Biology Crib Sheet: Topic 2

A

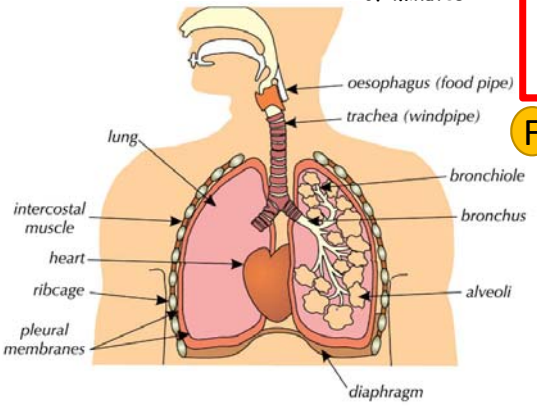
Cell	Building block of life
Tissue	A group of similar cells that work together to complete a function
Organ	A group of different tissues that work together to complete a function
Organ System	A group of organs working together to complete a function

B

Chemical	Tests for...	Result
Iodine	Starch	Orange to blue/black
Benedict's	Sugars	Blue to green/yellow/red
Biuret	Proteins	Blue to pink/purple
Sudan III	Lipids	Top layer bright red

C

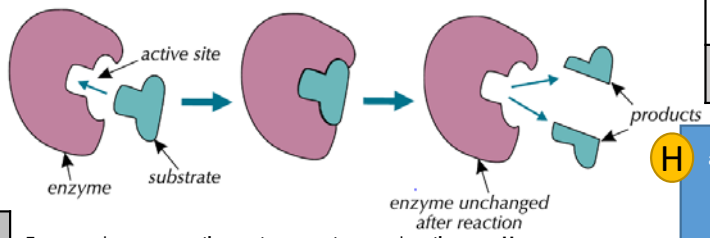
Breathing rate = number of breaths ÷ number of minutes



D

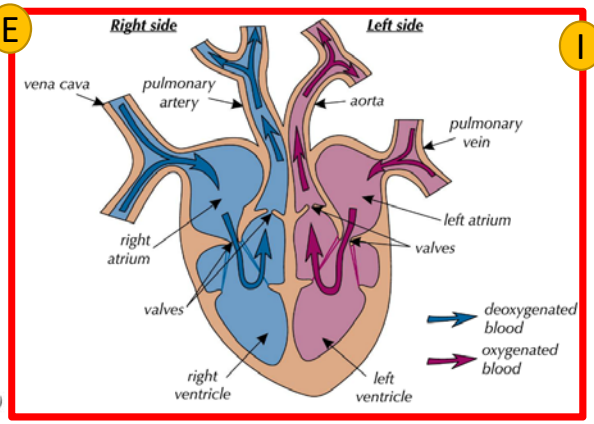
Enzyme- A Biological Catalyst
Catalysts- substances which increase the speed of a reaction without being changed or used up.

LOCK & KEY MECHANISM



Enzymes have an **optimum temperature** and **optimum pH**

E



F

Red blood cell	Carry oxygen to body cells. Biconcave disc shape gives them a large surface area. Contain haemoglobin, which binds to oxygen.
White blood cell	Part of the immune system, which defends us against infection by microbes. Some engulf microbes; others produce antibodies.
Platelets	Small fragments of cells, responsible for blood clotting.
Plasma	Liquid that carries cells, nutrients, hormones, water and urea.

G

Amylase	Breaks down starch into sugars
Protease	Breaks down proteins into amino acids
Lipase	Breaks down lipids into glycerol and fatty acids
Bile	Neutralises stomach acid & emulsifies fats

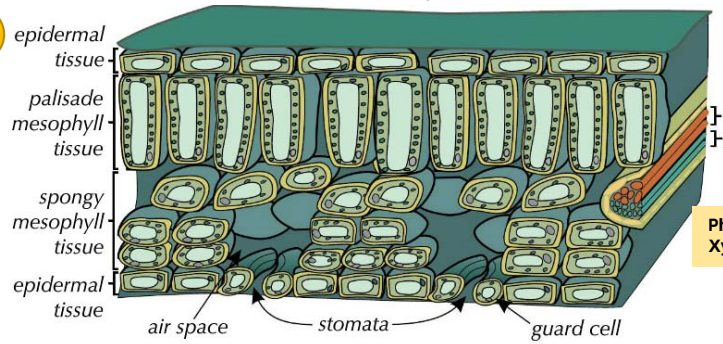
H

a) Arteries take blood away from the heart. They have thick muscular walls to cope with high pressure.
b) Veins take blood back to the heart. They have valves to prevent the backflow of blood and a large lumen.
c) Capillaries are 1 cell thick& carry blood to every cell

I

1) Blood flows into the two atria from the vena cava and the pulmonary vein.
2) The atria pump the blood into the ventricles.
3) The ventricles pump the blood out of the heart:
   - Blood from the right ventricle goes through the pulmonary artery to the lungs.
   - Blood from the left ventricle goes through the aorta to the rest of the body.
4) The blood then flows to the organs through arteries, and returns through veins (see next page).
5) The atria fill again — the whole cycle starts over.

J



Leaf Structure-
What does each part of the leaf do?

Phloem- Carry sugars
Xylem- Carry Water

K

How can we investigate the effect of pH on enzyme activity?

a) Put a drop of iodine in every well of a spotting tile
b) Set up a water bath at 35°C and heat separate test tubes of starch and amylase for 5 mins.
c) Mix the starch and amylase.
d) Every 30 secs, remove a drop using a pipette and add to a well in the spotting tray.
e) When all the iodine stays orange, all the starch has been broken down.
f) Record the time taken.

L

Transpiration rate is increased when:
a) It is windier
b) It is warmer
c) It is sunnier
d) It is more humid