




Why are elementary students studying algebra?

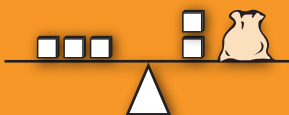
As a parent, you might remember learning algebra in senior high school or even junior high school. We often associate the word algebra with using letters/variables instead of numbers. Algebra is the generalization of relationships often represented by formulas and equations. The concept of equality is extremely important in algebra and is explored from Kindergarten to Grade 12.



$3 + 2 = 5$ $3 + 1 \neq 5$

Grade 1: Concept of equality and record using equal symbol


Grade 2: Concept of not equal and record using not equal symbol



$3 = 2 + \text{money bag}$
 $3 = 2 + n$


Grade 3 and 4: Solve one-step equations using a symbol

Grade 5: Solve one-step equations using a variable



$6 = n$
 $6 + 2 = n + 2$

Grade 6: Preservation of Equality (When performing the same operation with the same value to both sides of the equation the equality is preserved.)



$8 = 2n + 2$
 $6 = 2n$
 $3 = n$

Grade 7 to 9: Algebraic Manipulation

$$x - 6 = 10$$

$$x - 6 + 6 = 10 + 6$$

$$x = 16$$

THE REVISED KINDERGARTEN – GRADE 9 MATHEMATICS PROGRAM OF STUDIES



When students are studying algebra, they will be involved in:

- *using concrete materials to demonstrate equality and inequality*
- *visualizing equality and inequality*
- *writing and solving equations*
- *recognizing and generalizing patterns.*

How might I support my child with algebra?

- *Use balance scales to support the understanding of balanced and equal and not balanced and not equal.*
- *Represent known facts using an equal sign; for example, $2 + 2 = 4$.*
- *Extend patterns encountered in daily life; we need two eggs if we want to make four pancakes, so how many eggs would we need if we wanted to make eight pancakes?*
- *Discuss how change can be represented mathematically. If the sunflower grows 3 cm each week, how tall will it be after four weeks?*

Adapted with permission from the Alberta Regional Professional Development Consortia.