

Year 9

Biology booklet

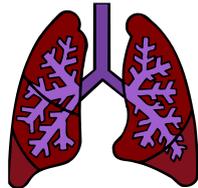
Topic 3 - organisation

Name: _____

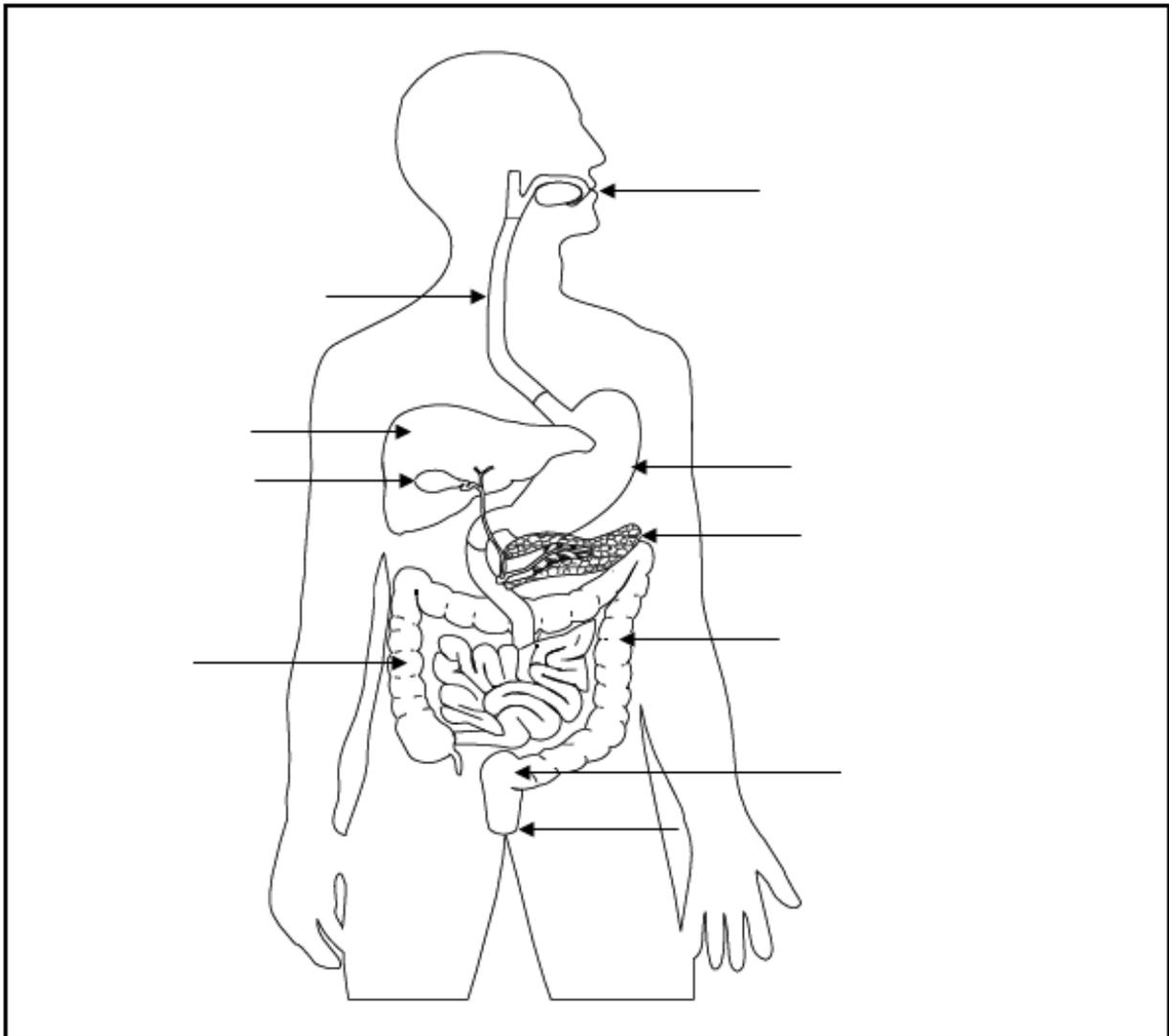
Organisation

Give a definition for each of these key words:

Cell	
Tissue	
Organ	
Organ system	
Organism	
Digestion	
Enzyme	
Circulation	
Double pump	
Blood	
Artery	
Vein	
Capillary	
Gas exchange	

