

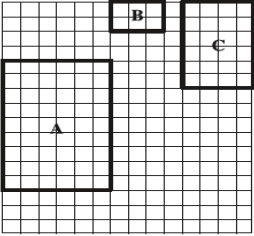





## Mathematics Planning Template Grade 6

<b>STRAND: MEASUREMENT</b>			
<b>TOPICS/OBJECTIVES</b>	<b>MAIN CONCEPTS</b>	<b>TEACHING/LEARNING ACTIVITIES</b>	<b>ASSESSMENT/HOMEWORK ACTIVITIES</b>
<p>1. Calculate the perimeter of irregular polygons and regular polygons.</p> <p>2. Calculate the measurement of one side of a polygon given the perimeter and the lengths of the other sides</p>	<ul style="list-style-type: none"> <li>- Perimeter</li> <li>- Polygons</li> <li>- Regular and irregular polygons</li> </ul>	<p><b>Activity 1:</b></p> <ul style="list-style-type: none"> <li>• In pairs, measure the sides of polygons in their classroom, polygons brought by teacher or themselves and use the measurements obtained to calculate the perimeter of those figures.</li> <li>• Experiment, in groups, how to find the length of an unknown side in any polygon, given; the polygon is drawn to scale, its perimeter, and the length of other sides.</li> </ul> <p><b>Activity 2:</b></p> <ul style="list-style-type: none"> <li>• Explore the concept of perimeter by allowing students use colored tiles when given the perimeter to create a representation of a polygon.</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	<ul style="list-style-type: none"> <li>• Find the perimeter of polygons by counting the sides of each square in the shape highlighted in the grid, using 1 side of the square to represent 1cm. <i>See Recourse Document page 1, Perimeter Activity 1</i></li> <li>• create irregular polygons with given perimeter <i>See Recourse Document page 2, Perimeter Activity 2</i></li> <li>• find the perimeter of polygons with missing sides <i>See Recourse Document page 3, Perimeter Activity 3</i></li> </ul>

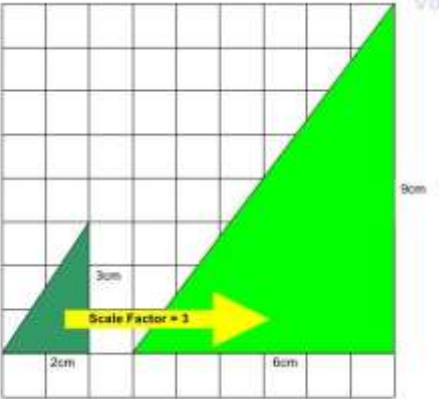
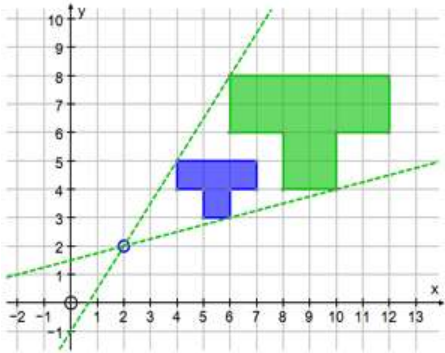


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		<p><b>Activity 3:</b></p> <ul style="list-style-type: none"><li>Construct straw polygons: Revisit the concept of the perimeter by giving students straws of various lengths and have them outline polygons on a grid paper as is shown below. Guide students as they show the different sides represented by the straws outlining the polygons</li></ul>  <ul style="list-style-type: none"><li>Allow students to make selected polygons with one less straw than is needed to complete the polygon e.g. 4 straws to complete outline pentagon.</li></ul> 	





