UNIT 7 · STANDARD 6.EE.8

Write Inequalities

Lesson 7-4

Name: _____ Date: _____ Class: _____

Key Vocabulary Level 1 support

Picture first, then the word, then a plain-language meaning. Say each word out loud.

x > 5 means x can be 6, 7, 8, … — any number greater than 5

Inequality

A math sentence that compares two sides with <, >, ≤, or ≥.

8 > 3 — eight is larger than three

Greater than

The > sign, showing one number is bigger.

2 < 7 — two is smaller than seven

Less than

The < sign, showing one number is smaller.

'At least 10 players' → p ≥ 10 (could be 10, 11, 12, …); 'At most 5 tries' → t ≤ 5 (could be 5, 4, 3, …)

At least / At most

'At least' means ≥. 'At most' means ≤.

Key Ideas & Notes

- Detective Navarro is narrowing down suspects.
- A witness says the suspect is at least 18 years old.
- The detective writes the inequality $a \geq 18$, where a is the suspect's age.
- How does this help eliminate suspects?
- Match each phrase to the correct inequality symbol. Drag each phrase card into the matching symbol category.

Think About It

- What does 'at least 18' mean about the suspect's age?
- Could the suspect be exactly 18?
- How is an inequality different from an equation?

My Notes

Guided Examples

Example 1

Which inequality represents: 'The temperature is less than 40 degrees'?

Solution: 'Less than' means <, so the inequality is $t < 40$.

Answer: A. $t < 40$

Example 2

Which inequality represents: 'You must be at least 48 inches tall to ride'?

Solution: 'At least' means greater than or equal to, so $h \geq 48$.

Answer: A. $h \geq 48$

Example 3

Which inequality represents: 'A store can hold no more than 75 people'?

Solution: 'No more than' means less than or equal to, so $p \leq 75$.

Answer: A. $p \leq 75$

Write About the Math

The Writing Revolution

I can explain my inequality using the words inequality, greater than, less than, and at least / at most.

1. Kernel Sentence

subject + verb

Model: Inequality is a math sentence that compares two sides with <, >, ≤, or ≥.
Desigualdad es una oración matemática que compara dos lados con <, >, ≤ o ≥.

Write a kernel sentence about inequality. Use a subject and a verb.
Escribe una oración base sobre desigualdad. Usa un sujeto y un verbo.

_____

_____

2. Sentence Expansion

because · but · so

Kernel: Inequality matters in math
Desigualdad importa en matemáticas

Expand the kernel three ways. Add a reason, a contrast, and a result.

because / ***porque***

Inequality matters in math because ____.
Desigualdad importa en matemáticas porque ____.

_____

but / ***pero***

Inequality matters in math, but ____.
Desigualdad importa en matemáticas, pero ____.

_____

so / ***entonces***

Inequality matters in math, so ____.
Desigualdad importa en matemáticas, entonces ____.

_____

3. Sentence Types

4 ways to write a math idea

Statement
Afirmación

Tell one true fact about inequality.
Di un hecho verdadero sobre inequality.

Inequality ____.

Question
Pregunta

Ask a question about inequality.
Haz una pregunta sobre inequality.

How does ____ ?
¿Cómo ____ ?

Exclamation
Exclamación

Show excitement about inequality.
Muestra entusiasmo sobre inequality.

Wow, ____ !
¡Guau, ____ !

Command
Mandato

Tell a partner what to do with inequality.
Dile a un compañero qué hacer con inequality.

First, ____ .
Primero, ____ .

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4. Explain Your Reasoning

use a sentence starter

An inequality means ____.
Una desigualdad significa ____.

My inequality is ____.
Mi desigualdad es ____.

I see this when ____.
Veo esto cuando ____.

Try It

Solve on your own. Check the answer key when you are done.

1. Which inequality represents: 'The speed limit is more than 25 mph'?

A. $s > 25$

B. $s \geq 25$

C. $s < 25$

D. $s = 25$

Show your work:

2. A parking garage charges if your stay is more than 2 hours. Which inequality represents times t that are charged?

A. $t > 2$

B. $t \geq 2$

C. $t < 2$

D. $t \leq 2$

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

Write two different real-world situations: one that uses > and one that uses ≥. Explain why the situations need different symbols even though both mean 'bigger.'

Sentence starter: Situation 1 (>): ____. This uses > because ____. Situation 2 (≥): ____. This uses ≥ because ____. The difference is that ≥ includes ____ while > does not.

Show your work:

Reflect — Exit Ticket

Which inequality represents: 'A number n is at least 14'?

A. $n \geq 14$

B. $n > 14$

C. $n \leq 14$

D. $n < 14$

Your answer:

Answer Key & Teacher Guide

1. **Try It 1:** A. s > 25 — *'More than' means strictly greater than, so s > 25.*
2. **Try It 2:** A. t > 2 — *'More than 2 hours' means strictly greater than: t > 2. Exactly 2 hours is not charged.*
3. **Exit Ticket:** A. n ≥ 14 — *'At least 14' means 14 or greater, so n ≥ 14.*

Writing (TWR) — what to look for

- **Kernel sentence:** A complete sentence needs a subject and a verb. Example: Inequality is a math sentence that compares two sides with <, >, ≤, or ≥.
- **Expansion:** *because* gives a reason, *but* shows a contrast or exception, *so* shows a result. Answers vary; each must keep the kernel idea and add the correct kind of detail.
- **Sentence types:** Statement ends with a period, question with "?", exclamation with "!", and a command starts with an action verb (a "bossy" verb).