

# Sorting Symbol Strings

Name \_\_\_\_\_

## Activity Recording Sheet

1. What are the differences between Equations, Inequalities and Expressions? Write as much as you can to explain what you know about how they are different.

Equations have an equal sign.

Expressions have no equal sign.

Inequalities have either  $>$ ,  $<$ ,  $>=$ , or  $<=$  sign

2. Describe the subcategories you noticed within each group. What is alike about all the symbol strings that fit in a particular subcategory? Make sure to list all symbol strings that fit in each subcategory.

$<$  and  $>=$  signs can be less than or equal to, or it can be more than or equal to. Instead of less than or more than.

Some equations have one variable. Other equations have multiplication and addition in them. Some have subtraction in them.

Some are  $=$  and the other one has values terms

$$4p + 3p - 2p$$

$$\frac{m \cdot n}{m}$$

$$3x + 2x + 2x$$

$$3a - 2b + 4c - a$$

$$5(k+2)$$

$$3b + 4p + 17$$

$$3x + 2y + 4z$$

3. With your group, make up at least 6 new symbol strings that fit within the subcategories. List them here **AND** write each one on the front of an index card with a description of the subcategory on the back of the index card.

$$3x + 2w + 8x$$

$$3x + 2x + 1x$$

$$3 + 2 = 2 + 3$$

$$3x = 6$$

$$3 > 2$$

$$2 < 3$$

I learned that equations, expressions, and inequalities can be separated into different groups. I learned that because it made us think a different way. I think this lesson was good.

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1. What are the differences between Equations, Inequalities and Expressions? Write as much as you can to explain what you know about how they are different.

Inequalities are different from the others because they have the greater or less to equal sign.

Equations has a problem like  $3x + 2x = 5x$ , equals sign.

Expressions are not like a problem but just an expression, donot have a equals sign.

2. Describe the subcategories you noticed within each group. What is alike about all the symbol strings that fit in a particular subcategory? Make sure to list all symbol strings that fit in each subcategory.

One is an Inequalities open circle, and closed circle.

### Equations

1 group is split into Properties

1 group is split into addition

1 group is split into multiplication

and 1 group is split into an answer.

### Expressions

Like terms and non like terms.

Back

3. With your group, make up at least 6 new symbol strings that fit within the subcategories. List them here **AND** write each one on the front of an index card with a description of the subcategory on the back of the index card.

1.  $X + 6 < 9$     2.  $X + 10 \leq 20$

3.  $C - 7 > 20$     4.  $B + 3 \neq 9$

5.  $F \cdot 7 \geq 30$     6.

### Expressions

Non Like terms

$3b + 4p + 17$

$3x + 2y + 4z$

Like terms

$4p + 3p + 2p$

$m^2 \cdot m^4$

$m^2$

$3x + 2y + 2x$

$3a - 2b + 4c - a$

$5(x + 2)$

What I learned today?

I learned about three topics.

I worked on it, I thought it was

Cool! 100% good!

here

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1. What are the differences between Equations, Inequalities and Expressions? Write as much as you can to explain what you know about how they are different.

Inequalities have the arrows pointing one way like  $>$ ,  $<$ ,  $\geq$ , or  $\leq$ . Equations always have an equal sign, but expressions don't. ~~Expressions just have numbers, variables, and some sort of~~ <sup>either</sup> ~~operation.~~ operation.

2. Describe the subcategories you noticed within each group. What is alike about all the symbol strings that fit in a particular subcategory? Make sure to list all symbol strings that fit in each subcategory.

For the inequalities, we sorted them into 2 groups:

$>$  and  $<$ , and  $\geq$  and  $\leq$ .

For the equations, we sorted them into 4 groups:

equations with only variables, equations with ~~only~~ addition, equations with multiplication, and one with only a  $\neq$ , equal sign, and variable.

For the expressions, we sorted them into 2 groups: one where you could combine like terms

$(4p + 3p - 2p; \frac{m^3 m^4}{m^3}; 3x + 2y + 2x; 3a - 2b + 4c - a; 5(x+2))$ , and one where you can't ~~simplify~~ simplify the expression  $(3b + 4p + 7; 3x + 2y + 4z)$

3. With your group, make up at least 6 new symbol strings that fit within the subcategories. List them here **AND** write each one on the front of an index card with a description of the subcategory on the back of the index card.

1.  $3x + 2w + 8x$       2.  $3x + 2x + 1x$

3.  $3 > 2$       4.  $5m + 2m$  ~~5m + 2m~~

5.  $50 = 5 \times 5m$       6.  $10 < 4 - 2$

I learned about putting symbol strings into different categories and subcategories.

I know I learned it because I'm writing about it and I didn't used to know what they are. I am feeling happy that I learned about it, and I think that the lesson was very fun, although it was kind of weird with all the cameras and people.





Group 1  
Student 1a

$$3x + 2w + 8$$

Expressions  
CANT BE  
Combined

Group 1  
Student 1b

$$3x + 2x + 1x$$

Expressions

terms can  
be combined



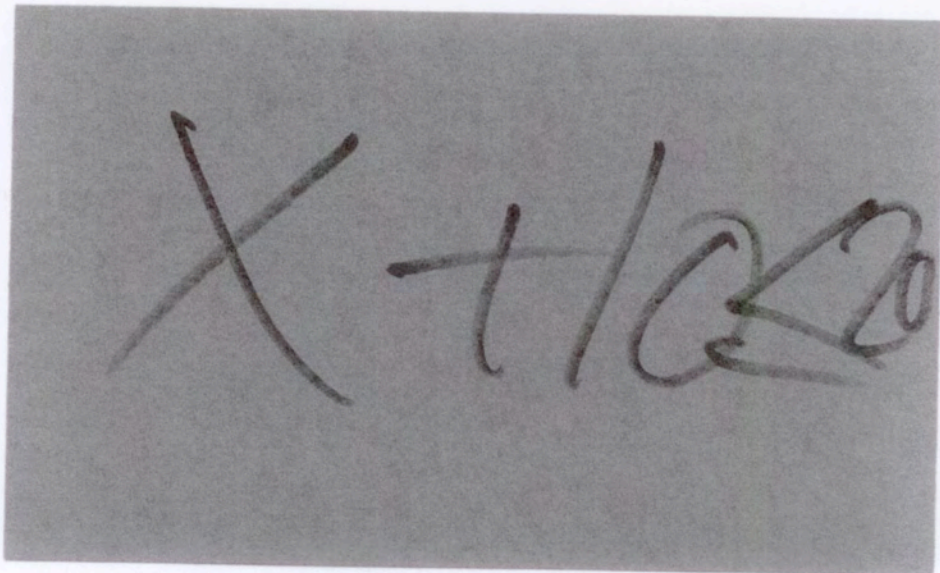
Group 1  
Student 1C

$$x + 6 < 9$$

Inequalities  
less than

Group 1

Student 1d



Inequality  
greater than  
Equal sign



Group 1

Student 1e

$$50 = 5 \cdot 5m$$

Solving for  
Unknown

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Equations

Group 1  
Student 1f

$$Z \cdot Y = Y \cdot Z$$

Property  
Equations

Equations