**Unit:** Equivalent Ratios, Unit Rate: Comparing Bits and Pieces

**Learning Target:** I can find and use a unit rate.

**Learning Objective:** Periods 31 and 32: I can calculate a unit rate using division or a proportion.

**Period 31- Introduction/Mini Lesson: PARALLEL TEACHING**

* Students will be given 6 minutes to complete the chart via Promethean for Goodheart’s Restaurant Mania, spiraling rate table review.
  + How did you determine which numbers fit into the missing boxes?
  + How can you check if you are correct?
  + What does this information mean?
* The notes sheet will be reviewed with the students.
* Students will be told that you can find the unit rate using a proportion.

**Common Misconception:**

* Students may create and/or solve the proportion incorrectly.
* Teacher will model how to find a unit rate using a proportion for the first problem via Promethean.
* With students guidance, teacher will find the unit rate using a proportion for the second problem.
* Students will individually find the unit rate of the third question using a proportion.
* Answer will be reviewed.

**Student Activity:**

* Students will be completing the unit rate skill based problems worksheet using proportions.
* Teacher will stop groups once students have completed through question 4 to review the answers to questions 2 and 3.

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| --- | --- | --- | --- |
| **607A** | **607B** | **608A** | **608B** |
| **Mrs. Maljevic** | **Ms. Goodheart** | **Mrs. Maljevic** | **Ms. Goodheart** |
| Modou  Omer  Aniya | Jerry  Janleo  Luis | Devonique  Devine  Jayden | Erica  Jerick  John |
| Jaquan  Darius  Justin | Natasha  Elijah  Karielis | Aaron  Delmary  Alejandra | Xavier  Keidria  Angela |
| Dev  Pelkin  Alejandro | Melissa  Lyvia  Armon | Shariya  Leah  Yamilex | Arianna  Kaitland  Jah- Seani |
| Ignacio  Lynette | Sandra  Santi  Uriel  Amran | Elijah  Christian  Devin | Serena  Justin  Kelvin  Mia |

**Conclusion:** Worksheets will be collected and graded.

**Period 32- Introduction/Mini Lesson: PARALLEL TEACHING**

**-** Students will complete the Do Now via Promethean: *I went to the store and bought 5 apples for $10.00. All of the apples were an equal price. How much did one apple cost? SHOW YOUR ANSWER USING A PROPORTION!*

**-** Student volunteers will be asked to share answers.

**-** Teacher will model how to find a unit rate using division for the first problem from the previous period, emphasizing creating a per statement to help with the division set up.

Class Discussion:

-How can we tell if the equation is properly set up?

-What number goes inside? Why?

-What number goes outside? Why?

-What steps do we have to remember with decimals before we can divide?

**Common Misconception:**

* Incorrect setup.
* With students guidance, teacher will find a unit rate using division for the second problem from the previous period.
* Students will individually find the unit rate of the third problem from the previous period using division.

**Student Activity:**

* Students will work with his or her partner to complete the given unit rate activity.
* - Students must…

Show all work

Check all work

Be able to explain work

* Suggested Questions:
* How do you know you must find the unit rate?
* What strategies can you use to find the unit rate?
* Students can use either division or a proportion to find the unit rates, whichever method they feel most confident in.

|  |  |  |  |
| --- | --- | --- | --- |
| **607** | **607** | **608** | **608** |
| **Mrs. Maljevic** | **Ms. Goodheart** | **Mrs. Maljevic** | **Ms. Goodheart** |
| Modou  Omer  Aniya | Jerry  Janleo  Luis | Devonique  Devine  Jayden | Erica  Jerick  John |
| Jaquan  Darius  Justin | Natasha  Elijah  Karielis | Aaron  Delmary  Alejandra | Xavier  Keidria  Angela |
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| Ignacio  Lynette | Sandra  Santi  Uriel  Amran | Elijah  Christian  Devin | Serena  Justin  Kelvin  Mia |

**Conclusion:**

Student pairs will be asked to share their answers.

* What does the unit rate tell you?
* How did you know to find the unit rate?
* What strategies worked best for you and your partner? Why?

**Directions:** Complete the rate table below based on the information provided:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Pounds of Hamburger Meat | 8 | 16 | 24 |  | 40 |  | 56 |
| Price |  | $32.00 |  | $64.00 | $80.00 |  |  |

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_ Class\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I can solve Unit Rate problems

A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a rate in which the second number (usually written as the denominator) is 1, or 1 of a quantity.

