Lesson 3: Protecting the quality of food
(30 to 40 minutes)

Outcomes
By the end of this lesson the learners should be able to:
- Explain what a food additive is and how it can protect the quality of food
- List 3 different types of food additives and give an example of each.

Teacher’s corner
Food additives
Food additives are added to food and drinks during processing. They may be added to food to enhance its flavour, taste, aroma, colour, texture or appearance, or to preserve the food or drink from becoming spoiled. In the past, food was preserved by adding vinegar, sugar or salt. Today, there are many other additives used to preserve food.
Manufacturers are allowed to add certain substances, natural or synthetic, to food for the following specific purposes:

- To improve nutritional value: nutrients, including antioxidants, particularly those that may have been lost during processing, might be added to improve food's nutritional value.
- To preserve food (make it last longer): examples include preservatives, emulsifiers, stabilisers, anti-caking agents.
- To enhance the colour, appearance and flavour of food: examples include colourants and flavourants. These don’t necessarily add any nutritional value to food.

Examples of food additives that you may see listed on food labels are:

- **Preservatives**
  - Sulphites: sulphur dioxide, sodium sulphite and potassium metabisulphate. They are added to food and drinks to prevent browning, control microbial growth and spoilage, modify texture and bleach certain foods.
  - Benzoates and parabens: sodium benzoate, benzoic acid and methylparaben. These are used to prevent spoilage of foods by yeasts, fungi, bacteria and other micro-organisms.
  - Nitrates: these are used to cure and preserve meats and give them an attractive red colour.

- **Flavourants**
  - Monosodium glutamate (MSG): this is actually a flavour enhancer that brings out the flavour in the food.

- **Colourants**
  - Tartrazine: this is a yellow colourant used as a dye in many foods, drinks and pharmaceutical products.

**Activities**

For lesson 3 you’ll need the following equipment:

- Ask the learners to bring along a wrapper of their favourite snack, such as dried fruit, a snack bar, biltong or chocolate.
- A copy of the worksheet to hand out to the learners for them to complete the activity in class.

**Activity 1: Know your additives (25 to 30 minutes)**

- Divide the learners into groups of 3 to 4 so that they can see each other’s wrappers and be exposed to a wider variety of packaging.
- Tell the learners to identify the additives in each product and investigate whether that additive was used to improve the nutritional value or to improve the quality of the food.
- Hand out a worksheet to the learners for them to complete the activity in class.

**Wrap-up (5 minutes)**

Remind the learners of the purpose of food additives, and encourage them to find out which additives the food that they have at home has.
Task 1: Protecting the quality of food

Answer the following questions

1. What are food additives?

2. Why are food additives added to food?

3. List 3 types of food additives.

4. Draw a line to link the examples of food additives in the right-hand column to the correct group of food additives in the left-hand column.

<table>
<thead>
<tr>
<th>Preservatives</th>
<th>MSG</th>
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<tbody>
<tr>
<td></td>
<td>Tatrazine</td>
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<td>Flavourants</td>
<td>Benzoates</td>
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<td>Nitrates</td>
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<td>Colourants</td>
<td>Sulphites</td>
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Grade 5
Name: _______________________________