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		<p><b>Check students' understanding by asking questions such as:</b></p> <ul style="list-style-type: none"> <li>• What challenges or concerns do you have with finding the perimeter of this <i>pentagon</i>?</li> <li>• How would you find the perimeter of the <i>pentagon</i></li> </ul> <p>Guide students as they discover that the <i>pentagon</i> is an open path and so the perimeter cannot be calculated. Additionally, allow students to find a measured straw to complete the pentagon.</p> <p><b>Activity 4</b></p> <p>Using grid paper allow students to create regular and irregular polygons using 1 side of each square in the grid to represent 1cm, then find the perimeter. eg</p>	
3. Interpret a simple scale drawing and calculate actual distances using the scale on a road map or floor plan.	- Scale drawing	<ul style="list-style-type: none"> <li>• <b>Activity 1</b></li> </ul> <p>Provide students with a variety of pictures and guide them in making comparison with reference to the size. Emphasis should be placed on writing in ratio form. Guide students through discussion to realize that objects can be scaled up or down, base on the scale factor that they are using. The scale factor is the ratio of measurement of the drawing in comparison to the measurement of the original</p>	<p><b>Project</b></p> <ul style="list-style-type: none"> <li>• <b>Venue Design:</b> Once your students are familiar with ratio concepts and have had a chance to explore Ratio, consider assigning a project that gives students a chance to exercise their imagination and extend</li> </ul>



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		<p>figure. Grid paper can be use to demonstrate this. Provide students with grid paper. Guide students in creating an enlargement of the given actual diagram with a given scale factor.</p> <p>To enlarge a shape on a centimetre grid, simply multiply the lengths by the scale factor.</p> <p><b>Hint:</b> You only need to worry about the vertical and horizontal lengths, the diagonals will follow.</p>  <p>Allow student to work through activities on scale drawing or enlargement. <i>See resource document page 4</i></p> <p>Through discussion, students should realize that to create an enlargement of the original diagram. We multiply the measurement given by the scale factor around a centre point. Provide students with copies of the map below. Indicate to students between which two points they should measure using their ruler (the actual scale should be given to the</p>	<p>their skills and knowledge of ratios by designing a venue of their choice. After determining the type of venue, students create a scale drawing of the venue. Students determine the scale of the drawing. Students should select at least five items in their drawing and, taking into account their measurements and the drawing's scale, calculate the size of the items in the real world.</p>  <ul style="list-style-type: none"> <li>•</li> <li>• Allow students to select a scale factor and create an enlargement</li> </ul>

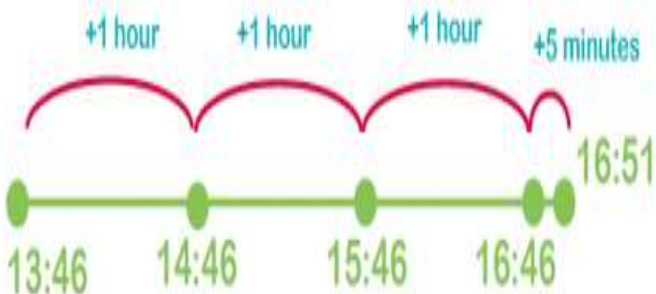


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		<p>students).</p>  <p><i>See resource document page 5</i></p> <p><b>I am not drawn to scale</b></p> <p>Guide students in calculating the actual measurement base on the information given.</p> <p><b>For example:</b></p> <ul style="list-style-type: none"> <li>- The distance from Kingston to Negril</li> <li>- The distance from Black River to Port Antonio</li> <li>- The distance from Falmouth to Linstead</li> <li>- The distance from Montego Bay to Port Antonio</li> <li>- The distance from Negril to Morant Bay</li> </ul>	<p>of the given diagram on grid paper.</p> <p>(see resource document pg. 6 )</p> 
<p>4. Use the 24-hour clock in problem situations.</p>	<ul style="list-style-type: none"> <li>- Elapsed Time</li> <li>- 24 - hour clock</li> </ul>	<p><b>Activity 1</b></p> <ul style="list-style-type: none"> <li>• Guide students in creating both the 12 hour and the 24 hour clock.</li> <li>• Engage students in a discussion as to clarify reading of the time on a 12 hour clock as to that on a 24 hour clock.</li> </ul>	<ul style="list-style-type: none"> <li>• Homework: Have students make an analogue clock showing both 12 hours and 24 hours (see resource document page 7 for sample)</li> </ul>



