Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

UNIT 7 LESSON 1

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| AIM: | SWBAT use equality and inequality symbols  |

**THINK ABOUT IT!**

For each balance below, decide if the balance will tip or if it will stay even. Then, place an

=, >, or < in each box and explain why you chose the symbol you put in the box.

1. 

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 **6 + 4 + 2 4 + 2 + 6** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6 + 4 + 2 4 + 2 + 6



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 **12 – 3 7 + 1** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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12 – 3 7 + 1

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 **4 + n + 7 n + 8 + 4**

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4 + n + 7 n + 8 + 4

Key Point

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**Interaction with New Material**

*Ex.1)* Which symbol (<, >, or =) would you use to compare the two expressions below?

2n + 5 + 10 \_\_\_\_\_\_\_\_ n + 8 + 7 + n

*Ex.2)* Assuming that x is a positive number, is the comparison below true or false? Show your work.

2(x + 4) + x < 8 + 2x

**PARTNER PRACTICE**

**CFS for top quality work**

* + Problem is annotated with margin notes to provide additional meaning
	+ Expressions are evaluated or simplified
	+ All calculations are shown, neatly organized, and labeled
	+ Expressions are compared using =, <, or >

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| *Bachelor Level* |

1. For each problem below, fill in the box with =, <, or >

**5 + 4**

**4 + 5**

**20 – 3**

**2 x 8**

**12 – 9 + 5**

**10 ÷ 2 + 7**

Explain how you compared the two expressions in problem C

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| *Master Level* |

1. Which statements below are true? Circle all that apply.
	1. $\left(2\frac{1}{2}\right)\left(\frac{1}{4}\right)<2\frac{3}{8}-1\frac{3}{4}$
	2. n + n + 3.5 + 3 = 9 – 2.5 + 2n
	3. z + 3 + z + 3 + z + 3 + z + 3 > 4(z + 2)

Explain how you compared the two expressions in problem C

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**CFS for top quality work**

* + Problem is annotated with margin notes to provide additional meaning
	+ Expressions are evaluated or simplified
	+ All calculations are shown, neatly organized, and labeled
	+ Expressions are compared using =, <, or >

**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

1. For each problem below, fill in the box with =, <, or >

**a + b**

**b + a**

**12 + 3 + 5**

**30 - 9**

**2(n + 5)**

**2n + 9**

Explain how you compared the two expressions in problem C

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| *Master Level* |

1. Which of the following comparisons are true? For any equation or inequality that is not true, change the =, >, or < to make it true.
	1. 8 + 3 – 2 > 3(2) + 4
	2. 5n + 3 – n + 2 = 2n + n + 4 + n + 1
	3. 8(2.5 + p) < 3p + 2.5(7) + 5p + 2.5
	4. For all positive values of a, b, and c

a + b + c + 2a + b < 4a + 3b + 2c – a – b

1. Which expression makes the comparison below true?

9m + 9.75 + 2m – 0.15 > \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* 1. 9m + 9.6 + 3m
	2. 12(m + 0.8) – m
	3. 11(m + $\frac{4}{5}$)
	4. 5m + 8.75 + 6m + 0.85

Explain how you know the expression you selected above makes the inequality true

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| *PhD Level* |

1. Compare the perimeters of the two shapes below using an =, > or <

2x + 3.5

x + 9

 12

3x + 1

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**CFS for top quality work**

* + Problem is annotated with margin notes to provide additional meaning
	+ Expressions are evaluated or simplified
	+ All calculations are shown, neatly organized, and labeled
	+ Expressions are compared using =, <, or >

**EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. Which symbol(s) correctly relates the two expressions below? Explain.

10 – 1 \_\_\_\_\_\_\_ 8 + 2

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. Which symbol(s) correctly relates the two expressions below? Explain.

5 + 4 + 9 \_\_\_\_\_\_\_ 9 + 5 + 4

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1. Is the following equation true? Explain how you know.

n + 5 + 20 + 4 = 4 + 10 + n + 15

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