

MEASUREMENT

GRADE 3

Ministry of Education
Mathematics Curriculum 1999

OBJECTIVES	ACTIVITIES	ASSESSMENTS
<p>1. Tell time to the nearest five minutes.</p>	<p>a. Give out paper plates, paper fasteners, hard card and scissors. Students used the material to make clock faces. Call out times & have students show it on the clocks.</p> <p>b. When teaching put '5 x' flash cards around the class clock to show the relationship between '5 x' multiplication facts and telling time to five minutes.</p> <p>c. Discuss the clock face e.g.: why are the hands different? The amount of time elapse between each number and its relation to the hour, half hour, quarter hour.</p> <p>d. Students create a schedule of daily school events, such as lunch break, PE class, and music class. Then they use the clock face model to show the times of those events.</p> <p>e. Students use yarn to form a large clock on the floor. Have students stand on the hour places with appropriate number cards. Ask students to pretend they are the minute and hour hands. Have students move around the clock to show elapse time between 2:00 and 3:45.</p> <p>f. Throughout the day, pause to ask, "What time is it?"</p> <p>g. Provide index cards with the following times 1:45; 2:15; 3:20 and 4:00. Let students pick a card and arrange themselves in clockwise order according to the times in the card. Have the first student use the clock to show the time on the card, then the next student; etc. let students write new cards and repeat.</p>	<p>a. Have students write in sequence what they do from when they get up in the morning to when they arrive at school indicating the time. Draw clock faces showing the different times.</p>

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<p>2. Identify events taking:</p> <ul style="list-style-type: none"> - The same amount of time - More time than - Less time than 	<p>a. Take students outside. Divide them into small groups. Set specific activity for each group:</p> <ol style="list-style-type: none"> 1. Run a marked distance. 2. Bounce a ball ten times. 3. Make 15 jumping jacks. <p>Students estimate first the amount of time each student in the group will take to complete the activity, tell the exact time it took using a stopwatch.</p> <p>Student record their estimated time and the actual time. Compare to see how close their estimations were.</p> <p>b. For ten minutes let groups observe the number of vehicles which pass (each group will be assigned to a specific vehicle). Students record their findings. Construct a graph showing findings. Students use the graph to write questions related to their findings.</p>	<p>a. <u>Journal Writing</u> How do people involved in sport use Math? E.g.: measure distance on playing fields; keep score; keep time; keep individual and team statistics.</p>
<p>3. Use a calendar to identify specific dates.</p>	<p>a. Student make a calendar of their favourite month. Write a few sentences telling why they choose it.</p> <p>b. Create a calendar page for the month of their birthday and circle their birthday with red crayon. Write the date of their birthday in two different ways.</p>	
<p>4. Identify equivalent periods of time including relationships among days, months, and years and hours, minutes and seconds.</p>	<p>a. Let students work in groups to make posters that show the relationships such as:</p> <p>1 week = 7 days 60 minutes = 1 hour</p>	

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<p>5. Read and record temperatures on a thermometer and interpret the readings.</p>	<p>a. Divide class into groups. Give each group a flash card with a phrase on it.</p> <p>e.g.: Cold day Hot day Rainy day Windy day</p> <p>Group brainstorm a list of things they might see, feel or wear on the day indicated on their card. Draw a thermometer that might be used on that day.</p> <p>b. Students listen to the weather forecast and record the temperatures for the week. Use the information to make a graph.</p> <p>c. Use three bowls of water with different temperature. Students use a thermometer to measure the temperature record their findings and compare them.</p> <p>d. Watch the weather channel and record observations. Discuss then write how the weather forecast is different in other countries.</p>	
<p>6. Estimate and measure length in metres, decimetres, centimetres and millimetres.</p>	<p>a. Have students measure objects in the classroom. E.g.: disk, book length / width of room length of window, door, chalkboard. Students estimate first then measure. Record findings.</p> <p>b. Students make centimetre and metre rule. Using the instrument children go on the outside and measure different objects. N.B. Be sure students estimate first.</p> <p>Students make and display posters of common classroom objects and their measurements.</p>	<p>a. Bring in empty boxes. Label them A. B. C, D. Have students estimate and then measure the length, width and depth of each. Answers should be entered on a recording sheet to be graded.</p>

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<p>6. Estimate and determine the perimeter of shapes by measurement.</p>	<p>a. The teacher wants to put paper all around the lower part of the four walls of the classroom. Without using any standard measurement how can you find out how much paper would be needed? Students are placed in small groups to brainstorm how to solve the problem.</p> <p>b. Divide students into small groups. Using a 10 x 10 grid paper, one student draws a rectangle on the grid paper. The other partner counts and records the measure of the length of each side. Students add the measures. Students explain what they did to obtain the perimeter of the rectangle.</p> <p>c. Have students identify tasks or situations which depict perimeter i.e. car racing around track, planting small flowers around the edge of the yard.</p> <p>d. Read the story "How Big Is A Foot?" to the class and discuss the need for uniform measure. (See Children's Literature List.)</p>	<p>a. Have students find the perimeter of their desk tops to the nearest centimetre.</p> <p>b. Students write in their journals the answers to questions such as: <i>How could you measure the flat top of your desk?</i></p>
<p>8. Estimate and determine area of shapes with non-standard units.</p>	<p>a. Materials: Popcorn for each group, one inch grid paper. Divide students in small groups. Give each group a bag of popcorn. Ask them to use the corn to see how many pieces they would need to cover the palm of their hand. Estimate first. Then use the grid paper and draw a rectangle. Cover the rectangle with the popcorn. Discuss what was done then record the findings.</p> <p>b. Use centimetre graph paper (See Appendix # M-1). Have students draw a picture on it, then estimate the number of centimetre squares it covers. Count.</p> <p>- Relate multiplication arrays to area.</p>	

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<p>9. Estimate and measure capacity using litres and millilitres</p>	<p>a. Place students into small groups. Give each group containers of various sizes and shapes, liquid, solids such as peas, rice, sand. Students explore using the materials.</p> <p>N.B. estimate first / compare their findings. Write about their findings.</p> <p>- Read "Counting On Frank" to the class. (See literature list). As "Frank" types of questions.</p> <p>Record their findings. N.B. Estimate first</p> <p>b. Set up stations where students can move around and complete activities on measurement. E.g.:</p> <ol style="list-style-type: none"> 1. Which is heavier a potato or an onion? 2. How many cups of water is needed to full a jug? 3. Estimate how many metres from here to the classroom door. 4. Use a tape measure and with a partner measure each others' wrist, ankle, waist, etc. 	<p>a. Students make a list of items from the store that are measured in capacity units e.g.:</p> <p>milk water juice</p>
<p>10. Estimate and measure mass in grams and kilograms.</p>		
<p>11. Make change for purchases \$5.00 or less.</p>		

