

Game 5M4: Capacity

Strand: Measures

Strand Unit: Capacity

Curriculum Objectives Covered:

- Select and use appropriate instruments of measurement
- Estimate and measure capacity using appropriate metric units

Name: “Whose Guess is the Closest?”

Aim: To work in teams to estimate the capacity of various containers and then measure the actual capacity. The teams with the closest estimates win.

Activity Area: Classroom

Duration: 1 hr

Resources:

- 3 sets of playing cards (photocopiable set of 10 cards attached)
- 6 Capacity Record Cards (photocopiable set of 2 cards attached)
- 3 large basins full of water
- 3 bath towels
- 3 mugs
- 3 egg cups
- 3 cups
- 3 beakers
- 3 teaspoons
- 3 crayon tubs
- 3 lunchboxes
- 3 watering cans
- 3 tablespoons
- 3 vases
- 3 graduated jugs showing millilitres and litres
- 3 1-litre containers
- Pencil and paper for all players

Set Up:

1. Photocopy the set of 10 playing cards (x3) and cut them out, making 3 separate piles of playing cards.
2. Photocopy the Capacity Record Cards to make 3 sets of 2 cards and cut them out.
3. Divide the class into 3 groups (of even numbers if possible e.g. 8 or 10 children in each group) and send them to different areas of the classroom.
4. Give each group 1 set of 10 playing cards, 2 Capacity Record Cards, a large basin full of water, a bath towel, a mug, an egg cup, a cup, a beaker, a teaspoon, a crayon tub, a lunchbox, a watering can, a tablespoon, a vase, a graduated jug showing millilitres and

litres, a 1-litre container and pencils and paper for rough work and calculations.

5. Instruct each group to spread out their bath towel and carefully place their basin of water on top of it.
6. Split each group into 2 equal sized teams, to sit in a circle around their group's basin of water and all of their containers and measuring objects.
7. The group place their pile of playing cards faced down beside their measuring objects.

Start Playing:

1. One member of the first team in each group turns over the top card from the pile and reads it aloud e.g. "*What is the capacity of the mug?*"
2. The team confers and agrees upon an estimate for the capacity of the mug and writes this estimate into the appropriate space on their Capacity Record Card.
3. They then choose a suitable instrument of measurement for measuring the capacity of the mug and the player who initially turned over the card carefully uses the water from the basin and the measuring instrument to measure the capacity of the mug.
4. When both teams are satisfied with the result of the measuring, the team write the 'Actual capacity' into the appropriate space on their Capacity Record Card.
5. Both teams' players then subtract the lower capacity from the higher (using the 'Estimated' and 'Actual' capacities) and the difference is written into the appropriate space on the measuring team's Capacity Record Card.
6. The first player on the opposing team now turns over the next card on the pile and his/her team goes through the same process of estimating, choosing a suitable instrument of measurement, measuring the capacity of the object and filling in the first row on their Capacity Record Card, along with the difference between their 'Estimated' and 'Actual' capacities.
7. The play continues back and forth between both teams until all of the playing cards have been used and each player has had the opportunity to measure the capacity of at least one container.
8. When all 10 playing cards have been used, each team adds up their 'Difference' column and has their total checked by the opposing team.
9. The team, in each group, with the smaller total capacity in their 'Difference' column wins.

Playing Cards:

What is the capacity of the mug?	What is the capacity of the crayon tub?
What is the capacity of the egg cup?	What is the capacity of the lunch box?
What is the capacity of the cup?	What is the capacity of the watering can?
What is the capacity of the beaker?	What is the capacity of the tablespoon?
What is the capacity of the teaspoon?	What is the capacity of the vase?

Capacity Record Card:

Container	Estimated capacity in ml and l	Actual capacity	Difference between estimated and actual capacity
e.g. Saucepan	1l 150ml	2l	850ml
Total of differences between estimates and actual capacities =			

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