Name of system	Organs of the system	tissues	cells
Nervous system  Granule Cell			
Digestive System 			
Circulatory system  Red Blood Cell			
Respiratory System 			
Muscle and skeletal system  Muscle cell			

The digestive system



Anus -

Oesophagus -

Gall bladder -

Large intestine -

Liver -

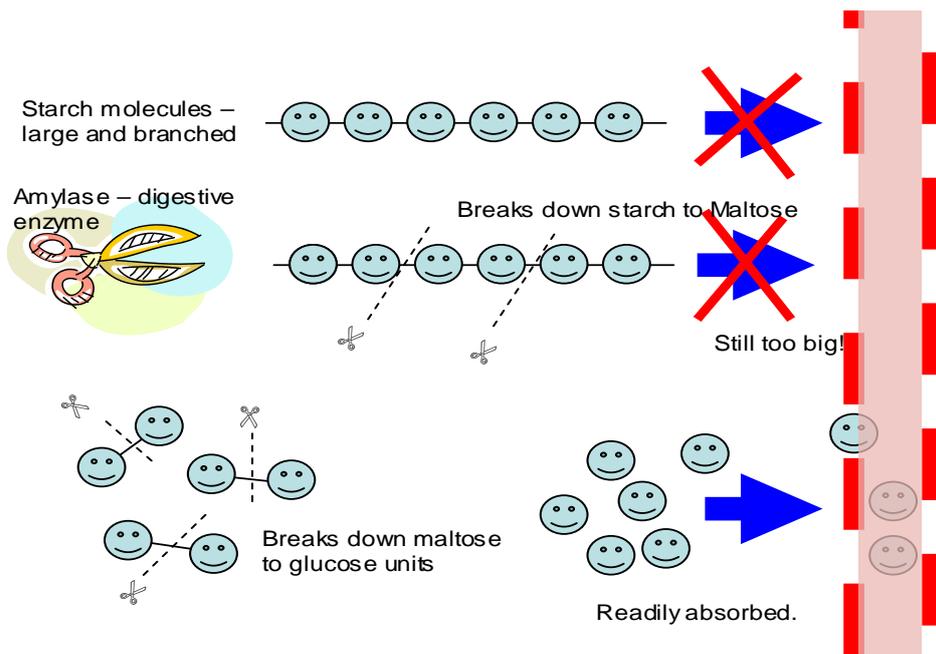
Mouth -

Pancreas -

Rectum -

Small intestine -

Stomach -



S _____ molecules are the storage structure used by plants.

Basically they are long, often branched chains of _____ molecules.

Glucose (a sugar) is required by the body to provide _____.

Starch cannot be absorbed into the blood stream because the molecules are _____.

In the mouth, an enzyme called amylase (_____) starts the digestion of starch by breaking it down into _____.

Maltose molecules are also _____ to be effectively absorbed.

Amylase from the pancreas (_____) mixes with starch in the small intestine to produce more maltase.

The small _____ produces an enzyme called _____ that breaks down maltose to glucose.

The _____ molecules are then taken into the blood and transported around the body to provide energy.

Glucose	too small	protein	Starch	maltose	potatoes
Pancreatic amylase	intestine	Energy	too big	Sugar	
Salivary amylase	too big	maltase			

