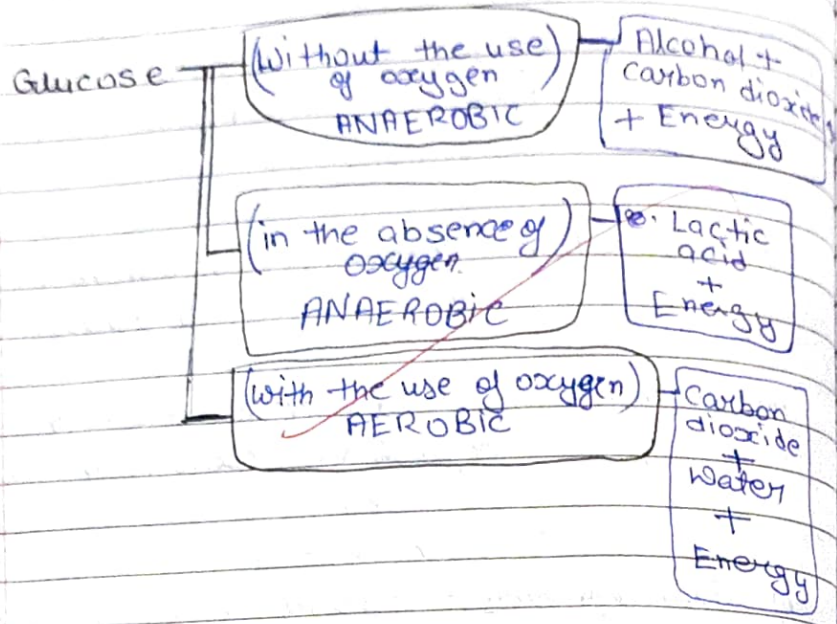
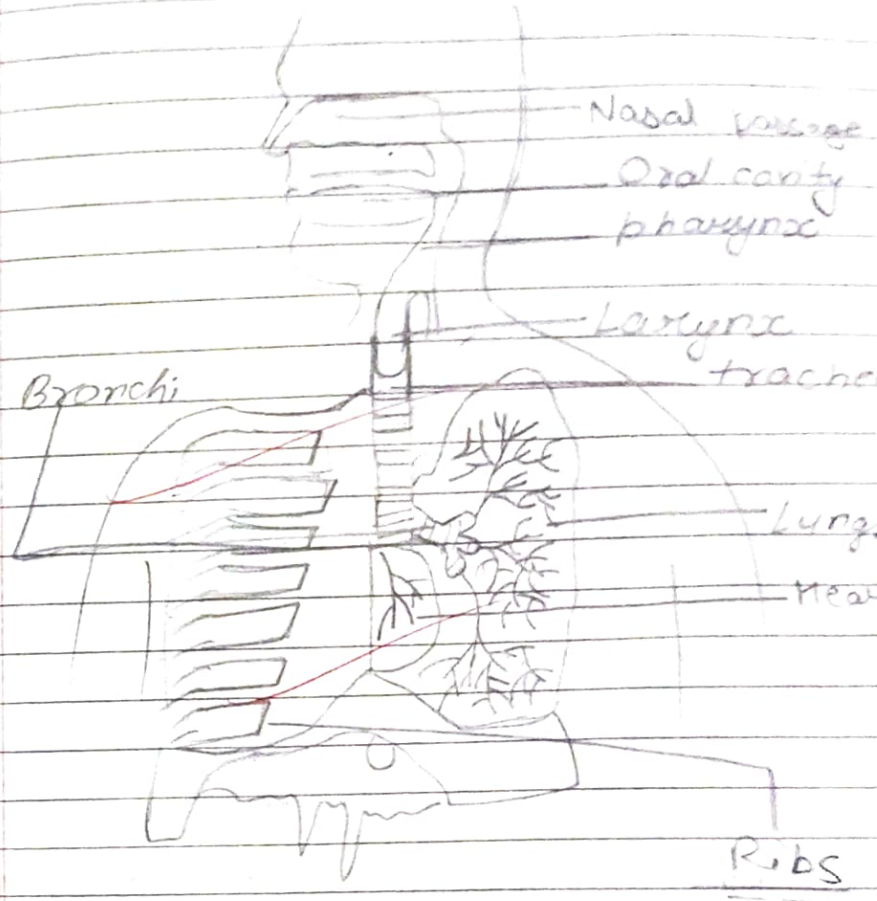
TYPE OF RESPIRATION
(Based on the use of oxygen)



3/11/2022
Thu

Human-respiratory-System



16/11/2022

Something to Know

A) Fill in the blanks

1) Lactic acid produced during anaerobic respiration.

2) Insects have organs, called tracheae for respiration

3) Taking in of air, rich in oxygen, is called inhalation

4) An adult human being normally breathes from 14 to 20 times per minute.

5) The movement of lungs is controlled by the diaphragm and the rib cage.

6) Haemoglobin acts as the respiratory carrier in our body.

B MATCH THE FOLLOWING

1) Lactic acid — Muscle cramps
2) Stomata — Transpiration
3) Respiratory carrier — Haemoglobin
4) Lenticles — Pores on branches
5) Alcohol — Fermentation of yeast

C Tick (✓) the correct option

1) Respiration help in—
= obtaining energy

2) Stomata perform the function of—
= exchange of gases

3) The process represented by the following equation
(glucose + oxygen → carbon dioxide + water + energy)
= is aerobic respiration.

