

Today's Materials



- calculator
- pencil
- art stuff



Interpreting Inequalities

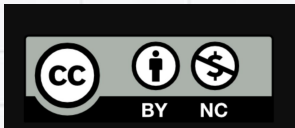
Lesson 16

CCSS Standards:
Addressing

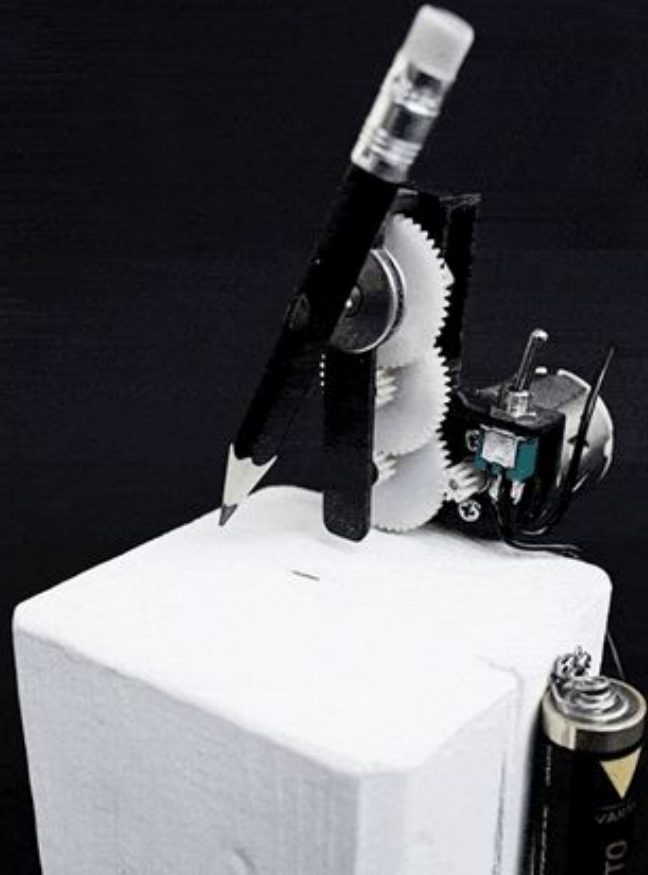
- [7.EE.B.4.b](#)

CCSS Standards:
Building towards

- [7.EE.B.4.b](#)

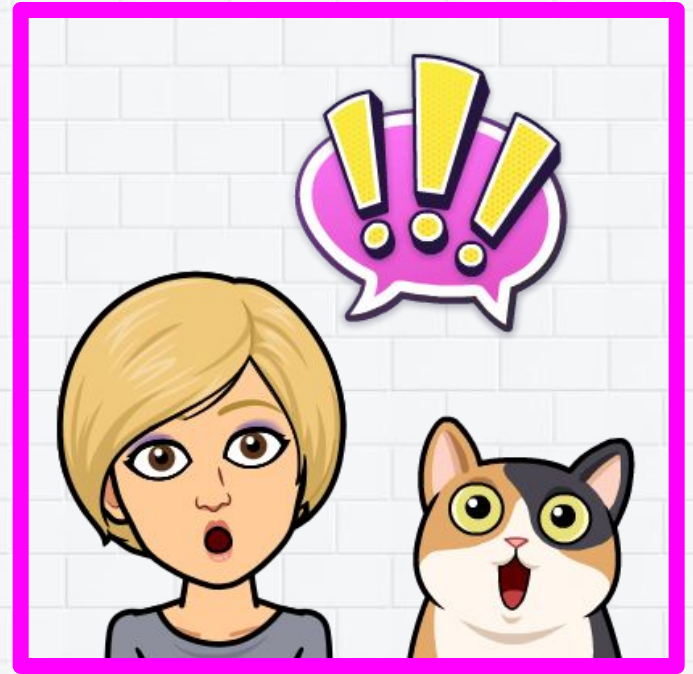


**Let's write
inequalities!**



Today's Goals

- ❑ I can match an inequality to a situation it represents, solve it, and then explain what the solution means in the situation.
- ❑ If I have a situation and an inequality that represents it, I can explain what the parts of the inequality mean in the situation.



Solve Some Inequalities!

Warm Up

For each inequality, find the value or values of x that make it true. (Graph on a number line if you're stuck!)

$$8x + 24 \leq 56$$

$$7(7 - x) > 56$$

$$8x + 24 = 56$$

$$7(7 - x) = 56$$

Club Activities Matching

Activity 1



- 1. Read the 4 situations carefully.**
- 2. Decide which inequality best represents the situation.**
- 3. Explain your reasoning.**

(In the next activity, you will be responsible to writing a solution for one of the situations.)

