



G3.78 | ESTIMATING & COMPARING CAPACITIES (LITRES)

Geometry & Measurement Concepts - NCERT Chapter 11: Jugs and Mugs

Students will be able to estimate, verify and compare capacities of everyday objects by using 1 litre as standard

40- 50 min

PRE REQUISITES:

G3.77 Know how to use a 1 litre unit to measure the capacity of objects

TLM



1 litre unit measure
A mug with capacity around 2 litres

MISCONCEPTIONS

Students might have a misconception that a container's capacity is the same as the volume of liquid in it

KEY VOCABULARY

None



PLAY



Water used to make a cup of tea < 1L



Water used for washing clothes > 10 L

Estimate the volume of water used for daily activities

○ Ask students to write 4 daily activities that require water

○ Show a bottle of 1 litre capacity and tell students that the bottle can hold 1 litre water

○ Ask the students to guess how many litres of water is required for the daily activities that they have written

○ Provide examples for it the activities

Eg. "I drink about 3 litres of water" or "I use less than 1 litre water to prepare tea"

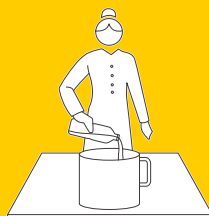
○ Encourage students to make comparative estimates like "more than 10 litres" or "less than one litre"



PROCESS



4 litres



10 litres

Comparing capacities

○ Draw a cooker, a jug, and a bucket on the black board

○ Ask the students to estimate the capacity (how much water can it hold) of the utensil in litres

○ Tell the capacities of each utensil: a cooker can hold 5L, a pitcher can hold 10 L & a bucket can hold 20L of water

QUESTION: Do you know a container that can hold more water than a bucket? How much water can it hold

○ Explain that one way to compare capacities is by filling up water in the utensils using a 1 litre water bottles

○ The utensil that requires the most number of bottles of water has the largest capacity

○ Show capacities of a cooker & a jug by filling them using a 1litre water bottle. Tell capacities of both in litres

○ Tell that the capacities of containers can be estimated by their sizes & often bigger sizes can hold more



PRACTICE



Draw the containers on the black board and ask the students to estimate their capacities

○ Help the students solve question 3 from the worksheet. Ask the students to number the containers according to how much water they can hold. Number 1 for the container that can hold the least amount of water and number 3 for most

○ Help the students solve question 4 from the worksheet. Draw the table and ask the students to estimate the how much water each container can hold

S.No.	Object	More than 1L or less than 1L
1		more than ___litre
2		more than ___litre

○ Explain that a paint bucket can hold 20 litres of paint but it is possible for the bucket to have less paint also. If it has less than 20 litres of paint, the bucket will not be filled to the top

TEACHER'S NOTE: You may also explain that capacity represents how much a container can hold and volume represents how much volume of liquid is there in the container. Eg. a 10 litre capacity bucket of water can have only 2L of water



- ① SOLVED EXAMPLE : There is a big pot hole on the road. It gets filled with rain water. How many litres of water do you think the pot hole can it hold?

Less than
1 litre.

2 litres

More than
10 litres



- ② Ashu uses 1 bucket of water to take a bath. How many litres of water would be used each time Ashu takes a bath?



Less than 1 litre

2 litres

More than 10 litres

- ③ Guess and tick on the best estimate of the capacity of following objects:

A teapot



Less than 1 litre /
About 1 litre /
More than 1 litres

A backpack



Less than 1 litre /
About 1 litre /
More than 1 litres

Fridge



Less than 1 litre /
About 1 litre /
More than 1 litres

Four glasses of juice



Less than 1 litre /
About 1 litre /
More than 1 litres

A mug



Less than 1 litre /
About 1 litre /
More than 1 litres

A pitcher



Less than 1 litre /
About 1 litre /
More than 1 litres

- ④ Number these containers in increasing order of their capacities



- ⑤ Guess the capacity of these items

S.No.	Object	More than 1L or less than 1L
1	 Pitcher	more than ___litre
2	 Paint bucket	more than ___litre
3	 Ketchup pouch	more than ___litre
4	 Tetra pack drink	more than ___litre



Find out how many vessels, utensils in your kitchen have less than 1 litre of capacity and how many of them have more than 1 litre capacity.

Utensils with less than 1 litre capacity	More than 1 litre capacity
	