Decoding Functions:
Words and Equations

Ms. Wanner

When you hear the word **decoding**, what do you think?

-decoding is changing a message or code into something you can understand

Turn and Talk with a neighbor...

What is an example in history when decoding was used?

The Allies in WW2 were aided through the use of the Navajo language to create an unbreakable code to help win the war.

https://www.historynet.com/world-war-ii-navajo-code-talkers.htm

Navajos in a U.S. Marine regiment relay orders in t native language.

Navajo Code Talkers

-Type 1 code: 26 Navajo terms that stood for English letters that could be used to spell out a word

"ant"-wo-la-chee: letter "a" in English

Navajo Code Talkers

-Type 2 code: words that could be directly translated from English to Navajo [including 411 new military terms and names that did not exist in Navajo]

"submarine"-besh-lo: "iron fish"

Did you know?

Math is its own unique language!

Today we are going to be code breakers. We are on a mission to decode and encode between English and Math.

Code Breaking Key

ADDITION +

-add, sum, increased by, together, and, more, plus, combined

Code Breaking Key

SUBTRACTION –

-subtact, difference, decreased by, minus

TURN AROUND WORDS: than/less than, from, fewer

-switch the order

Code Breaking Key

MULTIPLICATION x

-multiple, twice, product, times, of

DIVISION ÷

-quotient, shared, per, ratio, divided by, over

Code Breaking Key

<u>EQUALS</u> =

-is, are, were, will be

<u>GROUPING SYMBOLS</u> ( )

-times the sum/difference of, twice the sum/difference of, times... of

To decode a math sentence, we will

-slowly read through the sentence/code

-identify any terms that mean math operations & mark them

-identify numbers in sentence

-read through the sentence again

-rewrite the sentence with the code broken down

Example

Write a function rule that represents the sentence.

5 less than one fourth of x is y

Example

Write a function rule that represents the sentence.

P is 9 more than the product of one half of q

Word Problems

When we approach a word problem, we will use our same strategies to decode the problem.

Word Problems

-slowly read through the sentence/code

-identify any terms that mean math operations & mark them

-identify numbers in sentence

-read through the sentence again

-rewrite the sentence with the code broken down

Word Problem Example

Write a function rule that represents the situation.

The height f, in feet, of an object when you know the object's hight h, in inches.

We are going to break into teams of 2.

-Wyatt, Sydney
-Madelyn, Hannah
-Crystal, Reid
-Garrett, Mercedes

Ways to Collaborate

-active listening

-balanced & inclusive participation from all members

-come to a consensus as a group on answers

In our teams, we will rotate between the 4 stations, decoding at each as a team.

Bring with you

-Writing Utensil

-Notes Sheet

-Team Answer Form

Try your best to do at least the first two problems at each station, writing the answers on your team form.