CAPACITY: PERFORMING OPERATIONS WITH LITRES AND MILLILITRES.

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Subject

Mathematics

Prepared By

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Grade Level

3

Overview

This lesson plan covers teaching content for;

1. Understanding the unit for measuring capacity.
2. Converting the capacity form litre to milliliter and vice versa
3. Add and subtract amounts in litres and millilitres
4. Solve word problems involving litres and millilitres.

Objectives

Students should be able to;

1. Understand the unit of measurement of capacity
2. Convert capacity from one unit to another
3. Add and subtract in litres and millilitres
4. Solve problems on addition and subtraction involving litres
5. Measure, compare, order and estimate capacity
6. Calculate using litres and millilitres.

Guided Practice

Day 2/ Lesson 2: 20 Mins

1. Volume measures capacity. For example, the volume of a bowl is the

Activity Starter/Instruction

1. Tell your students that they will learn about the liter (l), which is a metric unit of measurement, as opposed to a standard unit of measurement.
2. On the board, write the word liter with its abbreviation l.
3. Show the students the container with the capacity, or the space a solid, liquid, or gas takes up, of a liter.
4. Ask your students where they might see the liter as a unit of measurement. For example, it is found on some grocery products such as canned goods.

Guided Practice

Day 3/ Lesson 3: 25 Mins

1. We will discuss about addition and subtraction of measuring capacity. The standard unit of measuring capacity is liter and the smaller unit is milliliter. The short

Teacher Guide

Day 1/ Lesson 1: 15 Mins

1. This is a practical lesson to teach pupils how to measure capacity accurately. Demonstrate the steps below to the class.
2. Then allow pupils to work in pairs to practice measuring.
3. Place the container of liquid on a flat, horizontal surface (such as a table).
4. Wait a few seconds for the surface of the liquid to stop moving.
5. Move your head so that you can see the scale clearly and your eyes are level with the top of the liquid.
6. Calculate how many millimeters each unmarked division on the scale represents.
7. Read the scale.
8. Write down your reading straight away.
9. Ask someone else to check your reading or check it yourself

Materials Required

- Whiteboard
- Marker
- Pencils
- Blank sheets
- Containers of different sizes
- Container with scale measurement

Additional Resources

- https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-measurement-topic/cc-5th-unit-conversion/a/metric-units-of-volume-review
- https://za.pearson.com/content/dam/region-growth/south-africa/pearson-south-
- https://www.education.com/lesson-plan/a-liter-please/
- https://www.math-only-math.com/addition-and-subtraction-of-measuring-capacity.html

Additional Notes

amount of space inside the bowl or how much water, for example it would take to fill the bowl.

2. In the metric system of measurement, the most common units of volume are milliliters and liters.
3. Ask the question, how big is a milliliter?
4. A single raindrop contains about 1 milliliter of liquid:
5. Also ask the question, how big is a liter?
6. A bottle contains about 1 liter of liquid:
7. Converting Liters to Milliliters
8. 1 liter = 1000 milliliters. To convert liters to milliliters, we multiply our liter's value by 1000.
9. E.G. 8 Liters = 8*1000 = 8000 ml

Converting milliliters to liters

1 milliliter = $\frac{1}{1000}$ liter.

To convert milliliters to liter, we divide our milliliter's value by 1000.

way is to write liter as l and milliliter as ml. The liquid medicines are measured in ml. There are many types of vessels having capacity of 1 liter, 500 milliliter, 250 milliliter, etc,.

2. Containers or vessels meant to store different things like milk, sauce, mustard oil, etc., have different capacities. Therefore, the quantity of liquid a vessel can hold is its capacity.
3. Add 525 ml and 275 ml

Solution:

525 ml
+ 275 ml
800 ml

4. A can holds 15 l and 500 ml of milk. Out of it 8 l and 350 ml milk is consumed. How much milk is left in the can now?

Solution:

Quantity of milk in the can = 15l 500ml

Quantity of milk consumed = 8l 350ml

Quantity of milk left = 15l 500ml - 8l 350ml

Thus, 15L 500 ml 500ml – 350ml = 150m
- 8L 350 ml 15L – 8L = 7L
7L 150 ml

Therefore, quantity of milk left = 7L 150 ml

Guided Practice

Day 4/ Lesson 4: 15 Mins

1. We will discuss about multiplication and division of measuring capacity
2. A bucket holds 10 litres of water.
3. Example 1: How many buckets are needed to hold 50 litres of water?
4. Answer 50 ÷ 10 = 5 buckets
5. Example 2How many litres of water can be held by 3 buckets? Answer3 × 10 = 30 litres

Assessment Activity

Assessment Activity

1. A container contains 15 glasses of oil. If the capacity of a glass is one liter, find the capacity of the container.
2. Add the following:

1. A tank holds 585 liters of water. 255 liters of water is pumped out from it. How much quantity of water is now left in the tank?

	(i) 15 l + 10 l = ____ l (ii) 25 l + 125 l = ____ l (iii) 37 ml + 322 ml = ____ ml (iv) 145 ml + 354 ml = ____ ml (v) 9 l + 200 ml + 4 l 500 ml = ____ l ____ ml	2. The petrol tank of a car has a capacity of 30 liters of petrol. 12 liters of it is consumed. How much petrol is in the tank of the car now? 3. A shopkeeper has a stock of 315 liters of kerosene oil. He sold 205 liters kerosene oil. How much oil is now in stock? 4. There is 450 liters water in a tank. In another tank there is 340 liters water. Which water-tank has more water and by how much?
Summary	Summary 1. Pupils should be able to add and subtract using capacity. 2. They should also be able to find combinations of capacities that will make up a given total capacity. 3. They should be able to solve word problems involving capacity. 4. Observe pupils' responses during lesson and look at their answers to the exercises.	