

National Mathematics Team

Mathematics Planning Template

Strand: Statistics				
	Topics/Objectives	Main Concepts	Teaching/Learning Activities	Assessment/Homework Activities
	<ol style="list-style-type: none"> 1. Estimate and calculate the mean of a set of numbers. 2. Find the modal value of a set of values. 3. Find the median of a set of data. 	<ul style="list-style-type: none"> • Mean • Mode • Modal • Data • Median • Estimate • Average 	<ol style="list-style-type: none"> 1. Engage students in discovery activities to bring out the concept of mean. Allow them to coin their own definition for the word “mean” based on activities done and discuss the importance of the mean in a set of data. <i>(See Resource Document, for questions to guide discovery).</i> 2. Have students play game in groups using the dice to find the mean of different numbers. <i>(See Resource Document, for instructions).</i> 3. Give students a set of scores and use guided questions to bring out the concept of mode. For example: The following represents scores in terms of percentage for boys in a class. 40, 30, 40, 90, 30, 60, 40, 40, 30, 50, 30, 70, 20 Which score is most common among the boys? 	<ol style="list-style-type: none"> 1. Work sheet on finding the mean. <i>(See Resource Document, for worksheet)</i> 2. Home work: Find the median, mode and mean for the number of times that the member of your family drink water for 6 days. 3. Project: Grade 3 is planning an end of year class party. The teachers need assistance in deciding the type of food and entertainment that will be needed for the party. Conduct a survey at that grade level as it relates to the information needed.

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			<p>What do you think is a good reason for most obtaining that score?</p> <p>4. Have students work in groups having odd and even number of members to measure and record the lengths of their pencils. Have them discuss the answers to the following questions.</p> <ul style="list-style-type: none">- Which pencil is longest in length?- Which pencil is shortest in the length?- How could you decide on the length pencil that that would fall in the middle?- What steps did you take to come up with your answer? <p>Extension: Have them coin their own definition for the word “mode” and “median”, based on the activities done and discuss the importance of mode and median in a set of data.</p> <p>5. Allow students to discuss real life situations that involves the importance of arranging a set of scores, heights etc., in ascending or descending order. Have them discuss if it affects how well</p>	<p>Present the information gathered using graphs and tables and provide information as it relates to the mean, median, and mode of the data collected.</p>
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			they are able to find the median, mean or mode of a set of data. E.g. stacking books on a shelf based on height.	
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Strand: Statistics and Probability				
	Topics/Objectives	Main Concepts	Teaching/Learning Activities	Assessment/Homework Activities
	1. Find the range of a set of values. 2. List and determine the probabilities of all possible outcomes of an experiment.	<ul style="list-style-type: none"> • Range • Probabilities • Probability • Outcomes • Experiment • Possible • Impossible • Certain • Uncertain 	1. In pairs give students different size containers. Allow them to observe the amount that each container holds and record their observations. Extension: Have the students arrange the observations in ascending or descending order. Ask students guided questions such as: <ul style="list-style-type: none"> - What is the smallest observation? - What is the largest observation/ - Which observation occurs the most? - What is the difference between the highest and lowest observation? Have student make a definition for the term range, based on the activity.	1. Have students research the prices from various gas stations and restaurants for the same meal. Have students find the range of the sets of values provided. (<i>See Resource Document, for tables</i>) Have students complete worksheet on probability. (<i>See Resource Document, for details</i>)
			2. In groups provide students with coins, dice and a bag with marbles. Have students discuss in their groups the number of possible outcomes they will get from the objects given. Ask students guided questions such as:	

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			<ul style="list-style-type: none">- How many possible results can you get from the coin or the die or the bag of marbles?- What are the chances of flipping a head or tail?- What are the chances of rolling a four or pulling a red marble from the bag?- How did you come up with your responses? <p>Have students share their responses</p> <p>3. Introduce students to the term ‘probability’; have students come up with their own definitions for the term based on activities done.</p> <p>Extension: Have students in their groups discuss if the probability will change if the number of dice, marbles or coins increases.</p>	
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Strand: Statistics and Probability				
	Topics/Objectives	Main Concepts	Teaching/Learning Activities	Assessment/Homework Activities
	<ol style="list-style-type: none"> 1. Perform and report on a variety of probability experiments. 2. Make inferences and draw conclusion from a variety of experiments. 	<ul style="list-style-type: none"> • Certain • Unlikely • Most likely • Impossible • Maybe • Unlikely 	<ol style="list-style-type: none"> 1. Have students make probability spinners. (<i>See Resource Document, for instruction</i>) 2. Have students use spinners to answer questions about, certainty, unlikely, likely, maybe and impossible scenarios. 3. Place 10 counters in a bag – 6 red, 3 blue and 1 yellow. Allow at least 15 students to choose a counter from the bag, identify which colour they have and replace it. Make a tally of the colours chosen. Without showing students the content of the bag discuss the question “Which colour counter occurs most in the bag?” 4. Students will be placed in groups of 3 or 4 and given the following experiments to do and will record the results. (Each group will conduct one experiment only but share findings with other groups.) 	<ol style="list-style-type: none"> 1. Students will select activities written on strips of paper, read them then paste them under appropriate heading “certain”, “impossible”, “maybe”. Example: <ul style="list-style-type: none"> - Selecting a boy from a grade one class of 10 girls and 4 boys - Selecting Sunday as the first day of the week - Selecting Tuesday as the third month of the year

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			<p>Activity One - <i>Flip a coin</i></p> <p>Make predictions about the number of times the coin will land on its head or tail when flipped 30 times.</p> <p>b) Based on data collected, answer true or false to the following statements:</p> <ul style="list-style-type: none">i. The coin is more likely to land on heads than on tails _____ii. The coin is equally likely to land on heads as on tails _____iii. The coin is less likely to land on heads than on tails _____ <p>Activity Two - <i>Toss a die</i></p> <p>Make predictions about how many times each number on the die will be rolled if the die is rolled 42 times.</p> <p>Record the predictions within the groups.</p>	
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Strand: Statistics & Probability				
	Topics/Objectives	Main Concepts	Teaching/Learning Activities	Assessment/Homework Activities
<p>Report on the mathematical content and interpretation of data.</p> <p>Represent data using bar graphs, double bar graphs, pictographs, pie chart and line graphs.</p>	<p>Data Analysis Bar graph Double bar graph Pie chart Pictograph Line graph</p>		<p>After students have created their data collection instruments in their groups. Have the students carry out a brief data collection exercise.</p> <p>Have the students make oral presentations based on the data that they have collected from the previously created instruments</p> <p><i>For example a market research for products that should be offered at the tuck shop.</i></p> <p>After the students have collected their data allow them to organize the information collected in a frequency table.</p> <p>Allow students to represent the information collected on various graphs such as pie chart and bar graphs.</p> <p>Allow students to use Microsoft Excel and/or Microsoft Word to create the graphs.</p> <p>Have students write explanations for each of the graphs that they have created. This can be done in the form of a presentation to the principal and the board.</p> <p>Allow students to carry out research projects of issues that interest them in the class/ or school. (See Resource Document for information)</p>	