is not caused due to pollution of air.
(a) Asthma (b) Lung cancer
(c) Diabetes (d) Bronchitis
- (2) In addition to carbon -dioxide which of the following gases contributes to global warming.
(I) Nitrous oxide (II) Oxygen
(III) Methane (IV) hydrogen
(a) I & II (b) I & IV (c) I & III (d) III & IV
- (3) A flight which was supposed to take off at 8.00 am was cancelled due to thick smog during the month of December at Delhi airport. What caused the authorities to cancel the flight?
(a) Not enough passengers (b) Reduced visibility
(c) Non availability of fuel (d) lack of food for passengers.
- (4) Which of the following human activities causes pollution of air?
(I) mining activities (II) Burning fossil fuels
(III) Washing clothes (IV) Reading books
(a) I & III (b) I & II (c) I & IV (d) III & IV

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PASSAGE – 2

Friction is a force which opposes the motion of an object. A vehicle slows down when brakes are applied. A ball rolling on the ground stops after some time. All these activities are due to the frictional force. You would notice that it is easier to hold an earthen pot filled with water than a glass tumbler between your hands. Friction is caused by irregularities on the two surfaces in contact.

Frictional force is necessary in doing many activities in our daily life. Recall how difficult it is to move on a wet muddy track or a wet marble floor. Can you imagine being able to walk at all if there were no friction? Friction also causes wear and tear on a long run.

Many activities in our daily life have instances where we have tried to increase the frictional force operating or sometimes reduce the frictional force operating on the objects. The substances which reduce friction are called as lubricants.

- (1) A ball is rolling on the floor. It comes to rest after sometime. In which direction has the force of friction acted upon the ball?
 - (a) Same direction as the force of friction.
 - (b) Sideways
 - (c) Opposite direction
 - (d) upward direction
- (2) Listed below are four activities. Identify the activities which require the presence of frictional force.

(I) Skating	(II) Climbing a mountain
(III) Motion of fan	(IV) Opening a bottle

 - (a) I & II
 - (b) II & III
 - (c) I & IV
 - (d) II & IV
- (3) Ramesh is pushing a large box on the floor. What can he do to move the box using less force?
 - (a) Place the box on wheels
 - (b) Sit on the floor and push the box
 - (c) Direct his push to the bottom of the box.
 - (d) Move to the front and pull the box.
- (4) Which of the following is a situation where frictional force is reduced?
 - (a) Treading of tyres
 - (b) Kabaddi players rub their hand in soil
 - (c) Sprinkle fine powder on carom board
 - (d) An athlete uses spike to run.

ANSWER KEY

Passage –I Answer key.

- (1) (c) Diabetes
- (2) (c) I & III
- (3) (b) reduced visibility
- (4) (b) I & II

Passage – II Answer key.

- (1) (c) Opposite direction
- (2) (d) II & IV
- (3) (c) Place the box on wheels
- (4) (c) sprinkle fine powder on carom board