Learning Targets

Ratios, Rates, and Percentages

Lesson 1: Representing Ratios with Diagrams

- I can draw a diagram that represents a ratio and explain what the diagram means.

- I include labels when I draw a diagram representing a ratio, so that the meaning of the diagram is clear.

Lesson 2: Mixtures

- I can explain the meaning of equivalent ratios using examples.

Lesson 3: Defining Equivalent Ratios

- If I have a ratio, I can create a new ratio that is equivalent to it.

- If I have two ratios, I can decide whether they are equivalent to each other.

Lesson 4: Introducing Double Number Line Diagrams

- I can label a double number line diagram to represent batches of a recipe or color mixture.

- When I have a double number line that represents a situation, I can explain what it means.

Lesson 5: Creating Double Number Line Diagrams

- I can create a double number line diagram and correctly place and label tick marks to represent equivalent ratios.

- I can explain what the word per means.

Lesson 6: Per Each

- I can choose and create diagrams to help me reason about constant speed.

- If I know the price of multiple things, I can find the price per thing.

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Lesson 7: Comparing Situations by Examining Ratios

- I can decide whether or not two situations are happening at the same rate.

- I can explain what it means when two situations happen at the same rate.

- I know some examples of situations where things can happen at the same rate.

Lesson 8: Representing Ratios with Tables

- If I am looking at a table of values, I know where the rows are and where the columns are.

- When I see a table representing a set of equivalent ratios, I can come up with numbers to make a new row.

- When I see a table representing a set of equivalent ratios, I can explain what the numbers mean.

Lesson 9: Navigating a Table of Equivalent Ratios

- I can solve problems about situations happening at the same rate by using a table and finding a "1" row.

- I can use a table of equivalent ratios to solve problems about unit price.

Lesson 10: Solving Equivalent Ratio Problems

- I can decide what information I need to know to be able to solve problems about situations happening at the same rate.

- I can explain my reasoning using diagrams that I choose.

Lesson 11: Part-Part-Whole Ratios

- I can create tape diagrams to help me reason about problems involving a ratio and a total amount.

- I can solve problems when I know a ratio and a total amount.

Lesson 12: Solving More Ratio Problems

- I can choose and create diagrams to help think through my solution.

- I can solve all kinds of problems about equivalent ratios.

- I can use diagrams to help someone else understand why my solution makes sense.

Lesson 13: The Burj Khalifa

- I can see that thinking about "how much for 1" is useful for solving different types of problems.

Lesson 14: Measuring with Different-Sized Units

- When I know a measurement in one unit, I can decide whether it takes more or less of a different unit to measure the same quantity.

Lesson 15: Converting Units

- I can convert measurements from one unit to another, using double number lines, tables, or by thinking about "how much for 1."

- I know that when we measure things in two different units, the pairs of measurements are equivalent ratios.

Lesson 16: Comparing Speeds and Prices

- I understand that if two ratios have the same rate per 1, they are equivalent ratios.

- When measurements are expressed in different units, I can decide who is traveling faster or which item is the better deal by comparing "how much for 1" of the same unit.

Lesson 17: Interpreting Rates

- I can choose which unit rate to use based on how I plan to solve the problem.

- When I have a ratio, I can calculate its two unit rates and explain what each of them means in the situation.

Lesson 18: Equivalent Ratios Have the Same Unit Rates

- I can give an example of two equivalent ratios and show that they have the same unit rates.

- I can multiply or divide by the unit rate to calculate missing values in a table of equivalent ratios.

Lesson 19: Solving Rate Problems

- I can choose how to use unit rates to solve problems.

Lesson 20: Percentages and Double Number Lines

- I can use double number line diagrams to solve different problems like "What is 40% of 60?" or "60 is 40% of what number?"

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Lesson 21: Percentages and Tape Diagrams

- I can use tape diagrams to solve different problems like "What is 40% of 60?" or "60 is 40% of what number?"

Lesson 22: Benchmark Percentages

- When I read or hear that something is 10%, 25%, 50%, or 75% of an amount, I know what fraction of that amount they are referring to.

Lesson 23: Solving Percentage Problems

- I can choose and create diagrams to help me solve problems about percentages.

- I can solve different problems like "What is 40% of 60?" by dividing and multiplying.

Lesson 24: Finding the Percentage

- I can solve different problems like "60 is what percentage of 40?" by dividing and multiplying.

Lesson 25: A Fermi Problem

- I can apply what I have learned about ratios and rates to solve a more complicated problem.

- I can decide what information I need to know to be able to solve a real-world problem about ratios and rates.

Lesson 26: Painting a Room

- I can apply what I have learned about unit rates and percentages to predict how long it will take and how much it will cost to paint all the walls in a room.

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