Jugs and Mugs

Lesson ideas to teach measurement of quantity through interesting and engaging activities

Objectives:

Students will be able to:

- Measure items by different means.
- Solve word problems related to volume.

Major Concepts:

- Understanding the standard units of volume.
- Estimate the volume of liquids in different vessels.

Engage

1. Non-Standard Measurement Activity

The teacher can ask students to bring different containers like tumbler, shoe box etc. They can compare and find which of these items have greater/ lesser capacity.

2. Fill it up

The teacher asks students to create paper cylinders of different sizes and fill them with stone. The cylinders are then emptied and the number of stones counted. Students can compare the number of stones in each cylinder. Are they equal or unequal?

3. Compare Your Jug:

The teacher divides the class into four groups. A jug or mug is given to each group. It is ensured that the jugs and mugs given are of different sizes. Students are asked to fill them with water and compare with the other group's jug.

Teacher can ask the following questions

1. Which teams have the same quantity of water?
2. Which team has the least quantity of water?
3. Which team has the maximum quantity of water?

Explain:

The teacher shows samples of measuring jars marked with the units - ml and liters. Students have to observe the different capacities in the measuring jars. The teacher assesses their observation. The teacher can then distribute worksheets asking students to solve simple problems on capacity.

Measurements using Standard Measurement objects

In our daily life, we use different measuring containers that are marked in litres and ml. The teacher can show them to the students. She can

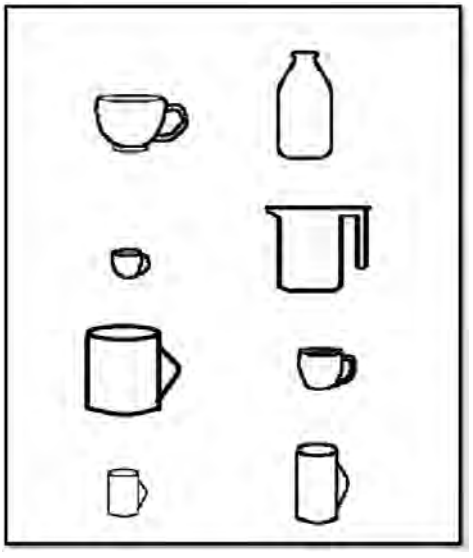
explain the concepts - 250 ml = ¼ litre; 500 ml = ½ litre; 1000 ml = 1litre.

Worksheet

1. The teacher gives a work sheet asking students to match appropriately.

1.	250 ml	-	1 l
2.	750 ml	-	¼ l
3.	500 ml	-	¾ l
4.	1000ml	-	½ l

2. The teacher can circulate the following worksheet asking students to guess the capacity of the containers.



3. The teacher can ask the students to calculate the capacity of containers like water bottle, bucket etc. Students can roughly guess the quantity of water that can be held by these jugs, mugs, bottles and glasses.
4. Students can be asked to arrive at 1 litre in different ways through smaller measurements.

Different Combinations:

1. 100 ml x 10 = 1000 ml
   = 1 litre
2. 200 ml x 5 = 1000 ml
   = 1 litre
3. 500 ml x 2 = 1000 ml
   = 1 litre
4. 250 ml x 4 = 1000 ml
   = 1 litre
5. 750 ml + 250 ml = 1000 ml
   = 1 litre
6. 300ml + 300ml + 400 ml = 1000 ml
   = 1 litre

Evaluate:1

Paper, stone, pencil box, gift wrapper, pencil, duster, chalk, eraser, table, chair, fan, tube light, socks, shoe, bottle, tiffin box, scale, pot, window, door, geometry box, water glass, spoon, jug, school bag, notebook, leaf, chart paper, scissors, knife, labels, stickers, plastic covers, television, bucket, soap, mobile, plate, key, clothes, switch, bell, flower, seed, bus, road, cycle, water tank, water tap, tea cup, dustbin, clip, water can

Teacher can give the list of items mentioned above and ask the following questions to students.

i. List out and draw the objects that have the capacity to hold something.

ii. Guess the capacity of these items approximately and tabulate them.

S.no	Name of the object	Capacity of the object
1		
2		
3		
4		
5		

iii. Find the object that has the maximum capacity.

iv. Discuss and describe the item of your choice.

v. Discuss on why it is not possible to fill certain items with water

2. Tick the units that would work best for measuring each object.

1	Glass of milk early in the morning	ml	km	g
2	Water used to wash your clothes	g	km	l
3	Water used for a bath	l	km	g
4	Water in an ice cube	km	ml	g
5	A big fish tank	l	km	g
6	Juice squeezed from one orange	km	ml	g
7	An expensive bottle of perfume	g	km	ml
8	Shampoo to wash your hair once	ml	km	g
9	The amount used to water the lawn	l	km	g