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

UNIT 4 LESSON 7

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| --- | --- |
| AIM: | SWBAT solve ratio problems |

**THINK ABOUT IT!**

The following tables show you equivalent ratios of how many words each person can text in a given amount of time.

Jenna

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Minutes** | 2 | 4 | 6 | 8 |
| **Words** | 20 | 40 | 60 | 80 |

Maria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Minutes** | 3 | 6 | 9 | 12 |
| **Words** | 25 | 50 | 75 | 100 |

Who can text the fastest? Explain.

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The table below shows equivalent ratios of how many words Michaela can text in a given amount of time. Can she text faster than Jenna? Explain.

Michaela

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Minutes** | 5 | 10 | 15 | 20 |
| **Words** | 52 | 104 | 156 | 208 |

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

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Key Point

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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can be used to compare ratios. |

**Interaction with New Material**

**Ex. 1)** Max and Sheila are making orange juice. Max mixes 10 cups of water for every 6 cups of juice concentrate. Sheila makes her juice by mixing 12 cups water for every 7 cups of juice concentrate. State which beverage has a higher juice concentrate to water ratio.

**PARTNER PRACTICE**

* CFS for top quality work
	+ Problem is annotated with margin notes to provide additional meaning
	+ Table is drawn or extended accurately and are clearly labeled
	+ Ratios being compared are circled
	+ Answer statement is written

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| *Bachelor Level* |

1. Zach and Amy are mixing orange paint. Below you can see the ratio of red to yellow paint in each mixture.

|  |  |
| --- | --- |
| Cups red | Cups yellow |
| 1 | 3 |
| 2 | 6 |
| 3 | 9 |
| 4 | 12 |
| 5 | 15 |

 Amy Zach



Part A: Whose mixture is yellower? Explain.

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

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Part B: Whose mixture is redder? Explain.

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| *Master Level* |

1. Victor is making recipes for smoothies. His first recipe calls for 2 cups of strawberries for every 7 cups of other ingredients. His second recipe calls for 3 cups of strawberries for every 9 cups of other ingredients. Which of the statements below are true? Circle all that apply.

Which recipe will make a smoothie that has a stronger strawberry taste?

1. The first recipe has a stronger strawberry taste
2. The second recipe has a stronger strawberry taste
3. The first recipe has a stronger taste of the other ingredients
4. The second recipe has a stronger taste of the other ingredients

**INDEPENDENT PRACTICE**

* CFS for top quality work
	+ Problem is annotated with margin notes to provide additional meaning
	+ Table is drawn or extended accurately and are clearly labeled
	+ Ratios being compared are circled
	+ Answer statement is written

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| *Bachelor Level* |

1. Leron and Jahlil are making chocolate milks using milk and Hershey’s syrup. They both want to make the chocolateiest mixture they can. The tables below show how they each mixed their chocolate milk.

Leron Jahlil



|  |  |
| --- | --- |
| **Cups Milk** | **Cups Hershey’s Syrup** |
| 2 | 5 |
| 4 | 10 |
| 6 | 15 |
| 8 | 20 |
| 10 | 25 |

Whose chocolate milk is the chocolatiest? How do you know?

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| *Master Level* |

1. Jahmeek and Joel are mixing blue paint and red paint to make different shades of purple paint.

Jahmeek Joel

|  |  |
| --- | --- |
| **Pints of blue** | **Pints of red** |
| 3 | 4 |
| 6 | 8 |
| 9 | 12 |
| 12 | 16 |

|  |  |
| --- | --- |
| **Pints of blue** | **Pints of red** |
| 5 | 7 |
| 10 | 14 |
| 15 | 21 |
| 20 | 28 |

Whose paint is redder? Explain.

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1. Sarah and Eva were swimming. Use the ratio tables below to determine who the faster swimmer is.



1. The tables below show the comparison of the amount of water to the amount of juice concentrate (JC) in grape juice made by two people.



|  |
| --- |
| **Laredo’s Juice** |
| **Water** | **JC** | **Total** |
| 12 | 4 | 16 |
| 15 | 5 | 20 |
| 21 | 8 | 28 |
| 45 | 15 | 60 |

* 1. How can you compare whose juice tastes the strongest using the amount of water in each mix?

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* 1. How can you compare whose juice tastes the strongest using the total amount of mixture?

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1. Suzie is making frosting by combining butter and sugar. She has two possible recipes. Recipe A calls for 3 tablespoon of butter for every 8 tablespoons of sugar. Recipe B calls for 2 tablespoons of butter for every 9 tablespoons of sugar. Which statement below is true?
2. Recipe A is more buttery than Recipe B
3. Recipe B is more buttery than Recipe A
4. Recipe A is more sugary than Recipe B
5. Recipe B is more sugary than Recipe A

|  |
| --- |
| *PhD Level* |

1. The tables below show the comparison of the amount of water to the amount of juice concentrate (JC) in grape juice made by three people. Whose juice has the greatest water-to-juice concentrate ratio, and whose juice would taste the strongest?



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

* CFS for top quality work
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	+ Answer statement is written

**Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**EXIT TICKET**

|  |  |  |  |
| --- | --- | --- | --- |
| 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. Beekeepers sometimes supplement the diet of honey bees with sugar water to help promote colony growth in the spring and help the bees survive through fall and winter months. The tables below show the amount of water and the amount of sugar used in the Spring and in the Fall.



|  |
| --- |
| Spring Sugar Water Mixture |
| Sugar (cups) | Water (cups) |
|  |  |
|  |  |
|  |  |
|  |  |

Compare the ratios of the number of cups of sugar to the number of cups of water in each table in at least two different ways. Explain.

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1. Create a third ratio table for a Summer Sugar Water Mixture, also containing four rows of equivalent ratios, that is more sugary than both the Spring and Fall mixtures. Explain why your new mixture is more sugary.