

# Knowledge Organiser: Y8 Organ Systems

## Food groups

carbohydrates	vitamins
proteins	minerals
fats	fibre
water	

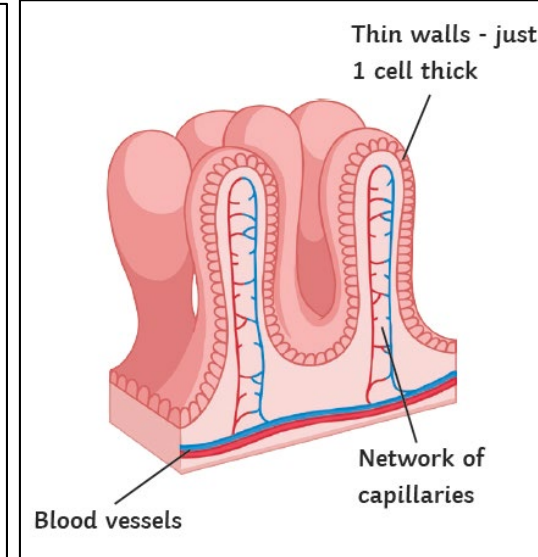
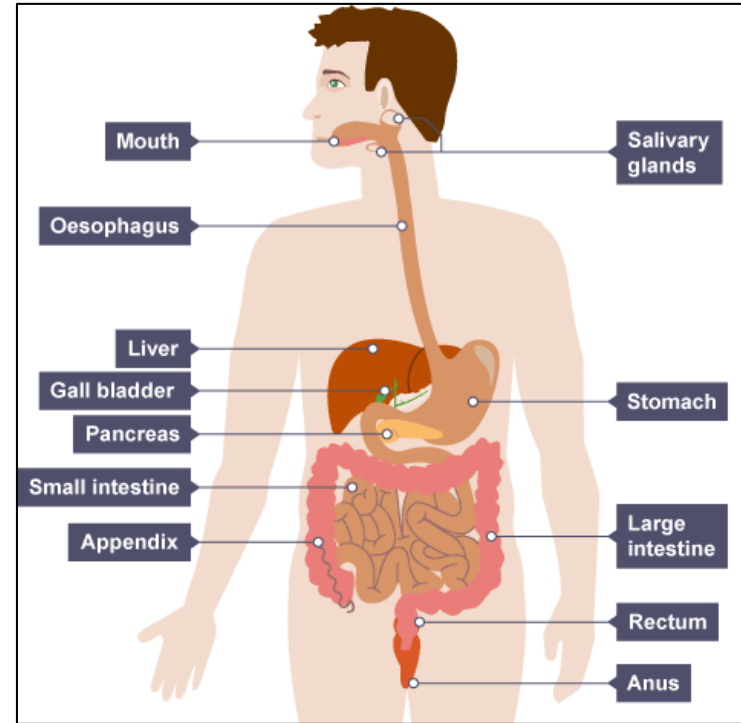
## Food Tests

What are you testing for?	What indicator do you use?	What does a positive result look like?
sugar	Benedict's reagent	Once heated the solution will change from blue to green
starch	Iodine solution	Blue-black colour indicates starch is present.
protein	Biuret	The solution will change from blue to pink-purple

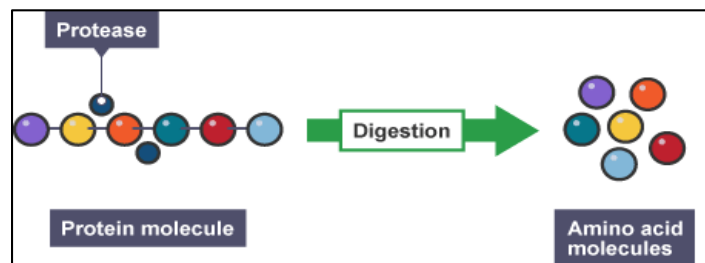
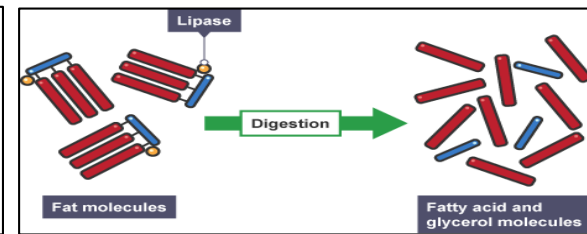
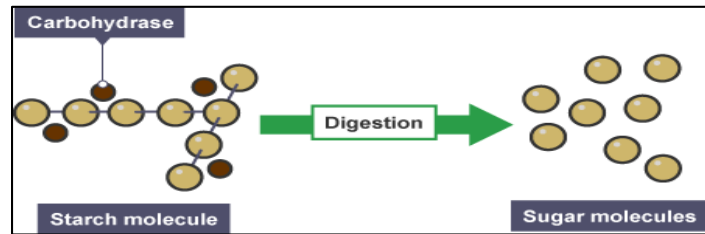
An **unbalanced diet** can lead to:

- obesity
- starvation
- heart disease
- diabetes
- deficiency diseases
- tooth decay

