MINISTRY OF EDUCATION, YOUTH & INFORMATION
Every Child Can Learn, Every Child Must Learn

MATH COUNTS

NATIONAL MATHEMATICS TEAM

GRADE 1 PLANNING TEMPLATE

MEASUREMENT			
Topics/Objectives	**Main Concept**	**Teaching/Learning Activities**	**Assessment/Homework Activities**
a. Identify and describe non-standard units to measure liquids b. Estimate liquid quantities using different measures - a teaspoon, a plastic cup, water bottles c. Compare liquid quantities	• **Identify** • **describe** • **Estimate** • **Measure** • **Compare**	**<u>Identify and describe non-standard units to measure liquids</u>** Students will listen to a story titled: Goldilocks and the three bear. (***See page 1 of Resource Document for the story).*** Students will be asked to think about the three characters: Papa Bear, Mama Bear and Baby Bear.  The teacher will then show the class three bowls of different sizes and will ask the students to choose the bowl that would be the most appropriate for Papa Bear.	**<u>Identify and describe non-standard units to measure liquid.</u>** Students will work in groups of 5 on a project. Each group will be given a question and a set of items. ***Sample Questions*:** • Mr. Bernard is very thirsty and wants something to drink. Which item would be best to give him and why? • Sally is very hungry and wants to know which bowl she should eat from. Select the best container Sally should eat from and why • Pam made porridge for her 3 year old brother. Select which porridge bowl is most suitable for her brother and why. The question received by each group should be written on their chart.

		Suggested Questions *What makes the largest bowl a good bowl for Papa Bear? Discuss which bowl would be best for Baby Bear. What makes the smallest bowl a good bowl for Baby Bear?* *Hold up the very small bowl and the very large bowl and ask: Which of these bowls holds more?* *How do you know? How could we prove that this little bowl holds less than this big bowl?* Students will be told that these bowls are examples of *unit*s used to measure liquid. Teacher will engage students in a discussion where she will ask them to identify other objects that they have seen at home, at school or at the store that can be used to measure liquid. **<u>Estimate liquid quantities using different measures</u>** Students will work in groups of 4s where each group will be given a ruled sheet with three columns. Each sheet will have the following labels. 1. Unit 2. Estimated capacity 3. Actual capacity The teacher will then give them a teaspoon, a small plastic cup, a water bottle and a container with water ***(See page 3 of the Resource documents for Estimates Worksheet).***	Each group will select a scribe to write on the chart. Students will select the appropriate non-standard units such as cups, bowls or bottles from the list provided by the teacher to complete their project. Students will choose any size and shape container. Each group will answer the question and write on the chart explaining their selection. ***(See page 2 of the Resource Document for the Non-standard Sample Charts)*** **<u>Estimate liquid quantities using different measures</u>** Students will work in group and each group will be given three sets of plastic cups and three sets of plastic bottles all of varied sizes and shapes and a measuring cup. Students will estimate the capacity of each plastic cup and each plastic bottle and record their estimates in a table. Students will be allowed to label the containers. After estimating the capacity of each container, students can use the measuring jug to find the actual capacity of each container and record it.

Students will be asked to estimate

- the number of teaspoons they think would be needed to fill a plastic cup
- the number of teaspoons of water that could fill the water bottle
- the number of plastic cups that would be needed to fill the water bottle.
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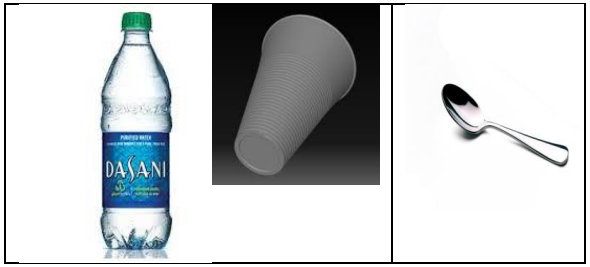
The scribe in each group will record these estimates on his/her worksheet.
Teacher will ask each group to share what they have written. The class will be encouraged to share their thoughts.



<u>Compare liquid quantities</u>
Students will be shown two clear containers of different sizes (as shown below). One will be labeled X and the other labeled Y

Example

UNIT	**Estimated capacity**	**Actual capacity**
Plastic cup 1	About half of the measuring cup	One measuring cup

Students will be allowed to use words related to capacity such as *less than, half of, the same or more than.*
(See page 3 of the Resource documents for Capacity Estimates Worksheet)

<u>Compare liquid quantities</u>
ICT infusion:
Students will be provided with a video to do the activity. Students will read the questions and select the correct response.

https://www.studyladder.com/teacher/resources/activity?activity_id=22178

		CONTAINER X  **CONTAINER Y**  **Suggested questions:** *Which container do you think will hold more liquid?* *Why do you think so?* Have a volunteer test the prediction by using another container, such as a scoop, to fill container X with liquid. Have the class keep a tally of the number of scoops needed. Students will then use the scoop to fill container Y with liquid. Teacher will then ask students: *What did you notice about the number of scoops used to fill container X and container Y?* *What do you think will happen if we use container Y to fill container X and container X to fill container Y?* *How do you know?*	***Alternate video*** ***ICT infusion:*** Teacher will allow students to watch video provided. Teacher will ask students to make predictions (which they will record) at strategic points of the video. https://youtu.be/TkXxn0bJ4r0

		Students will then work in groups where each group will be given a scoop and three containers of different sizes and shapes. Students will use masking tape to label containers A, B and C for recording purpose. Containers A, B and C will be filled with the liquid using the scoop as the measuring unit. The scribe in each group will tally the number of scoops used to fill each container. The teacher will ask students to arrange the containers from the one that holds the most to the one that holds the least. Teacher will engage students in a discussion as teacher asks students which has the most and why.	