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		<table border="1"> <thead> <tr> <th>Time</th> <th>Meaning</th> <th>Read as</th> </tr> </thead> <tbody> <tr> <td><b>03 25</b></td> <td>3 hours and 25 minutes after midnight</td> <td>3 hundred and 25 hours</td> </tr> <tr> <td><b>19 10</b></td> <td>19 hours and 10 minutes after midnight</td> <td>19 hundred and 10 hours</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Engage students in a discussion as to clarify reading of the time on a 12 hour clock as to that on a 24 hour clock. <b>For example:</b></li> </ul>	Time	Meaning	Read as	<b>03 25</b>	3 hours and 25 minutes after midnight	3 hundred and 25 hours	<b>19 10</b>	19 hours and 10 minutes after midnight	19 hundred and 10 hours	
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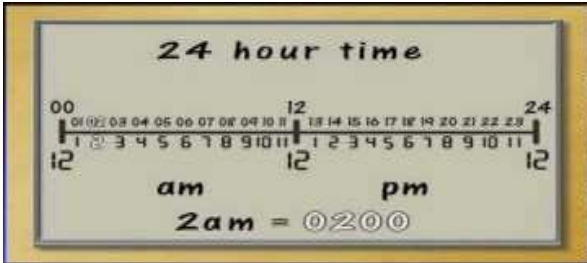
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		<p>Guided students to solve the following problems using the number line by counting forward the 3 hours and 5 minutes:</p> <p><i>I get the 13:46 train to Manchester, which takes exactly three hours and five minutes. How many minutes before 5pm do I arrive in Manchester?</i></p>  <p><b>Activity 2</b></p> <ul style="list-style-type: none"><li>• Guide students in working problems using the timeline to calculate elapse time.</li><li>• Students can count forward as they would on the number line to solve problems.</li><li>• <b>For example:</b></li></ul>	<ul style="list-style-type: none"><li>• Homework: Have students complete time activities. See worksheets on pages 10 - 12</li></ul>



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		<p>(a) School began late today at 10:45 A.M. If you get out at 3:30, how much time will you be in school today?</p> <p>10:45 11 12 noon 3 3:30</p> <p>Four hours from 11 to 3. Then 15 minutes in front and 30 minutes at the end—45 minutes. Three hours 45 minutes in all.</p> <p>(b) The game begins at 11:30 A.M. If it lasts 2 hours and 15 minutes, when will it be over?</p> <p>11:30 12:30 12 noon 1:30 1:45</p> <p>One hour after 11:30 is 12:30 and a second hour gets you to 1:30 and then 15 minutes more is 1:45. It's P.M. because it is after noon.</p> <p><b>The 24 hour clock</b></p>	<ul style="list-style-type: none"><li><b>Homework:</b> Allow students device and use a problem solving strategy to solve the problem below: Adam bought a watch from the store. Unfortunately it gains 30 minutes every day! If Adam set his watch at 17:00 one day, how long would it be before the watch shows correctly 17:00</li></ul>





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		<p><b>Activity 3</b></p> <ul style="list-style-type: none"> <li>• <b>Allow students to solve problem with the 12 hour and the 24hour clock. For example:</b></li> </ul> <p>Kingston is 5 hours ahead of the time in Los Angeles. If a clock in Los Angeles reads 21: 45 on a Sunday, what is the local time in Kingston?</p> <p>In groups have students calculate the time by either representing it on a timeline or on a 24 hour clock. Students can count forward using their timeline to find the local time for Kingston. Students can use a line to establish the starting point on the timeline which is 21: 45 and count 5 hours ahead to get to the time Kingston which would be Monday 2:45 am. Student can also use the hands of the clock to find the answer. <i>Be sure to have students established that 21:45 on the 24 hour clock is equivalent to 9:45 pm on the 12 hour clock.</i></p> <p>For example:</p> 	<p>again?</p> <ul style="list-style-type: none"> <li>• Complete from <b>resource document pages 13 – 14.</b></li> <li>• Have students complete worksheet <b>‘Got the time?’ from resource document on page 15.</b></li> </ul>