## Digestive system



## Breakdown of food molecules by enzymes

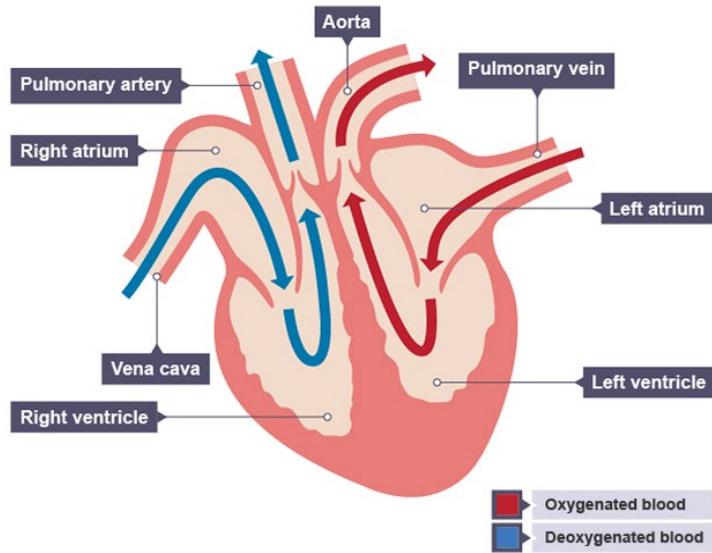


**Adaptations of the small intestine**

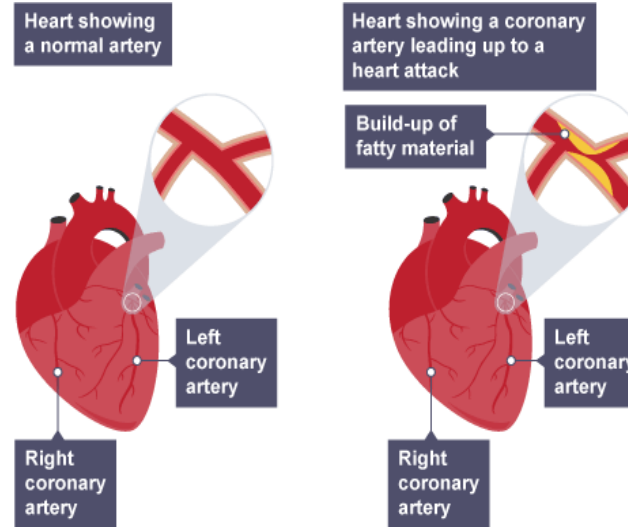
- Villi** – large surface area.
- Thin walls and good blood supply** – short diffusion pathway.

Food Group	Role in the body
Carbohydrate	To provide energy
Protein	Growth and repair
Lipids	Provide energy and energy store. Insulates the body against the cold
Fibre	Helps food move through the intestines

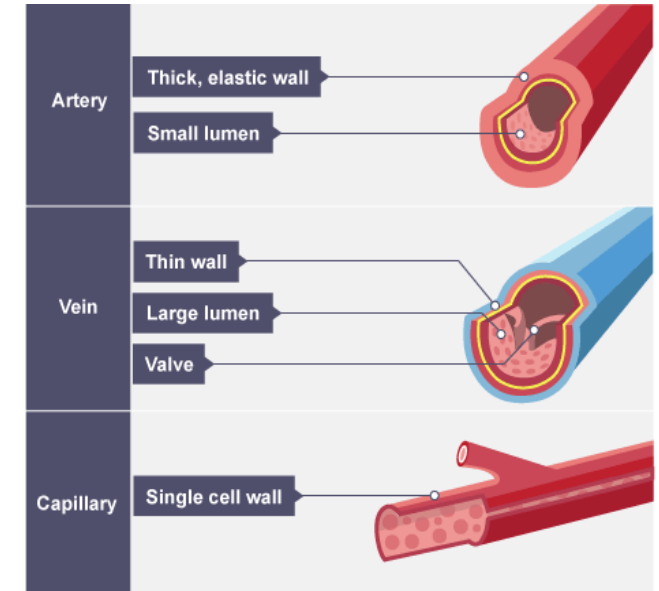
## Structure of the heart:



## Coronary heart disease:

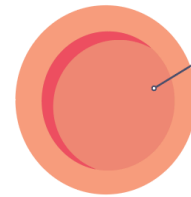


## Blood vessels:



## Blood composition:

Component	Function
Plasma	Transports carbon dioxide, nutrients, chemicals and waste products
Red Blood Cells	Transports oxygen
White Blood Cells	Fights infection
Platelets	Clots blood



Red Blood Cell

No Nucleus to allow space for more Hemoglobin

### Red Blood Cell Adaptations:

- Small and flexible.
- Biconcave shape for maximize surface area.
- No nucleus.
- Hemoglobin carries oxygen.

Artery	Vein	Capillary
Carry blood under <b>high pressure</b> away from the heart.	Carry blood under <b>low pressure</b> towards the heart.	Connects arteries to veins.
Usually <b>oxygenated</b> (except for the pulmonary artery).	Usually <b>deoxygenated</b> (apart from the pulmonary vein).	Oxygen and nutrients diffuse from the blood into the cells. Carbon dioxide and other waste products diffuse into the blood from the cells.