# Contents

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1</td>
<td>Diet and health</td>
<td>4</td>
</tr>
<tr>
<td>Unit 2</td>
<td>Human body systems: the circulatory system</td>
<td>17</td>
</tr>
<tr>
<td>Unit 3</td>
<td>Human body systems: the respiratory system</td>
<td>26</td>
</tr>
<tr>
<td>Unit 4</td>
<td>Physical and chemical processes</td>
<td>35</td>
</tr>
<tr>
<td>Unit 5</td>
<td>Separating mixtures</td>
<td>54</td>
</tr>
<tr>
<td>Unit 6</td>
<td>Motion</td>
<td>61</td>
</tr>
<tr>
<td>Unit 7</td>
<td>Thermal energy</td>
<td>71</td>
</tr>
<tr>
<td>Unit 8</td>
<td>Energy in ecosystems</td>
<td>79</td>
</tr>
</tbody>
</table>
1.1 and 1.2 Diet and health and Food groups

1 Define the term diet. 

2 What is the function of the digestive system? 

3 The foods we eat can be classified into three groups called GO foods, GROW foods and GLOW foods. Give two examples of each type.
   a) GO 
   b) GROW 
   c) GLOW 

4 Complete the sentences about the three food groups.
   a) GO foods provide us with 
   b) GROW foods provide us with 
   c) GLOW foods provide us with 

5 Our source of fibre comes from foods.

1.3 A balanced diet

1 What is meant by a ‘balanced diet’?
2) Complete the following sentences.
   a) Carbohydrates are referred to as _______________________ foods. [1]
   b) Proteins are commonly known as ______________________ foods. [1]

3) How does fibre help in our diet? ________________________________
______________________________________________________________ [1]

4) Indicate whether the following groups of foods are balanced or not by writing BALANCED or NOT BALANCED on the line below each group.

   a) ______________________
   b) ______________________
   c) ______________________
   d) ______________________ [4]
1.4 Diet, activity and age

Write TRUE or FALSE for each of the statements.

a) People eat the same amount each day. __________

b) A person’s diet depends on their age. __________

c) A secretary’s diet needs fewer calories than that of a farmer. __________

d) Growing children need more protein in their diet than adults do. __________

e) If someone is not very active, they do not need carbohydrates. __________

f) For a body to repair, protein is needed. __________

g) All healthy diets consist of over 2000 calories per day. __________

h) Newborn babies sleep most of the time, so they do not need much nutrition. __________

i) Bedridden people need a diet that provides a great amount of nutrition. __________

j) A lack of the required nutrition leads to malnutrition. __________

k) The heartbeat is automatic, so it is not affected by nutrition. __________ [11]
1.5 and 1.6  The digestive system

Use the clues below to complete the crossword puzzle about the digestive system.

Across
3. ________ is the undigested waste from the body.
5. Food is chewed in the ________.
9. ________ are obtained from the foods we eat.
10. Proteins are broken down to ________.
11. The ________ is the size of a fist.
13. ________ acid is produced by the stomach.
16. The first part of the small intestine is the ________.
17. Food absorption occurs in the ________ intestine.
18. ________ is the removal of undigested food from the body.
20. The ________ in digestive juices chemically break down food.
1. The small intestine is about _______ metres long.
2. Another name for the oesophagus is the ________.
3. The food passes along the _______ canal.
4. The stomach walls are very ________.
5. Food is broken down in the ________ system.
6. The enzymes in saliva convert ________ to glucose.
7. ________ is from plant material.
8. ________ is absorbed in the large intestine.
9. ________ is the second part of the small intestine.
10. The ________ mechanically break down the food.

2. A diagram of the human teeth is shown below. Label the types of teeth indicated by arrows.

3. Complete the statements below.
   a) There are ________ types of teeth in our mouth.
   b) The ________ are for cutting.
   c) The ________ are for tearing.
   d) The ________ and ________ are for grinding.
Look at the diagram of a skull and answer the questions.

a) The dentition below is that of a/an:
   i) herbivore    ii) carnivore    iii) omnivore

b) My reason for my answer to 4 a) is

1.7 The process of digestion

1 Complete the sentences about digestion.
   a) During physical digestion, food is broken down into smaller ________________.
   b) During chemical digestion, food is broken down into smaller ________________.
   c) Physical digestion occurs in the ________________ and ________________.
   d) Chemical digestion occurs in the ________________, ________________
      and ________________.

2 Complete the table to show the type of food that is chemically broken down by each enzyme.

<table>
<thead>
<tr>
<th>ENZYME</th>
<th>FOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbohydrases</td>
<td></td>
</tr>
<tr>
<td>Lipases</td>
<td></td>
</tr>
<tr>
<td>Proteases</td>
<td></td>
</tr>
</tbody>
</table>

3 Circle the number showing the correct answer.
   a) What allows the small intestine to have a large surface for absorption?
      i) a rich blood supply    ii) thin walls
      iii) numerous villi      iv) tiny capillaries