The Garden Club is planting fruit trees in their school's garden. There is one large tree that needs 5 pounds of fertilizer. The rest are newly planted trees that need $\frac{1}{2}$ pound fertilizer each.

a. $25x + 5 \leq \frac{1}{2}$

b. $\frac{1}{2}x + 5 \leq 25$

c. $\frac{1}{2}x + 25 \leq 5$

d. $5x + \frac{1}{2} \leq 25$



The Chemistry Club is experimenting with different mixtures of water with a certain chemical to make fake snow.

To make each mixture, the students start with some amount of water, and then add $1/7$ of that amount of the chemical, and then 9 more grams of the chemical. The chemical is expensive, so there can't be more than a certain number of grams of the chemical in any one mixture.

a. $1/7x + 9 \leq 26.25$

b. $9x + 1/7 \leq 26.25$

c. $26.25x + 9 \leq 1/7$

d. $1/7x + 26.25 \leq 9$



The Hiking Club is on a hike down a cliff. They begin at an elevation of 12 feet and descend at the rate of 3 feet per minute.

a. $37x - 3 \geq 12$

b. $3x - 37 \geq 12$

c. $12 - 3x \geq -37$

d. $12x - 37 \geq -3$



The Science Club is researching boiling points. They learn that at high altitudes, water boils at lower temperatures. At sea level, water boils at 212°F . With each increase of 500 feet in elevation, the boiling point of water is lowered by about 1°F .

a. $212 - 1/500e < 195$

b. $1/500e - 195 \geq 212$

c. $195 - 212e \geq 1/500$

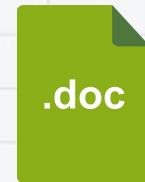
d. $212 - 195e \geq 1/500$



Club Activities Display

Activity 2

- Group Presentations



Each group will be assigned one of the situations from the last activity. Create a visual display about your situation.

In your display...

- Explain what the variable and each part of the inequality represent.**
- Write a question that can be answered by the solution to the inequality.**
- Show how you solved the inequality.**
- Represent x on a number line.**
- Explain what the solution means in terms of the situation.**

Gallery Walk

- What is one thing the group did that would have made your project better if you had done it?
- What is one thing your group did that would have improved their project if they did it too?
- How did the group decide the direction of the inequality for the solutions?
- Does their answer make sense in the situation?
- Is their mathematics clear and correct?
- If there was a mistake, what could they be more careful about in similar problems?

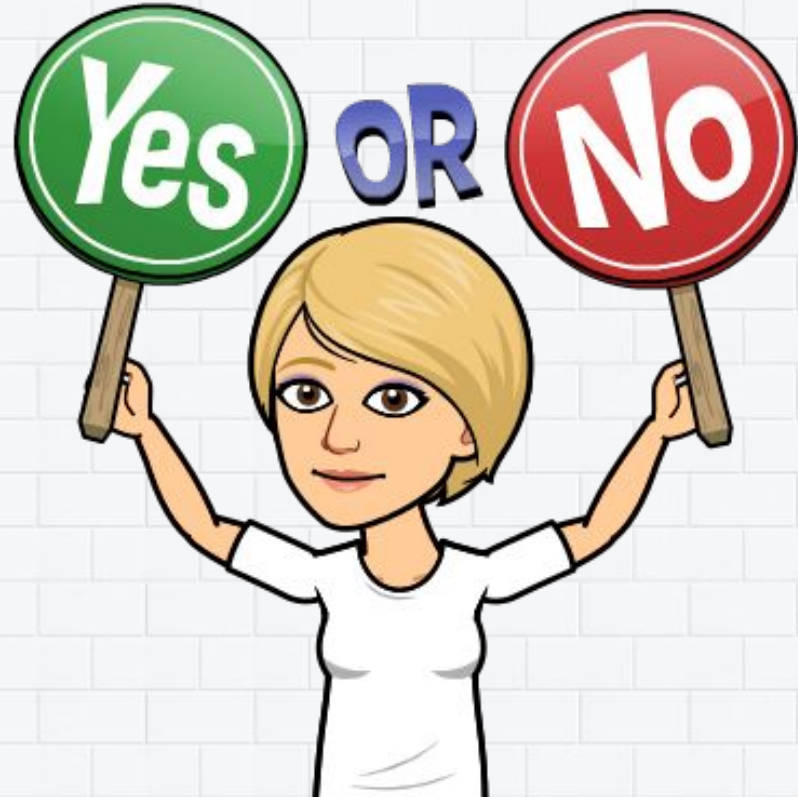
Think about an after-school activity in which you are involved.

Write an inequality that represents a situation related to that activity.

Be prepared to share with the class!

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Party Decorations

Cool Down

