



INDIAN SCHOOL AL WADI AL KABIR



CLASS: VII	DEPARTMENT: SCIENCE 2024 - 2025	DATE: 19/08/2024
TEXTBOOK Q & A	TOPIC: RESPIRATION IN ORGANISMS	NOTE: A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.

1. Why does an athlete breathe faster and deeper than usual after finishing the race?

[Athletes need a lot of energy during the race, and for the release of energy, they need a lot of oxygen; hence they breathe faster than usual after finishing the race.]

2. List the similarities and differences between aerobic and anaerobic respiration.

[Similarities:

(i) In both aerobic and anaerobic respiration, food is broken down to release energy.

(ii) Both takes place inside cells.

(iii) Both produces byproducts.

Differences

Aerobic respiration	Anaerobic respiration
Takes place in the presence of Oxygen	Takes place in the absence of Oxygen
End products are Carbon dioxide (CO ₂) and water (H ₂ O)	End products are Carbon dioxide (CO ₂) and alcohol
Produces a large amount of energy	The energy released is less when compared to aerobic respiration
It occurs in most plants and animals	Occurs in yeast and some bacteria

Q3. Why do we often sneeze when we inhale a lot of dust-laden air?

[We often sneeze when we inhale a lot of dust-laden air to expel the foreign particles. These

particles get past the hair in the nasal cavity and irritate the lining of the cavity which results in sneezing.]

4. Take three test-tubes. Fill $\frac{3}{4}$ th of each with water. Label them A, B and C. Keep a snail in test-tube A, a water plant in test-tube B and in C, keep snail and plant both. Which test-tube would have the highest concentration of CO₂?

[Living organisms release CO₂ during respiration whereas plant utilise CO₂ for photosynthesis. So, test tube A will have the highest concentration of CO₂ because test-tube A will have snail which expels CO₂ into the tube. In test tubes B and C, there is a plant which will utilise CO₂ for photosynthesis and hence there is less concentration of carbon dioxide.]

5. Tick the correct answer:

(a) In cockroaches, air enters the body through

(i) lungs (ii) gills

(iii) spiracles (iv) skin

(b) During heavy exercise, we get cramps in the legs due to the accumulation of

(i) carbon dioxide **(ii) lactic acid**

(iii) alcohol (iv) water

(c) Normal range of breathing rate per minute in an average adult person at rest is:

(i) 9–12 **(ii) 15–18**

(iii) 21–24 (iv) 30–33

(d) During exhalation, the ribs

(i) move outwards **(ii) move downwards**

(iii) move upwards (iv) do not move at all

6. Match Columns I and Column II

Column I	Column II
(a) Yeast	(i) Earthworm
(b) Diaphragm	(ii) Gills

(c) Skin	(iii) Alcohol
(d) Leaves	(iv) Chest cavity
(e) Fish	(v) Stomata
(f) Frog	(vi) Lungs and skin
	(vii) Tracheae

Column I	Column II
(a) Yeast	(iii) Alcohol
(b) Diaphragm	(iv) Chest cavity
(c) Skin	(i) Earthworm
(d) Leaves	(v) Stomata
(e) Fish	(ii) Gills
(f) Frog	(vi) Lungs and skin

7. Mark 'T' if the statement is true and 'F' if it is false:

- (i) During heavy exercise the breathing rate of a person slows down. **(FALSE)**
- (ii) Plants carry out photosynthesis only during the day and respiration only at night. **(FALSE)**
- (iii) Frogs breathe through their skins as well as their lungs. **(TRUE)**
- (iv) The fishes have lungs for respiration. **(FALSE)**
- (v) The size of the chest cavity increases during inhalation. **(TRUE)**

8. Given below is a square of letters in which are hidden different words related to respiration in organisms. These words may be present in any direction — upwards, downwards, or along the diagonals. Find the words for your respiratory system. Clues about those words are given below the square.

S	V	M	P	L	U	N	G	S
C	Z	G	Q	W	X	N	T	L
R	M	A	T	I	D	O	T	C
I	Y	R	X	Y	M	S	R	A
B	R	H	I	A	N	T	A	Y
S	T	P	T	B	Z	R	C	E
M	I	A	M	T	S	I	H	A
S	P	I	R	A	C	L	E	S
N	E	D	K	J	N	S	A	T

- (i) The air tubes of insects – **Tracheae**.
- (ii) Skeletal structures surrounding chest cavity – **Ribs**.
- (iii) Muscular floor of chest cavity – **Diaphragm**.
- (iv) Tiny pores on the surface of leaf- **Stomata**.
- (v) Small openings on the sides of the body of an insect- **Spiracles**.
- (vi) The respiratory organs of human beings- **Lungs**.
- (vii) The openings through which we inhale- **Nostrils**.
- (viii) An anaerobic organism- **Yeast**.
- (ix) An organism with tracheal system- **Ant**.

9. The mountaineers carry oxygen with them because:

- (a) At an altitude of more than 5 km there is no air.
- (b) The amount of air available to a person is less than that available on the ground.**
- (c) The temperature of air is higher than that on the ground.
- (d) The pressure of air is higher than that on the ground.

Prepared by:
Ms Preeti Nambiar

Checked by:
HoD Science