Unit rates are often found by scaling other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A unit rate is most often used to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. For example, if 2 super markets are having sales on apples you would want to figure out which has the best deal.

For example:

* 1 store is selling 5 apples for $3.00. The other store is selling 6 apples for $4.00. Finding the unit rate for each apple is the best way to pick the best deal.
* If you traveled 150 miles in 2 hours? On average how many miles per hour did you travel? You would have traveled 75 mph.

When trying to find the unit rate for the best deal you must divide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

When trying to find the unit rate for the miles traveled you must divide \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Proportion:

Practice:

Christopher was taking a computer test. He was able to type 223 words in 5 min. Once, he was done his total score was 88%. How many words did Christopher type per minute?

Gloria earned $100 in 8 hours for babysitting her next door neighbors two children. How much did Gloria earn per hour babysitting?

Ms. Goodheart and her family went on vacation. From New York to Florida the plane travelled 1875 miles in 5 hours. How many miles per hour did the airplane travel?

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ B

1. Mia recieved $13.00 for 2 hours of babysitting. How much does she earn per hour?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| Cost = Cost  Hours Hours |  |  |

1. Jerick reads 480 pages in 6 hours. How many pages does he read per hour?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| Pages = Pages  Hours Hours |  |  |

1. A car travels 75 miles on 3 gallons of gas. How many miles per gallon does it travel?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| Miles = Miles  Gallons Gallons |  |  |

1. Ms. Goodheart burned 80 calories in 32 minutes. How many calories does she burn per minute?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| Calories = Calories  Minutes Minutes |  |  |

1. At MSG, Serena’s mom paid $105.00 for 6 tickets. How much does it cost per ticket?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| Cost = Cost  Tickets Tickets |  |  |

1. Devin earned 24 bonus points over 8 school days. How many bonus points does Devin earn per day?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| \_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_ |  |  |

1. Jaquan shot 30 baskets in 5 minutes. How many baskets does he shoot per minute?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| \_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_ |  |  |

1. Lynette earned $50.00 after working for 5 hours. How much does she earn per hour?

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| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| \_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_ |  |  |

1. Christian ran 10 miles in 50 minutes. How many miles per minute does he run?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| \_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_ |  |  |

1. It costs $60.00 for 5 movie tickets. What is the cost per ticket?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| \_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_ |  |  |

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A

1. Mia recieved $13.00 for 2 hours of babysitting. How much does she earn per hour?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
| Cost = Cost  Hours Hours |  |  |

1. Jerick reads 480 pages in 6 hours. How many pages does he read per hour?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. A car travels 75 miles on 3 gallons of gas. How many miles per gallon does it travel?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. Ms. Goodheart burned 80 calories in 32 minutes. How many calories does she burn per minute?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. At MSG, Serena’s mom paid $105.00 for 6 tickets. How much does it cost per ticket?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. Devin earned 24 bonus points over 8 school days. How many bonus points does Devin earn per day?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. Jaquan shot 30 baskets in 5 minutes. How many baskets does he shoot per minute?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. Lynette earned $50.00 after working for 5 hours. How much does she earn per hour?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. Christian ran 10 miles in 50 minutes. How many miles per minute does he run?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

1. It costs $60.00 for 5 movie tickets. What is the cost per ticket?

|  |  |  |
| --- | --- | --- |
| **Setup** | **Work Space** | **X =** |
|  |  |  |

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

**Directions:** Use the timer to determine your rate and your partner’s rate for each activity. Then, determine the unit rate.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Activity** | **My Rate** | **My Unit Rate** | **My Partner’s Rate** | **My Partner’s Unit Rate** |
| How many times can you tie and untie your shoelace in 90 seconds? |  |  |  |  |
| How many jumping jacks can you do in 120 seconds? |  |  |  |  |
| How many times can you write your first and last name in 60 seconds? |  |  |  |  |

(1)Based on your unit rate above, how many times could you untie and tie your shoelaces in 120 seconds?

**Show your work:**

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(2) Based on your unit rate above, how many jumping jacks could you do in 5 minutes?

**Show your work:**

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(3) Based on your unit rate above, how many times could you write your first and last name in one hour?

**Show you work:**

Answer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_