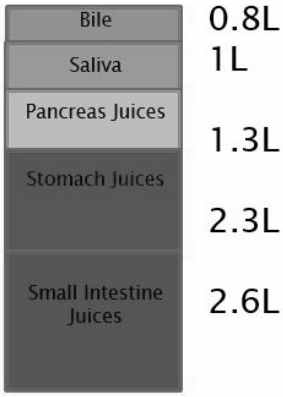
Food in the body

Name	Uses		Found in
Water	Regulates Distrib. Removes	temp. nutrients. waste products.	Fruit Vegetables Dairy
Fibre	Adds ...to... Prevents	bulk faeces. consti-pation	Plants
Carbs	Provides Stores	energy. energy.	Grains
Lipids	Provides Produces Digests	energy. hormones. and absorbs foods	Dairy Animal Products
Protein	Building muscles, skin, hair and	bones, cartilage, blood nails	Meat
Vitamins	Depends	on the	vitamin
Minerals	Building bones Transmi nerve	strong as well as tting impulses	minerals

Enzymes

Enzymes are chemicals that speed up chemical reactions.
- Carbohydrase – breaks carbohydrate into smaller sugars.
- Protease – breaks protein into amino acids.
- Lipase – breaks fat into fatty acids and glycerol.

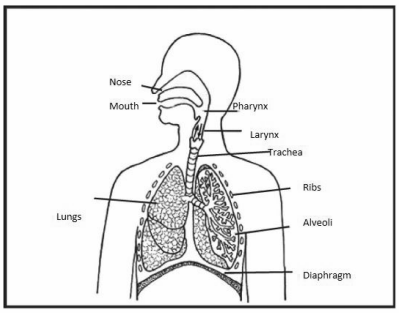
Digestive Juices



Responsibilities of blood

Blood is responsible for:
• Transporting gases (Oxygen, Carbon dioxide)
• Transporting water
• Transporting Nutrients
• Transporting Wastes
• Delivering immune cells to fight disease
• Transporting heat

Respiratory System



Obesity

Diseases associated with obesity
• High blood pressure
• Atherosclerosis
• Cardiovascular disease
• Stroke
• Some cancers
- Breast
- Endometrial
- Colon
• Type 2 diabetes

The recommended daily intake of kilo-joules for an adult - 8700

Factors that increase the risk of obesity:
- Genetics (Obese parentage)
- Eating more kilojoules than you use
- Inactivity (Exercise)
- Modern living (Cars, computers)
- Socioeconomic factors (Money and Education)

Cellular respiration

Cellular respiration is the process of taking in oxygen to produce energy, water and carbon dioxide.

The role of the circulatory system is to carry oxygen to tissues, wastes away from tissues and nutrients water and heat around the body.

Blood in the heart

From the body
Superior/Inferior Vena Cava
Right Atrium
Right Ventricle
Pulmonary Artery
Lungs
Carbon Dioxide out/Oxygen in
Pulmonary Veins
Left Atrium
Left Ventricle
Aorta
To the Body

What is in our breath

Gas	% in inhaled air	% in exhaled air	Difference
Nitrogen	78	78.5	+0.5
Oxygen	21	14	-7
Carbon Dioxide	<1	5.6	+5.5
Water Vapour	Varying	100	100

Inhalation and Exhalation

Inhalation. Ribcage moves outward and the lungs expand, Air moves in, Diaphragm moves down, volume of chest cavity increases, intercostal muscles contract, decreases pressure in chest cavity.

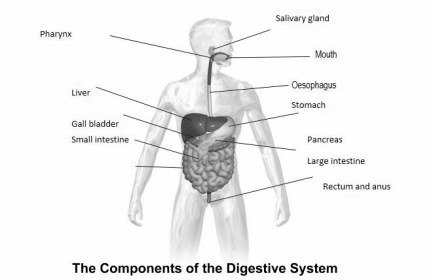
Inhalation and Exhalation (cont)

Exhalation, ribcage moves inward and the lungs contract, air moves out, diaphragm moves up, volume of chest cavity decreases, intercostal muscles expand, increases pressure in chest cavity.
Breathing out is called relaxing, breathing in is called contracting.

Food testing

Component	Descri-ption	Reagent	Positive Result
Sugar	Add 10 drops reagent 80^{o}c for 5 min	Benedicts Solution	Cloudy red
Starch	Add 3 drops reagent	Iodine	Purple-Black with residue
Protein	Add 10 drops NaOH And 10 drops CaSo4	Biurets (NaOH + CaSo4)	Change in colour
Fat	Rub sample on brown paper	Brown Paper	Sinks into paper

Digestive System

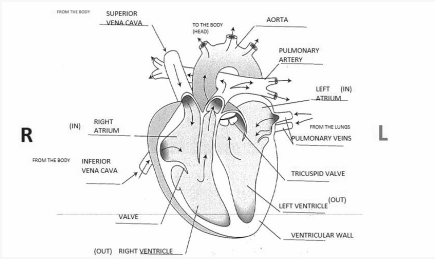


The Components of the Digestive System

Components of cells

Components	Descri-ption	Function	Amou
White blood cells	Invisible unless stained	Immune cells	1%
Red blood cells	1/4 size of white blood cell	Carry oxygen around the body,	44%
Plasma	Liquid portion of blood	Where carbon dioxide is dissolved.	54%
Platelets	Cell fragment	Help clot the blood	1%

Heart



Breathing

In the lungs, oxygen travels to thousands of tiny air sacs called alveoli.
These are covered in capillaries, The increased surface area-because of these tiny air sacs- paired with thin walls, increase the rate of gas diffusion into/from the capillaries