Deoxygenated
blood



Oxygenated
blood



THE HEART

The P _____ A _____

The A _____ takes blood to the _____

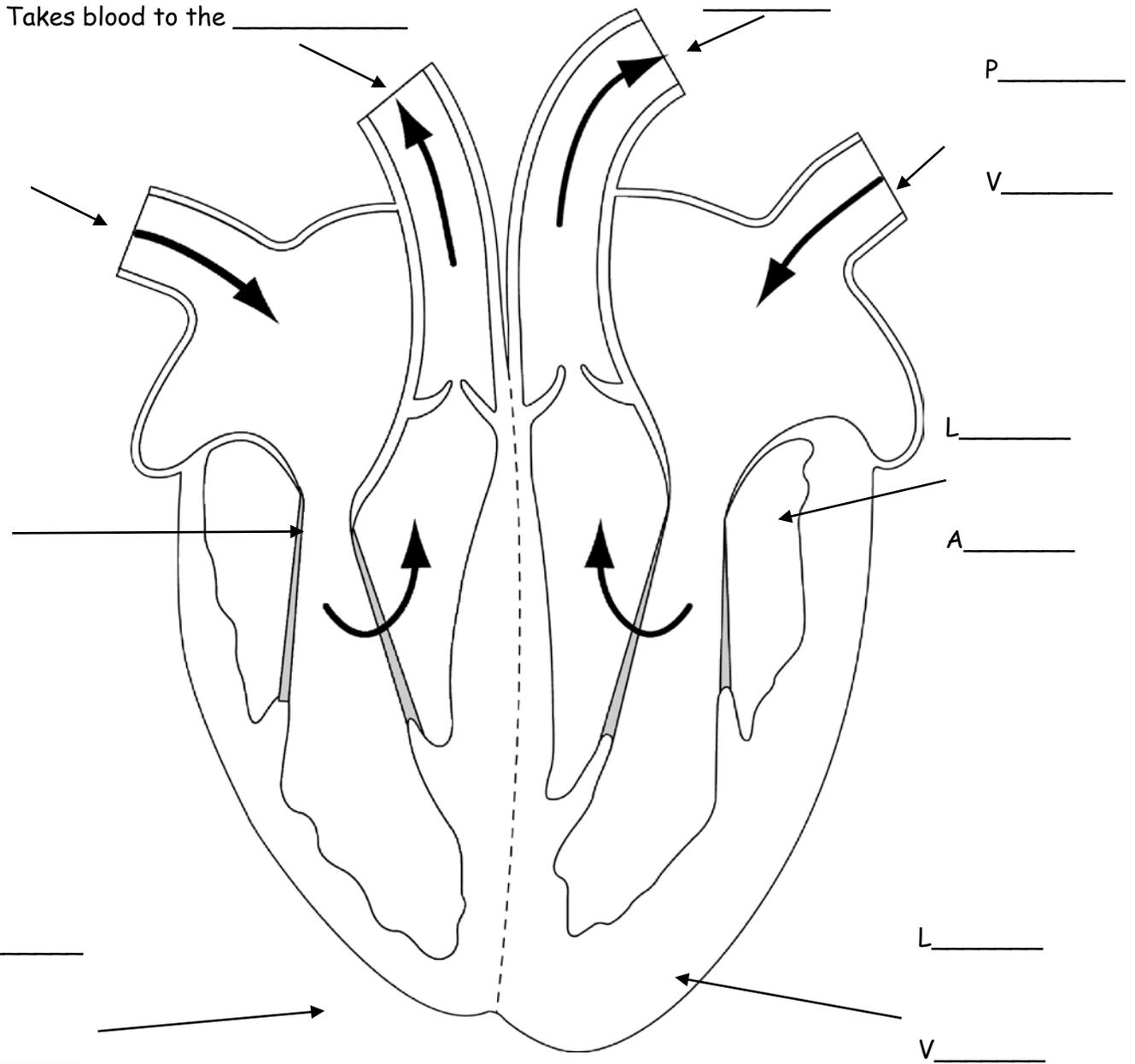
Takes blood to the _____

V _____

P _____

C _____

V _____



R _____

L _____

A _____

A _____

R _____

L _____

V _____

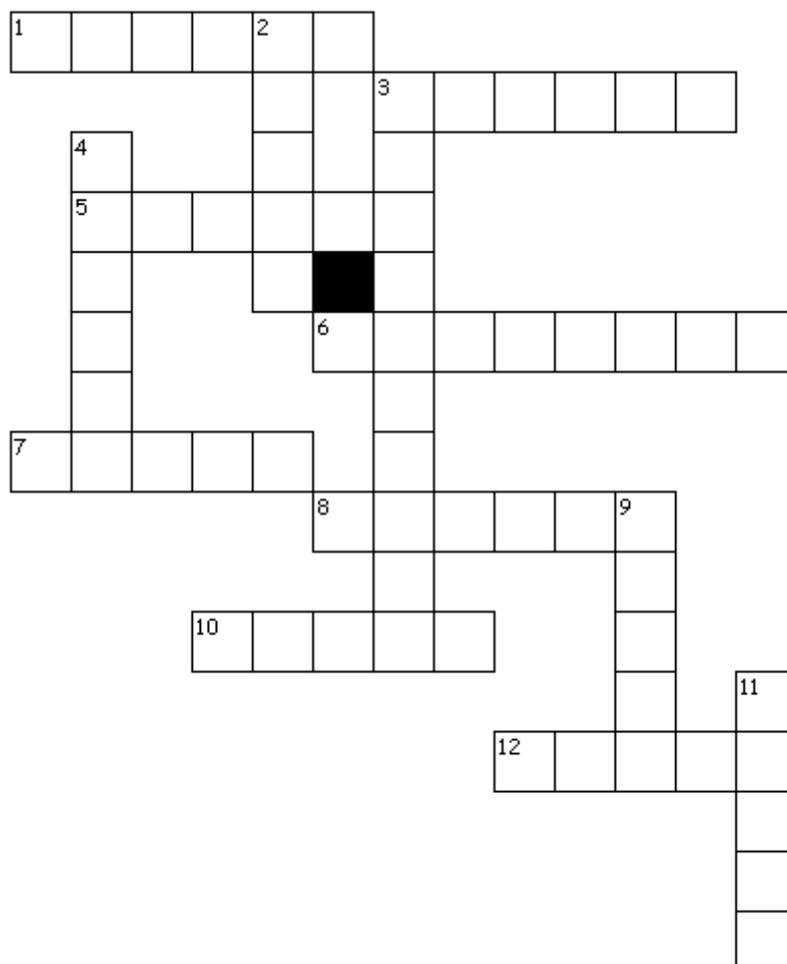
V _____

The heart is made out of _____ Muscle.

It is a double _____ that squeezes the blood around the _____ and to the _____. The _____ side pumps blood to the lungs to pick up _____. The _____ side pumps blood around the rest of the body.

RIGHT, LEFT, CARDIAC, BODY, PUMP, LUNGS, OXYGEN

The Heart and Circulation



Across

1. The heart is made mainly of this tissue.
3. These keep blood moving in one direction only.
5. Blood picks this up in the lungs.
6. These blood vessels flow away from the heart.
