

Food in the body

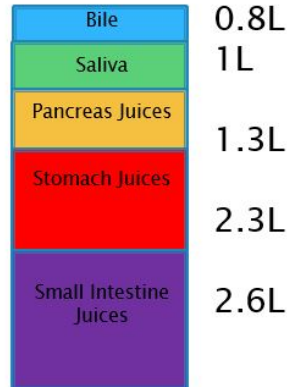
| Name | Uses | Found in |
|----------|---|------------------------------|
| Water | Regulates temp. Distrib. nutrients. Removes waste products. | Fruit Vegetables Dairy |
| Fibre | Adds bulk ...to... Prevents constipation | Plants |
| Carbs | Provides energy. Stores energy. | Grains |
| Lipids | Provides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

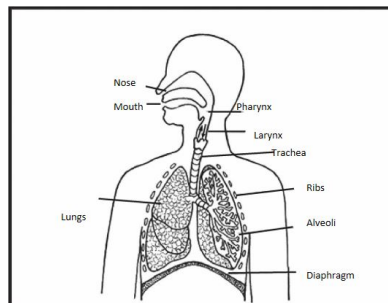


Responsibilities of blood

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.

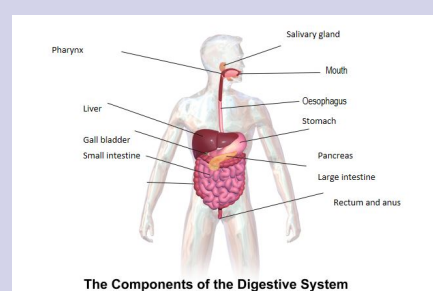
Inhalation and Exhalation (cont)

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 | Description | Reagent | Positive Result |
|-----------|--|-------------------------------------|---------------------------|
| Sugar | Add 10 drops reagent 80°C for 5 min | Benedict's Solution | Cloudy red |
| Starch | Add 3 drops reagent | Iodine | Purple-Black with residue |
| Protein | Add 10 drops NaOH And 10 drops CaSO ₄ | Biurets (NaOH + CaSO ₄) | Change in colour |
| Fat | Rub sample on brown paper | Brown Paper | Sinks into paper |

Digestive System

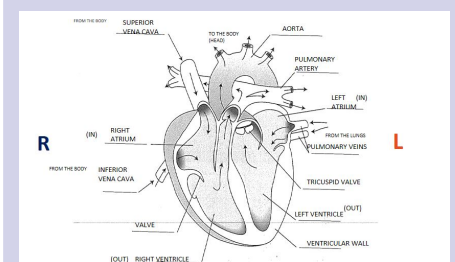


The Components of the Digestive System

Components of cells

| Components | Description | Function | Amount |
|-------------------|------------------------------|------------------------------------|--------|
| 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

