

**MATHEMATICS**

**GRADE FOUR**

Unit Title: **ALGEBRA**

Term: **THREE**

Unit: **THREE**

Duration: **TWO WEEKS**

**FOCUS QUESTION:** How can I use variables to solve real world problems?

| <b>ATTAINMENT TARGETS</b>  | <b>OBJECTIVES</b>   | <b>KEY VOCABULARY/<br/>CONCEPTS</b>  |
|--|---|--|
| <ul style="list-style-type: none"><li>• Explain the meaning and use of simple formulae</li><li>• Use open sentences to express relationships among quantities, model and explain the solution of simple equations, using diagrams and concrete materials</li></ul> | <p><b>At the end of this unit, pupils will:</b></p> <ul style="list-style-type: none"><li>• Express simple sentences and word problems as algebraic expressions.</li><li>• Solve word problems using algebraic expressions.</li><li>• Write one- or two-step problems based on information given in a story; then write the correct n-sentence and solve the problem.</li></ul> | Expression<br>Solutions<br>Formulae<br>Substitution<br>Three more than<br>Twice as many<br>Other comparative terms |

**ACTIVITY PLAN**

**Focus Question:**            **How can I use variables to solve real world problems?**

| <b>PROCEDURES/ACTIVITIES</b>  | <b>SKILLS</b>  | <b>ASSESSMENT</b>  |
|---|--|--|
| Pupils will:<br>1. Discuss and describe situations in which generalizations can be made and Formulae/expressions can be developed e.g.<br>(i) perimeter of regular polygon is the product of the number of sides and the Length of one side which could be written as 'n l' where 'n' is the number of Sides and 'l' the length of each side,<br>(ii) the next even number in a series could be 'l + 2' where 'l' is any even number. | <ul style="list-style-type: none"><li>• Making generalizations</li></ul> | <ul style="list-style-type: none"><li>• Expressions composed</li></ul> |
| <b><u>Evaluation:</u></b><br><br>Were pupils able to: <ul style="list-style-type: none"><li>• Develop at least one expression/formula from a generalization?</li></ul>  | <b><u>Materials/Resources:</u></b>                                       |  |

ACTIVITY PLAN

| PROCEDURES/ACTIVITIES  | SKILLS  | ASSESSMENT  |
|--|---|---|
| <p>2. Substitute various numbers in a formula/expression to arrive at the different results.</p> <p>3. Use the problem solving techniques to analyse what is given, plan what to do, solve the problem, check the results to see if they make sense; as described in “activity booklet 4-6” pp. 49-50 “picturesque”, especially tasks 7 to 9 to develop problem-solving skills.</p> <p>4. Work in groups with the use of manipulatives or sketches to solve one or two-step worded problems leading to an n-sentence such as those in “activity 4-8” from the “primary mathematics teacher’s guide”. Record and explain their methods of solving to the class.</p> <p>5. Develop their own one or two-step story problems, using terms such as three more than, one less than, half as many, twice as many, putting expressions equal to a given value.</p> <p>6. Applying equations to solve story problems developed by their peers.</p> | <ul style="list-style-type: none"> <li>• Substituting of values</li> <li>• Simplifying expressions</li> <br/> <li>• Composing n-sentences and story problems</li> <br/> <li>• Exploring story problems</li> <li>• Reasoning solutions</li> <br/> <li>• Solving equations</li> </ul> | <ul style="list-style-type: none"> <li>• Substitution of values</li> <li>• Problem solving strategies</li> <br/> <li>• Story problems (oral/written)</li> <br/> <li>• N-sentences composed</li> <br/> <li>• Equations solved</li> </ul> |
| <p><b><u>Evaluation:</u></b></p> <p>Were pupils able to:</p> <ul style="list-style-type: none"> <li>• Accurately arrive at solutions by substituting values in an expression?</li> <li>• Use sketches/manipulatives to arrive at solutions/expressions and explain their strategies?</li> <li>• Compose at least one story problem having at least two steps?</li> <li>• Compose n-sentences?</li> <li>• Solve equations?</li> </ul>   | <p><b><u>Materials/Resources:</u></b></p> <p>“Activity Booklet 4 – 6”<br/> “Primary Mathematics Teachers’ Guide”<br/> Selection of manipulatives to represent numbers and variables</p>   |   |