4) To survive, plant ~~root~~ need
= oxygen

5) Earthworms and leeches respire through their-
= skin

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D) Answer the following question in brief:-

1) Define ~~res~~ respiration. Name the two types of respiration
= Respiration, releases this energy from the food and help the organism to perform its biological activities

types of respiration:-
1) Aerobic
2) Anaerobic

2) Name the respiratory organ of the following:

(a) crab = gills
(b) man = lungs
(c) leech = skin
(d) an insect = trachea

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3) Define transpiration:
= loss of excess water from plant through open stomata.

4) Define the term 'breathing rate'.
= number of time a person breathes per minute.

5) Name the body organs which help lungs during the process of breathing.
= Organ which help lungs during the process of breathing are:-
diaphragm and rib cage.

6) Why do we need to breathe out Carbon dioxide?
= High level of carbon dioxide in the body can be toxic and hence, carbon dioxide needs to be removed.

E Answer the following question

1) Why do we get muscle cramps after heavy exercise?

= Human muscles can respire anaerobically However, lactic acid is produced during this process and accumulates in the muscles. Because of this, the muscle cannot continue working for long. They fatigued after some time causing muscle cramps.

2) Why does a potted plant die when over watered?

= The potted plants die when they are overwater because the roots will not get enough oxygen to breathe as water fills up the air spaces present between the soil particle.

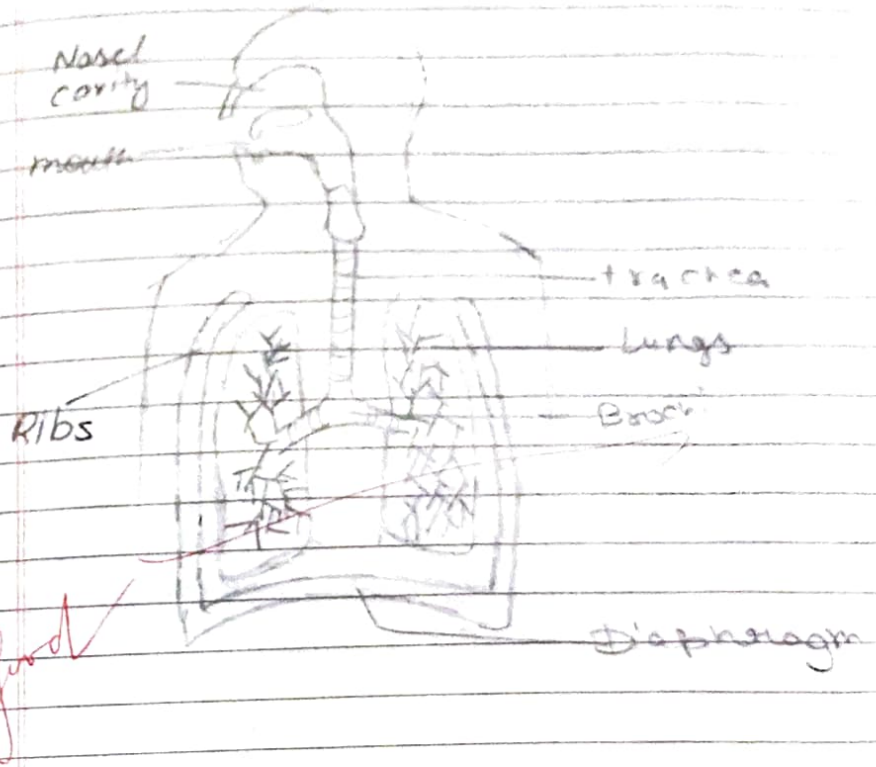
3) Where are stomata found in a plant? State their function

= Stomata found on the surface of the leaf of plant. The stomata generally open up during the day time and remain closed at night. They help in the exchanging of carbon dioxide and oxygen

4) How is oxygen transported from lungs to the other parts of the body?

= The body while passing through the lungs, picks up oxygen with the help of a red pigment called haemoglobin. it transport oxygen to different ~~pad~~ part of the body. it also picks up some of the carbon dioxide, produced by the cells, during ~~cellular~~ cellular respiration, and transport it to the lungs for expiration Haemoglobin, thus acts as a 'respiratory carrier' in our body.

5) Draw a neat well-labelled diagram of human respiratory system.



6) Describe an activity to show that exhaled air contains carbon dioxide.

= ~~Activity~~

= Take a drinking straw and a test tube containing freshly prepared lime water. Place one end of the straw in the lime water and blow the exhaled air gently at the other end of straw.

We observe that Lime water turns milky due to the presence of carbon dioxide in the exhaled air.

7) ~~Describe an activity~~

7) Describe the changes that take place :-

(a) around the rib cage

= Around the rib cage during inspiration the inter coastal muscles contract, lifting, the rib ~~cage~~, upward and outward.

(b) diaphragm

= the diaphragm contract and lungs move down as well as outward until it form a nearly flat sheet.

(c) Chest cavity, during inspiration

= The chest cavity moves outwards due to intercostal muscles and diaphragm contraction.

VBG

1) State the values displayed by Shweta.

= Shweta had determination courage, presence of mind, positive attitude.

3) State the likely reason due to which Shweta felt cramp in her legs.

= Shweta felt cramp in her legs due to anaerobic respiration and accumulation of lactic acid.

Condition	Photosynthesis/ Respiration	Overall result
a) Dark	↓ Respiration No photosynthesis	↓ Oxygen taken in Carbon dioxide given out
b) Dim light (Appropriate)	Photosynthesis rate equals respiration rate	There is no net intake or release of either oxygen or carbon dioxide
c) Bright light	↑ Photosynthesis rate is greater than the respiration rate	↑ CO^2 taken in and oxygen given out

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