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

UNIT 5 LESSON 4

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| --- | --- |
| AIM: | SWBAT apply unit rates to convert between different measurements. |

**THINK ABOUT IT!**

Leo has 18 yards of fabric that he wants to cut into pieces that are each 1 foot long. How many one foot long pieces can Leo create? Come up with two different strategies for solving.

* **CFS for top quality work**
	+ Problem is annotated with *numbers* circled and *terms* underlined
	+ ***Ratio table*** or ***double number line*** is drawn accurately and is clearly labeled
	+ Conversion factor and equivalent ratios are identified
	+ Answer statement is written

Key Point

|  |
| --- |
| We can convert between different units of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ by using a\_\_\_\_\_\_\_\_\_\_\_\_ fact (a unit rate) and creating equivalent ratios. |

**Interaction with New Material**

Example 1: Alex has 3,000 grams of jelly beans. He is filling boxes that each hold a kilogram of jelly beans and selling the boxes for $9.95. How much money will he make from selling the boxes?

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	+ Answer statement is written

**PARTNER PRACTICE**

* **CFS for top quality work**
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	+ Answer statement is written

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| *Bachelor Level* |

1. Gary’s cat weighs 11 pounds. How many ounces is Gary’s cat? **Show your work.**

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

1. As part of her training for an upcoming marathon, Shantay ran 9,250 meters. How far did she run in kilometers? **Show your work.**
* **CFS for top quality work**
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	+ Answer statement is written

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| *Master Level* |

1. A paving company was hired to make a 4 mile section of the highway. They need 200 tons of concrete for every yard of highway they make. Read each statement below and determine whether it is “True” or “False.” **Show your work.**

|  |  |  |
| --- | --- | --- |
| Statement | True | False |
| The conversion factor that we should use is 1 ton = 2000 pounds |  |  |
| The first step is to convert 4 miles to yards |  |  |
| There are 1,760 yards in 4 miles |  |  |
| They need 1,408,000 tons of concrete in total to pave the 4 mile section |  |  |

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	+ Answer statement is written

**INDEPENDENT PRACTICE**

* **CFS for top quality work**
	+ Problem is annotated with *numbers* circled and *terms* underlined
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	+ Conversion factor and equivalent ratios are identified
	+ Answer statement is written

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| *Bachelor Level* |

1. Josie made 9 quarts of lemonade that she wants to put in gallon sized jugs. How many gallons of lemonade did she make and how many jugs will she need? **Show your work.**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gallons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_jugs

2) Challa drank 6,500 mL of water before her soccer game. She drank the water out of 1 liter bottles. How many bottles of water did she drink? **Show your work.**

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	+ Problem is annotated with *numbers* circled and *terms* underlined
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	+ Conversion factor and equivalent ratios are identified
	+ Answer statement is written

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bottles

|  |
| --- |
| *Master Level* |

1. Mr. Kaiser wants to repaint the stairwell. To do this he needs 240 liters of paint. He has a bucket with 20,000mL of paint. He thinks that he has enough paint to cover the job. Do you agree or disagree with his claim? Explain.

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1. Fei Yen’s dog eats 8 ounces of dog food each day. Fei Yen bought a 28-pound bag of dog food. If 8 ounces of dog food cost $3.50, how much did he spend on the 28-pound bag? **Show your work.**
* **CFS for top quality work**
	+ Problem is annotated with *numbers* circled and *terms* underlined
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	+ Conversion factor and equivalent ratios are identified
	+ Answer statement is written

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5) At a famers’ market a vendor sells beans for $3.00 per cup or $5.00 per quart. Which is the better buy? Explain.

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6) A high speed elevator can rise 480 feet in 30 seconds. Which expression represents the rate, in feet per minute, of the elevator?

* 1. 480 x 30
	2. 480 ÷ 30
	3. 480 x 2
	4. 480 ÷ 2

|  |
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| *PhD Level* |

7) A factory makes 1,200 shirts every 6 hours. The factory makes shirts for 63 hours each week. What are the fewest number of days the factory will need to make 12,600 shirts?

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

**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. Ben buys a 3-pound bag of trail mix for a hike. He wants to make one-ounce bags for his friends to take on the hike. How many friends can he give one-ounce bags to?
2. Jill and Erika made 4 gallons of lemonade for their lemonade stand. If they charge $2.45 per quart, how much money will they make if they sell it all?
	1. $2.45
	2. $9.80
	3. $39.20
	4. $78.40

