

NATIONAL MATHEMATICS

Statistics & Probability Unit Plan

Topics/Objectives	Main Concepts	Teaching/learning activities	Assessment/Homework Activities
Construct simple bar charts	<ul style="list-style-type: none"> • Survey • Data • Tally • Table • Pictographs • Bar charts 	<p>Forming survey questions</p> <ul style="list-style-type: none"> • Give students collection or list of items for them to determine suitable categories for items. Let students give reasons for the categories named. • Present a variety of scenarios to students and them to determine suitable questions which they may ask in collecting relevant data for representation and analysis. For example: <ul style="list-style-type: none"> ○ <i>A teacher is planning a class party. The teacher would like the students to play a favourite game. What question could the teacher ask the students?</i> ○ <i>The manager of a grocery store would like to sell fruits that customers will buy. What survey question could the manager ask customers</i> <p>Data collection, analysis and representation</p> <ul style="list-style-type: none"> • Let students collect data using observations, surveys, and experiments. For example, students may determine: <ul style="list-style-type: none"> ○ the different colour cars on or which passes (for a given period) the school compound ○ various means by which students travel to school ○ favourite movie, favourite subject, etc. <p>Have students sort and classify objects according to the established attribute, and allow them to share how they</p>	<ul style="list-style-type: none"> • Worksheet – the worksheet gives students an opportunity to manipulate data collected and recorded in tally and table form. • Ask students to determine the number of the various types of shoes found in the home (clearly define a shoe). These may be placed in the categories lace-up, buckle, sticky straps or slip on. Students should <ul style="list-style-type: none"> ✓ display the data on a tally chart and a table ✓ determine the type of shoes that are mainly found in the home ✓ state if there are more shoes with laces or sticky straps. ✓ state why they believe there are fewer shoes with (laces, buckles, sticky straps etc.)

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		<p>have sorted the data.</p> <ul style="list-style-type: none"> Help students to develop the skill of tallying for organization purposes. Use the data collected and has students tally their findings. Establish and discuss terms seen in the table below <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Tally</th><th>Frequency</th></tr> </thead> <tbody> <tr> <td>I</td><td>1</td></tr> <tr> <td>NN</td><td>5</td></tr> </tbody> </table> <ul style="list-style-type: none"> Allow students to represent data using tallies and tables. Ask suitable questions which allow students to infer from representations given as well as justify the suitability of graphs used to represent information. Examples: <ul style="list-style-type: none"> ✓ How are the representations similar? ✓ How are they different? ✓ Which one is easy to understand and what makes it easily understood? ✓ How is the information on the chart/table helpful to you? Your parents; teachers; etc.? 	Tally	Frequency	I	1	NN	5	
Tally	Frequency								
I	1								
NN	5								
Solve problem using		<ul style="list-style-type: none"> Allow students to create pictographs from tables and 	<ul style="list-style-type: none"> Allow students to create a 						

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the information given in a table or in a pictograph		<p>given data.</p> <ul style="list-style-type: none"> Allow students to read and interpret bar graphs of real life examples as a whole class discussion 	<p>pictograph depicting the number of brothers, sisters, aunts and uncles they have. Students must be creative with their pictographs. They are not allowed to draw the symbol or picture they will use to represent their relatives. They can paint, use pictures from magazines or any other material.</p> <ul style="list-style-type: none"> Allow students to do survey with ten persons in their community.
Interpret horizontal or vertical bar charts Conduct simple probability experiments and record outcomes (e.g. tossing coins, rolling dice and spinning	<ul style="list-style-type: none"> Probability Experiment Outcome Predictions 	<p><u>Introduction to Probability</u></p> <p>Provide students with activities that will allow them to see how probability is used or implied in their everyday life. These could include board games which use dice and card games.</p> <p>Other examples could include the weather. These are a few questions that could be asked: Will it rain today?</p>	<p><u>Meteorologist for a day!</u></p> <p>This activity can be used in class or as an assignment.</p> <p><u>Prediction in Germination – Week long</u></p> <p>Have students engage in a simple germination experiment. Use</p>

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spinners) Predict outcomes of experiments Compare predictions with outcomes of experiments		<p>How do you know?</p> <p>Could the rainfall over the past week help us to predict if there will be rain today?</p> <p>Degrees of Probability</p> <p>Engage students in discussion on how likely it is for an event to happen. Expose students to the terms: certain, likely, unlikely, and impossible. Then have them predict outcomes.</p> <p>For example:</p> <ul style="list-style-type: none"> ○ What is the likelihood that you will win a million dollars today? ○ What is the likelihood that it will rain today? ○ What is the likelihood that you will eat food today? <p>Using coins, dice, spinners</p> <p>Provide students with manipulatives, like coins and have them state what they think will happen. Then have them perform experiments, record their findings and discuss their understanding of the data.</p>	<p>damped paper instead of soil so that the results are evident. The proposed seeds for this experiment are corn and red peas. Before they begin, have them make predictions concerning the following:</p> <ol style="list-style-type: none"> 1. Which seed will sprout first? 2. How long (in days) do you think the seeds will take before sprouting? 3. After sprouting, how tall do you think each plant will grow: <ol style="list-style-type: none"> a. Within the first day? b. Within the second day? <p>After the sprouts begin to grow:</p> <ol style="list-style-type: none"> 4. Have you changed your mind about any of your

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			<p>previous answers?</p> <p>5. What can you say about making predictions?</p>