

Class : X

Subject : Biology

WORKSHEET - 2

Ch.6 LIFE PROCESSES

Respiration:

1. Respiration is a vital process in plants and animals. Comment on this statement.
2. Respiration is a catabolic process. Justify this statement .
3. Where does the process of aerobic respiration take place in the cell?
4. The end product of a process is ethanol and carbon dioxide with release of energy. Name this process and write the pathway involved in the reaction.
5. Name the intermediate and the end products of glucose breakdown in aerobic respiration.
6. ATP is known as energy currency of the cell. Comment on this statement.
7. Briefly explain how external respiration is different from internal respiration.
8. Compare between alcoholic fermentation and lactic acid fermentation.
9. What are the end products formed during respiration in yeast?
10. Name the energy currency in living organisms. When and where is it produced?
11. Why do fishes die when taken out of water?
12. Why do aquatic animals breathe faster than the terrestrial animals?
13. Define fermentation
14. Why do we take a hot water massage for muscular cramps?
15. How does anaerobic respiration take place in human beings?
16. What is cellular respiration?
17. Explain how exchange of gases takes place in leaves.
18. "All organisms which obtain energy by aerobic respiration cannot live without oxygen". Comment.
19. How is energy converted into ATP?
20. Which is the most common respiratory substrate?
21. Explain the process of respiration in terrestrial organisms.
22. How does a terrestrial animal have more advantages to aquatic animal to obtain oxygen for breathing?
23. How does exchange of gases take place in fishes?
24. How does exchange of gases differ in plants from day time to night time?
25. What are the features of a respiratory organ in animals?

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26. Name the organs involved in the process of respiration in human beings.
27. What are the functions of the nasal cavity? How is it designed to perform these functions?
28. In what forms are oxygen and carbon dioxide transported in the blood?
29. Explain the process of inhalation and exhalation in human beings.
30. Name the floor of chest cavity.
31. Name the actual site of gaseous exchange in human beings.
32. What is the need of respiratory pigments in large multicellular animals?
33. What is the function of haemoglobin in red blood cells?
34. What would happen to a plant if the rate of respiration becomes more than the rate of photosynthesis?
35. What is the necessity of green aquatic plants in a fish aquarium?
36. Give the part of chemical reaction common to both aerobic and anaerobic respiration.
37. What is the residual volume of air? How is it useful?
38. What are the advantages of breathing through nose over mouth?
39. After a vigorous exercise, we feel cramps in leg muscles. Why does this happen?
40. Draw a diagram of human respiratory system and label the following after identification:
 - a) Part where air is filtered by fine hair and mucus.
 - b) Part which terminates in balloon like structures.
 - c) Balloon like structures where exchange of gases takes place.
 - d) Part which separates chest cavity from abdominal cavity.
41. What is the function of rings of cartilage in throat?
42. Which product is released after the first step of glucose breakdown? Where does it take place?
43. Name the fundamental process in which living organisms release energy within their cytoplasm.
44. Why do the walls of the trachea not collapse when there is less air in it?
45. Write the path travelled by a molecule of oxygen when it enters the body
46. If a cell is given adequate supply of oxygen, which respiration process will it follow?
47. Plants have low energy needs as compared to animals. Explain.
48. What are alveoli? Mention their role in respiration.
49. Diffusion pressure will not be able to deliver oxygen all over the body in bigger animals. Comment.
50. Name the cell organelle in which respiration occurs.

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WORKSHEET - 1

LIFE PROCESSES

Plant Nutrition:

- Name the following:
 - The process in plants that links light energy with chemical energy
 - Organisms that can prepare their own food.
 - The cell organelle where photosynthesis occur.
 - Cells surrounding a stomatal pore.
 - Organisms that cannot prepare their own food.
- "All plants give out O_2 during day and CO_2 during night". Do you agree with this statement? Give reason.
- Two green plants are kept separately in O_2 free containers one in the dark and other in continuous light, which one will live longer? Give reason.
- If a plant is releasing CO_2 and taking in O_2 during the day, does it mean that there is no photosynthesis occurring? Justify your answer.
- Is nutrition a necessity for an organism? Discuss.
- What would happen if green plants disappear from earth?
- How is CO_2 obtained by a) aquatic plants b) terrestrial plants?
- How do autotrophs obtain CO_2 & N_2 to make their food?
- What are life processes?
- What are the different modes of nutrition?
- What are the by-products of autotrophic nutrition?
- Why there is controversy about viruses being alive or not?
- Living creatures must keep repairing and maintaining their structures. Justify the statement.
- Which type of reaction occurs in the body to breakdown molecules?
- Transportation system transports waste products, then what is the need for excretory system?
- What are stomata? What functions do they perform? How is opening and closing of stomata controlled?
- Draw the diagram of cross section of a leaf and label the chloroplast and cuticle.
- Name the gas released during photosynthesis. How is this gas formed?
- Name the group of plants in which stomata remain closed during the day? How is food synthesised by them?
- Draw a diagram to show open stomatal pore and label guard cells and chloroplast.
- Which is the internal energy reserve in plants?
- Name the energy reserve in animals.
- Give the energy transformation that takes place in the process of photosynthesis.
- Leaves of a healthy potted plant were coated with vaseline to block the stomata. What will happen to the plant after few days?

Heterotrophic Nutrition:

1. Name the enzyme present in saliva.
2. Why is small intestine in herbivores longer than in carnivores?
3. What is the significance of emulsification of fats?
4. The gall bladder stores bile. A patient in hospital has had his gall bladder removed and needs a special diet. Which nutrient free diet would be suitable for this patient?
5. On which type of food does salivary amylase act and what is the end product formed in this reaction?
6. What is the common feature for cuscuta, ticks, and leeches?
7. Name the substrates for the following enzymes
a) Trypsin b) Amylase c) Pepsin d) Lipase.
8. Name the organ which performs the following function. a) absorption of digested food. b) absorption of water from undigested food.
9. Bile juice does not contain any digestive enzymes yet it is essential for digestion. Why?
10. How would digestion of food be affected if the bile duct is completely blocked?
11. How would the digestion of proteins and carbohydrates in duodenum be affected if there is a blockage in the pancreatic duct?
12. What is the role of hydrochloric acid in protein digestion?
13. Name the enzymes secreted by pancreas
14. Differentiate between Saprotrophs and Parasites.
15. What are the functions of stomach in humans?
16. Where does digestion of starch begin in humans?
17. Which type of medium acidic or basic is required for the functioning of Pepsin?
18. What is peristalsis?
19. Name the major glands associated with the alimentary canal of humans.
20. What will happen if mucus is not secreted by the gastric glands?
21. What is the significance of emulsification of fats?
22. What causes movement of food inside the alimentary canal?
23. Why does absorption of digested food occur mainly in the small intestine?
24. Explain the role of mouth in digestion of food.
25. Name the muscle which controls the exit of faeces.
26. How do the foods from the stomach exit to enter the intestine?
27. What are the final products of carbohydrates, proteins and fats after their digestion?
28. What is the role of villi in the digestive system?
29. Why food should be chewed thoroughly before swallowing?
30. Why starch digestion, started in the mouth ceases when food reaches the stomach?
31. Hydrochloric acid is a strong acid yet it does not corrode the walls of stomach. Why?
32. Write the end product of the meal which mainly consists of protein and starch.
33. Villi is present in the intestine of human being and has role in the process of digestion. How it is adapted to carry out this process?
34. Why does our mouth water when we eat something?
35. Food does not pass through the digestive system by gravity. You can still digest food even if you are lying down. Explain how food passes through our digestive system.