

Grade 2

Lesson 4

Lesson plan

Lesson theme	Water purification	Grade	2
Duration	30 minutes	Date/week	
Context			
<ul style="list-style-type: none">• Benefits of drinking clean water• Benefits of leading a healthy lifestyle.			
Linking with previous lesson		Linking with next lesson	
<ul style="list-style-type: none">• Learners expand their knowledge of clean and unclean water and how to access clean drinking water.		N/a.	
Core knowledge			
<ul style="list-style-type: none">• Understanding the term ‘pollution’• Understanding the concept of purifying water.			
Learning activities and assessment			
<ul style="list-style-type: none">• Discussion about water pollution, and demonstration to show how water can be polluted• Learners perform a water filtration experiment• Introduce learners to the worksheet for lesson 4.			
Forms of assessment		Resources	
<ul style="list-style-type: none">• Worksheet.		<ul style="list-style-type: none">• Tank or container• Items to represent pollutants• Coffee granules• Distilled water• 3 large graduated cylinders (1 000 ml) – labelled A to C• 15 ml measuring spoons• 3 large beakers• Flat sieve• Cheesecloth (or kitchen cloth)• Cotton fabric• Coffee filters• Shallow bowl or basin• Ice cube tray• Freezer• Worksheets.	
Expanded opportunities		Teacher reflection	
<ul style="list-style-type: none">• Learners can develop their own water purification devices and experiment with them at home.		<ul style="list-style-type: none">• The demonstration and discussion shows learners how easily water can become polluted• Learners become knowledgeable about ways to filter dirty water.	

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Lesson 4: Water purification (30 minutes)

1 Outcomes

By the end of this lesson the learners should be able to:

- Explain a simple way of purifying water.

2 Teacher's corner

The aim of this lesson is to introduce learners to the concept of pollution and how this affects the quality and safety of water. Learners will also be introduced to the concept of purifying water.

3 Activities

For activity 1, you'll need the following equipment:

- Tank or container
- Items to represent pollutants such as motor oil, food dyes, dish washing detergent, scraps of paper, soil, leaves, clay balls or coffee granules. (You'll also need some of these items for activity 2).

For activity 2 you'll need the following equipment:

- Distilled water
- 3 large graduated cylinders (1 000 ml) – labelled A to C
- 15 ml measuring spoons
- 3 large beakers
- Flat sieve
- Cheesecloth (or kitchen cloth)
- Cotton fabric
- Coffee filters
- Shallow bowl or basin
- Ice cube tray
- Freezer.

Activity 1: Understanding water pollution

The aim of activity 1 is to show the learners what water pollution is. Begin the lesson by asking the learners where their tap water comes from. Ask the learners:

- To define pollution and list all suitable answers on the board
- What they think pollutes our water and list all suitable answers on the board.

Explain to the learners that whenever water is used to wash our bodies, clothes and cars, or to cook our foods or brush our teeth, we make waste water.

Likewise, each time an industry uses water to make paper products, iron, steel and oil, waste water is produced.

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- Waste water is also called sewage and it is all the used water generated by a community. It includes human waste flushed down toilets, food scraps washed down sinks and water from washing machines, baths, street storm drains and businesses.
- Emphasise this by 'polluting' a tank or container of clean water. Pollutants can be represented by such household products as car motor oil, food dyes, scraps of paper, soil, leaves, clay balls or coffee granules.
- These products should be added as learners express their ideas about what pollutes their water
- This should have a dramatic effect as learners see the water being polluted before their eyes.

Activity 2: Water filtering

Perform a water filtration experiment with the following substances representing pollutants:

Pollutants	Substances representing pollutants
Organic wastes	Crushed leaves
Dirt and silt (sediment)	Sand

Experiment 1: Filtration (removing sediment – crushed leaves)

1. Measure 500 ml (2 cups) of distilled water into a large graduated cylinder
2. Add 30 ml (2 table spoons) of finely crushed leaves into the water and stir gently
3. Talk about the appearance of the mixture in the cylinder
4. Place a clean piece of flat sieve over a 1 000 ml beaker, labelled beaker A, and spread a piece of cheesecloth (or kitchen cloth) over the sieve
5. Pour the mixture slowly through the filter (make sure it goes through both layers) into the beaker
6. Discuss the liquid in the beaker and the solid on the filter
7. Repeat steps 1 to 6 using beaker B and a piece of cotton fabric placed over the sieve. Make sure you rinse the sieve in between.
8. Repeat steps 1 to 6 using beaker C and a coffee filter placed over the sieve. Make sure you rinse the sieve in between.
9. Compare the results of beaker A, B and C.

Experiment 2: Filtration (removing sediment – sand)

1. Repeat steps 1 to 9 using sand instead of crushed leaves.

4 Wrap up (5 minutes)

Remind the learners of how easily water can be polluted. Ensure the learners know how to filter dirty water.



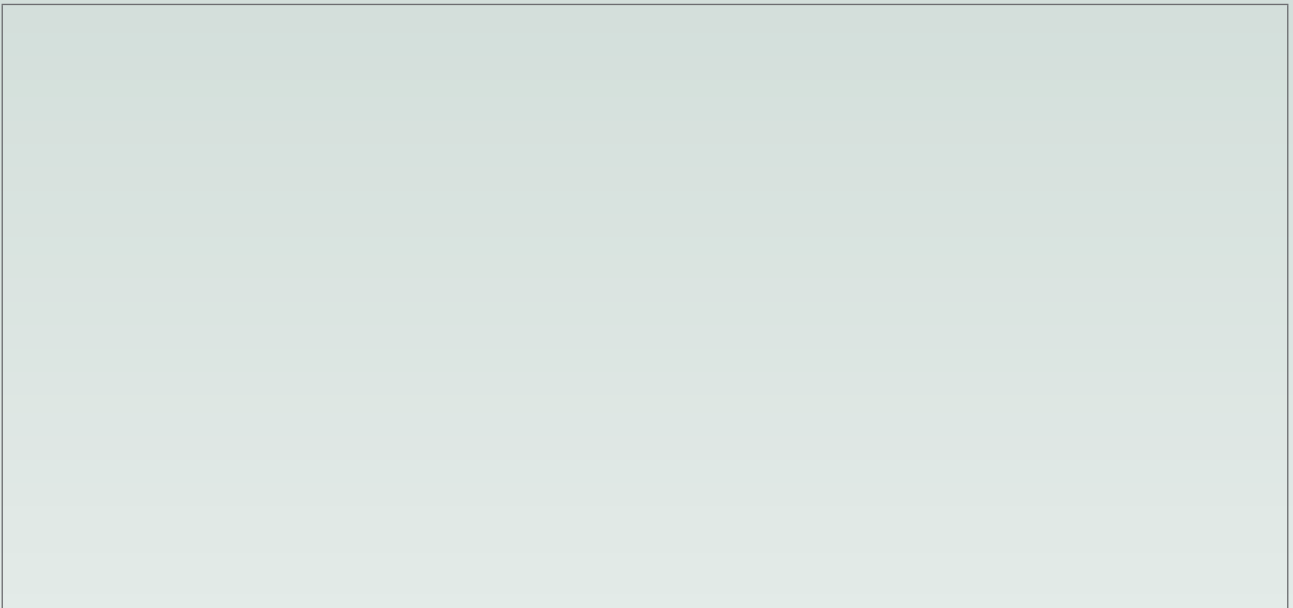
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Name: _____

Worksheet: Grade 2, lesson 4

Task 1: Safe drinking water

Draw a picture in the space below of how we change dirty water into clean water.



Find pictures of things that can dirty water such as sand, leaves and oil and paste them in the space below.

