

Unit Plan - Gr. 6/7 Patterning and Algebra- Term 3

Grade 6 OEs and SEs

OEs:

- use variable in simple algebraic expressions and equations to describe relationships

SEs:

- demonstrate an understanding of different ways in which variables are used (e.g., variable as an unknown quantity; variable as a changing quantity);

– identify, through investigation, the quantities in an equation that vary and those that remain constant (e.g., in the formula for the area of a triangle, $A = b \times h$ divided by 2. The number 2 is a constant, whereas b and h can vary and may change the value of A);

– solve problems that use two or three symbols or letters as variables to represent different unknown quantities (Sample problem: If $n + 1 = 15$ and $n + 1 + s = 19$, what value does the s represent?);

– determine the solution to a simple equation with one variable, through investigation using a variety of tools and strategies (e.g., modelling with concrete materials, using guess and check with and without the aid of a calculator) (Sample problem: Use the method of your choice to determine the value of the variable in the equation $2x + 3 = 11$. Is there more than one possible solution? Explain your reasoning.).

Summative Task 1

Grade 7 OEs and SEs

OE's:

- model real-life linear relationships graphically and algebraically, and solve simple algebraic equations using a variety of strategies, including inspection and guess and check.

SE's:

Summative Task 1

| Day | Problem/Checkpoint | Intent |
|------------------------|---|---|
| <p>1</p> <p>WAAAAC</p> | <p>Warm-up: An equation is a statement that two things are equal. Which of these are equations?</p> <p> $5+8=13$ $19 = 25-6$ $7 \times 3 = 21$ $42 - 21 = 18$ $4 + 9 - 7$ $9 \times 3 = 25 + 2$ </p> <p>Activity: Brianna wants to build a rectangular pen with area 176 m². The pen must be 16 m long. What will the length of the pen be? Write an equation to model this problem. (MMS Gr. 6 pg. 18 #4)</p> <p>Consolidation: Strategies: Guess and Check Use the inverse operation</p> <p>Homework: Two sides of a triangle are 7 cm and 13 cm long. The perimeter of the triangle is 30 cm. Write an equation that models this problem. What is the length of the third side? (MMS Gr. 6 pg. 6)</p> | <p>- introduction to expressions and equations.</p> |

| Day | Problem/Checkpoint | Intent |
|------------------------|--|--|
| <p>2</p> <p>WAAAAC</p> | <p>Warm-up: What is a variable? A variable is a symbol that can stand for any one set of numbers or other objects. What is a constant? A constant doesn't change. Example: Francine gets paid \$7.00 for each hour she works. The formula to calculate her pay is: $P = 7xH$ P is a variable H is a variable</p> <p>Activity: OAME activity: page 238. Copy out rules of play. Students should play in groups of 2.</p> <p>Consolidation: What strategy did you use to match up the equation cards with the situation cards? What is a variable? When have you seen variables before or where might they be used?</p> <p>Homework: Circle the equation that best represents the problem. (OAME pg. P & A B-5) Performance Task 2- Babysitting (P & A C-2.1)</p> | <ul style="list-style-type: none"> - demonstrate an understanding of different ways in which variables are used. - 1. unknown quantity - 2. changing quantity |

| Day | Problem/Checkpoint | Intent |
|--------------|--|--|
| 3 Checkpoint | <p data-bbox="540 275 915 348">Assessment- Independent From EQAO Spring 2008</p> <p data-bbox="540 396 1081 558">The total number of books Mitzi reads over the summer can be found using the expression $2 \times n + 3$, where n represents the number of weeks. After how many weeks will she have read 11 books?</p> | <p data-bbox="1141 275 1398 422"><i>- show an understanding of variables as a changing quantity.</i></p> |

| Day | Problem/Checkpoint | Intent |
|-----|--|---|
| 4 | <p>Warm-up: Albert is organizing an end of term party. The cost of renting a hall for an evening is \$100. The cost of food is \$8 per person. How much will the party cost of 20 people attend? 50 people attend? Write an algebraic expression for the cost of the party of n people attend. Suppose Albert decides to hire a DJ for the party. The DJ charges \$250 for the evening. What is the new cost of the party when n people attend? Suppose the cost of food increases by \$2 per person. Write an expression for the total cost of the party with a DJ of n people. The new food price is in effect. How much will the party with a DJ cost for 40 people? (HW Book Gr. 7, pg. 215 #7)</p> <p>Activity: What numeric expression would tell the number of chair legs on 376 chairs? What about 195 chairs? How would you write the number of legs with any number of chairs? Write your own expressions for these types of quantities: Fingers on students Eggs in cartons. Crayons in boxes Wheels on cars Hours in days Any odd number Any even number A multiple of 3 plus a different multiple of 5 Any two digit number (Van De Walle pg. 278, Activity 9.10)</p> <p>Homework: Emily works for \$6 an per hour. How much will she earn of she works 10 hours? Write an algebraic expression for her earnings for t hours. Evaluate the expression by replacing t with 12. Emily earned \$90 working on the week-end. How many hours did she work? (HW Book Gr. 7, pg. 214 #6)</p> | <p>- <i>creating your own equations using variables</i></p> |

