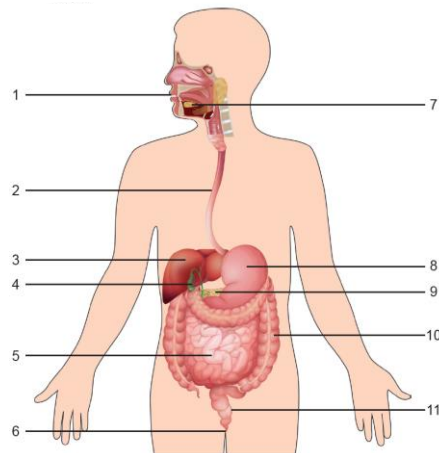


Exercise 2 page 45

Provide labels for the following sketch:

1. Mouth
2. Gullet (oesophagus)
3. Liver
4. Gall bladder
5. Small intestine
6. Anus
7. Salivary glands
8. Stomach
9. Pancreas
10. Colon
11. Rectum



1.2 Provide a title for this sketch.

The digestive system

1.3 Number 1 consists of a variety of parts. Name each of the parts and give a function of each one.

Lips and cheeks: prevent food from falling out of the mouth.

Jaws and teeth: grind/bite/chew food.

Tongue: forces food against teeth and palate/mixes food with saliva/rolls food into a bolus/pushes food to the back of the mouth/tasting organ.

Soft palate: closes opening to the nasal cavity when one swallows.

Salivary glands: produce saliva that helps to mix food/dissolves food/eases swallowing.

1.4 Name two things that are produced by number 3 and give a function of each one.

Bile: breaks up fats for easy digestion/stimulates peristalsis/neutralises chyme/it is an antiseptic and prevents food from rotting in the small intestine.

Glycogen: increases blood sugar.

1.5 What is absorbed by number 10?

Water, bile salts, mineral salts, vitamins

2 Look at the following sketch:

2.1 What is illustrated in this sketch?

Peristalsis

2.2 Describe the term given in your answer in Question

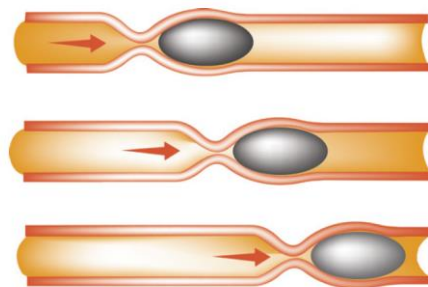
2.1.

Peristalsis is the process of involuntary muscle contractions

that move the bolus down the oesophagus.

2.3 In which body part does this process take place?

Oesophagus; small intestine; colon



3. Do research and complete the following table. Write down a disease that may be caused by a deficiency of the nutrient mentioned.

Nutrient	Disease due to a deficiency
Example: protein	Kwashiorkor
Vitamin A	Night blindness
Vitamin C	Scurvy
Vitamin B ₁	Beriberi
Vitamin D	Rickets
Iron	Anaemia
Iodine	Goitre
Calcium	Osteoporosis

4 Study the food guide and answer the questions that follow:

4.1 Water plays an essential part in your diet. What function(s) does water fulfil in your body?

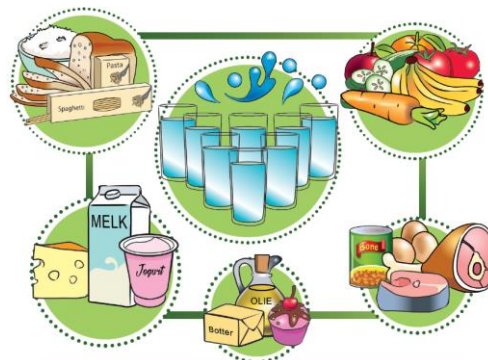
Water is necessary for chemical and metabolic reactions.

Body temperature regulation

Elimination of waste

Acts as a solvent for the transport of nutrients.

Necessary for all cell life



4.2 What effects does a shortage of water have on your body?

Dehydration; which could lead to death.

Constipation

4.3 Name any three nutrients and give a source of each.

Carbohydrates: bread, pasta, rice

Fats: butter, milk, cheese, oil

Protein: meat, fish, chicken

Vitamins: fruits and vegetables

Minerals: vegetables, fruit, food made from grain

Fibre: whole grain foods, potato, apples (any three)

4.4 Which nutrient forms the top of the food pyramid?

Fats, oils and sweet treats

4.5 Name a natural source of the nutrient named in Question 4.4.

Sunflower seeds; animal fat

4.6 How many portions of the following food groups are required for a balanced diet:

- | | |
|--|----------------------|
| <u>4.6.1 Grains and cereals</u> | 6–11 portions |
| <u>4.6.2 Meat, fish, chicken, nuts</u> | 2–3 portions |
| <u>4.6.3 Milk, cheese, yoghurt</u> | 2–3 portions |

4.7 What important role do fruit and vegetables play in the human diet?

Stimulate chemical reactions in the body.

Offer protection against diseases.

Ensure normal growth and development.

5 Define the following:

5.1 Overfeeding

Consuming too much food containing nutrients.

5.2 Malnutrition

The lack of one nutrient, but the intake of too much of another nutrient.

5.3 Undernourishment

Consuming too few nutrients.

5.4 Nutrition

It is the process during which organisms consume food and use it as a source of energy to enable life processes (e.g. growth, movement, reproduction, etc.) to take place.

6. Describe the seven steps of nutrition.

Ingestion: The consumption of food

Mastication: Food is chewed.

Digestion: Food is broken down into small particles so that it may be absorbed.

Absorption: Nutrients are taken up by the bloodstream.

Transport: Food is transported to specific body parts.

Assimilation: Absorbed nutrients are used in the processes of growth, tissue repair and reproduction.

Egestion: Waste products that are not absorbed are egested.