7. These blood vessels flow into the heart.
8. The liquid part of the blood.
10. A way of measuring heart rate.
12. Pumps blood around the body.

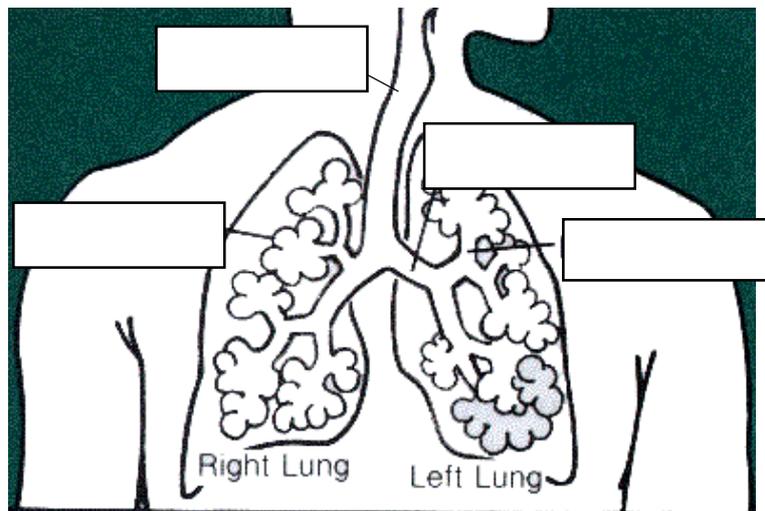
Down

2. Blood is pumped here from the right ventricle.
3. The lower chambers of the heart.
4. The human circulatory system is called the _____ circulation.
9. The biggest artery.
11. The upper chambers of the heart.

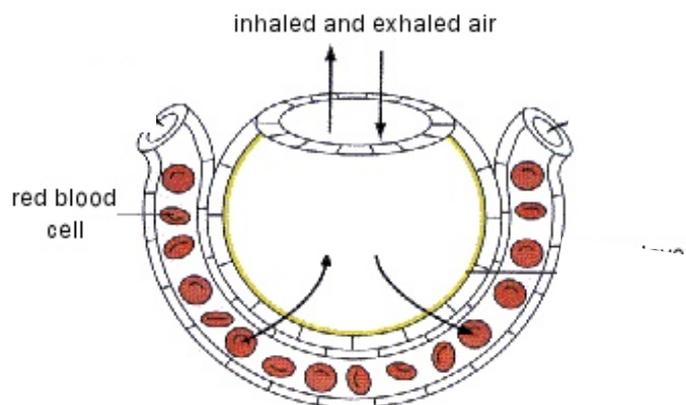
The lungs

Air passes from the nose or mouth into the **trachea**, or wind pipe. The **trachea** splits into two bronchi (the plural for bronchus), one for each lung. Each **bronchus** splits into smaller **bronchioles**, like branches of a tree. At the end of the **bronchioles** are the **alveoli**, sacs of air where gas exchange takes place.

