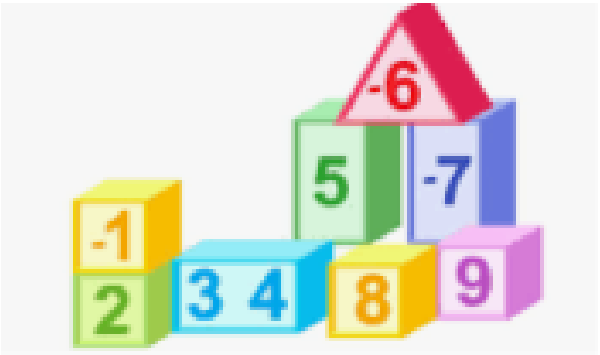
Year 7 – Unit 1 - Positive and Negative Integers – Knowledge Organiser

Objective
Understand and use negative numbers in context
Carry out operations involving negative and positive integers
Understand and use the order of operations involving positive and negative integers
Solve a variety of problems involving positive and negative integers



Key Facts:

Adding and Subtracting

You can draw and use a number line to help you with adding and subtracting

Examples

3 – 7 = -4	-2 – 9 = -11	-5 + 2 = -3
+ 5 - -2 = 7	- -4 + -5 = -9	+ -8 - -2 = -6
5 + 2 = 7	-4 – 5 = -9	-8 + 2 = -6

Multiplying and Dividing

Examples

5 x -4 = -20 -3 x -8 = 24 -6 x 2 = -12

45 ÷ -5 = -9 -100 ÷ -10 = 10 -18 ÷ 9 = -2

Order of Operations Examples

4 + 2 x 3	3 + (7 x 2 – 5)	(8 – 2) x 3^2
↓	↓	↓
4 + 6 = 10	3 + 9 = 12	6 x 3^2
		↓
		6 x 9 = 54

Key Concept Check

Samir says that 2 + 3 x 5 = 25. Liz says that 2 + 3 x 5 = 17.
Who is correct? How do you know?

Comment on the statement: -6 is bigger than -3

What is the difference between -5^2 and $(-5)^2$?

Key words used in this unit:

Whole Numbers – any of the numbers 0, 1, 2, 3 etc.; a number without fraction or decimal part

Integers – a whole number that can be positive, negative, or zero. E.g. ….-4, -3, -2, -1, 0, 1, 2, 3, 4…

Negative Numbers – numbers that are below zero with a minus sign

Commutative Law – when you can do a calculation in any order.

Associative Law – when you can group numbers in any order.

Distributive Law – multiplying a number by a group of numbers added together is the same as each multiplication separately