

Number Sense “*All About that Base*”

Complete the mathematics operations using the new base.

How did you solve these?

What was different about addition? Multiplication?

How are these connected?

Binary is a system of numbers just like decimals, but it has a base of two numbers – 1 and 0 – before a new “two’s place” is created.

Below are some examples of decimal numbers in binary:

0 = 0
1 = 1
2 = 10
3 = 11
4 = 100
5 = 101
6 = 110
7 = 111
8 = 1000
9 = 1001
10 = 1010

$$2 + 2$$

$$2 \times 3$$

$$3 + 4$$

$$4 \times 2$$

$$7 + 3$$

$$4 \times 3$$

Geometry: Get Sorted

Sort these living things into your own categories.

What makes a category “good”?

How do you know?

Measurement & Approximation

“How many does it take?”

Estimate how many golf balls will be needed to fill the room.

What is “acceptable”?

What does it mean to be “reasonable”?

What is “error”?

Algebra “*What’s that mean?*”

Determine what the dog is hiding in each puzzle.

What does the dog mean?

How do you know?

What other symbols could be used?

Create your own puzzle with your own symbol.

The ground is  .

The sky is  .

People  dogs as pets.

It is common for people to eat  .

$$3 + \text{dog} = 5$$

$$7 + 2 = \text{dog}$$

$$9 \times \text{dog} = 45$$

$$\text{dog} \times 3 = 12$$

Data Management “*Love vs. Time*”

Complete a graph of “Love vs. time” and share a story with the group about your graph.

What does the ‘slope’ of your graphs mean?

Define “Relationships”. Discuss.

What predictions can be made from your graph?