1. Label the diagram using the words in bold.



2. Label the diagram. Add **three** ways the lungs are specialised for gas exchange and say which **two** gases are moving in and out of the blood.

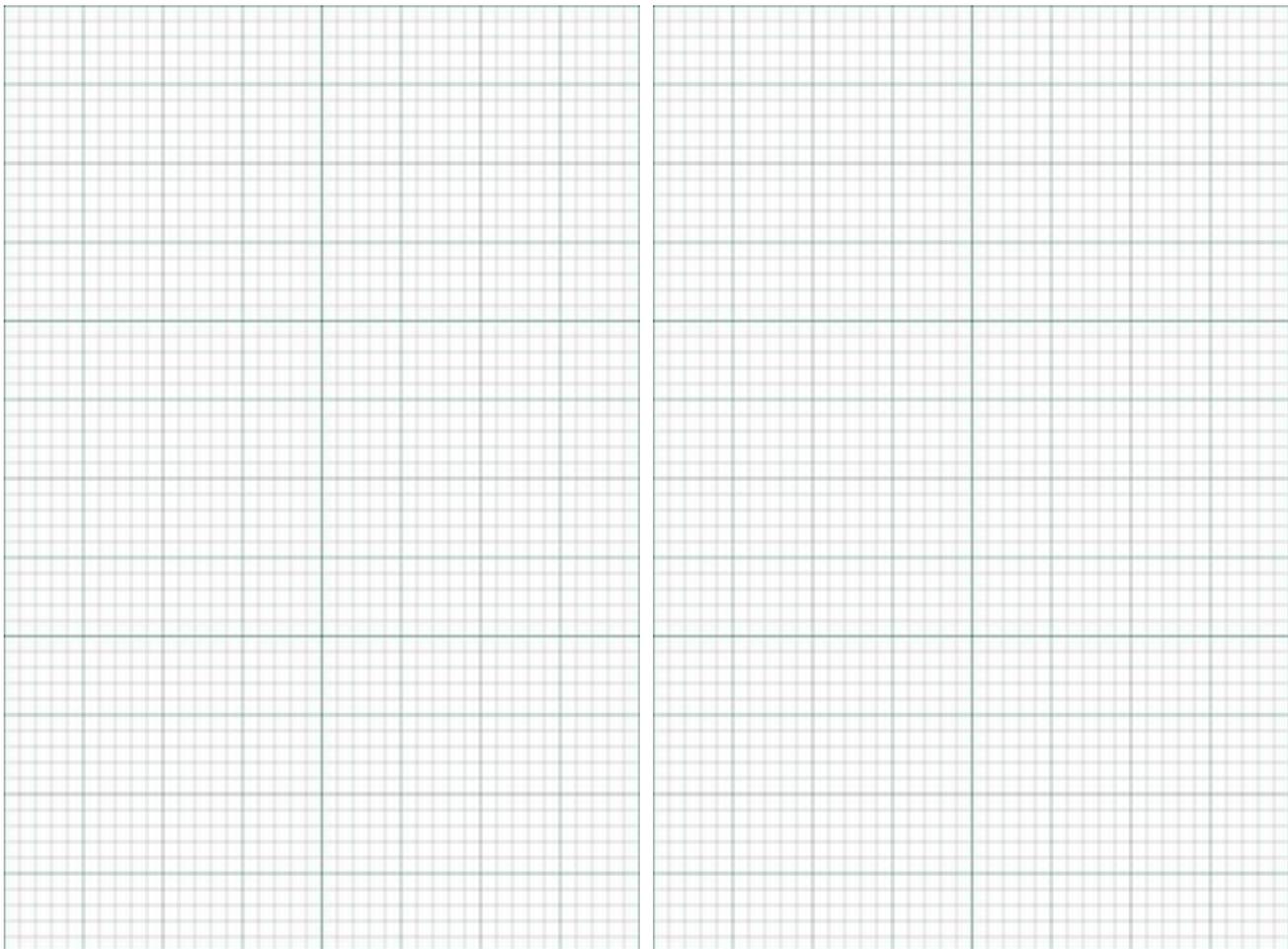


3. Look at the table showing the composition of inhaled and exhaled air. Draw two graphs, one for each table.

Remember:

- Bar chart or line graph?
- Scale
- Labels
- Title

Gas	Inhaled air	Exhaled air
Nitrogen	58%	48%
Water vapour	20%	30%
Oxygen	21%	16%
Carbon dioxide	0.04%	4%



4. Explain why it is dangerous to breath in and out of a plastic bag too many times
