## Integers

Integers are simply the set of all negative and positive whole numbers. We use integers when we talk about the weather, finances, sports, geography, and science.

Let's take a look at some of the vocabulary we need to know:

| Word | Definition | Examples/ Picture |
| :---: | :---: | :---: |
| Unit tile | A tile that represents +1 or -1 | $\square \quad \square$ |
| Variable tile | A tile that represents a variable (unknown number represented using a letter such as $x, y, c$, etc.) | $\square$ |
| Algebra tile | A collective term for unit tiles and variable tiles | $\square$ |
| Algebraic expression | A mathematical expression containing a variable | $+$ $\square$ $=$ $\square$ $\square$ $x+1=3$ |
| Negative integer | Any whole number less than zero | $-1,-5,-48,-13958$ |
| Positive integer | Any whole number greater than zero | $+1,+8,+58,+193920$ |
| Zero pair | Two opposite numbers whose sum is equal to zero | $\begin{aligned} & \square+\square=0 \\ & \square+\square=0 \end{aligned}$ |

We can use yellow tiles to represent positive integers and red tiles to represent negative integers.

One yellow unit tile $\square$ can represent +1 and one red unit tile $\square$ can represent -1 .
One yellow unit tile can combine with one red unit tile to model 0 : We call this a zero pair.


We can model any integer in many different ways.
Example: Use algebra tiles to model -7 in three different ways.

