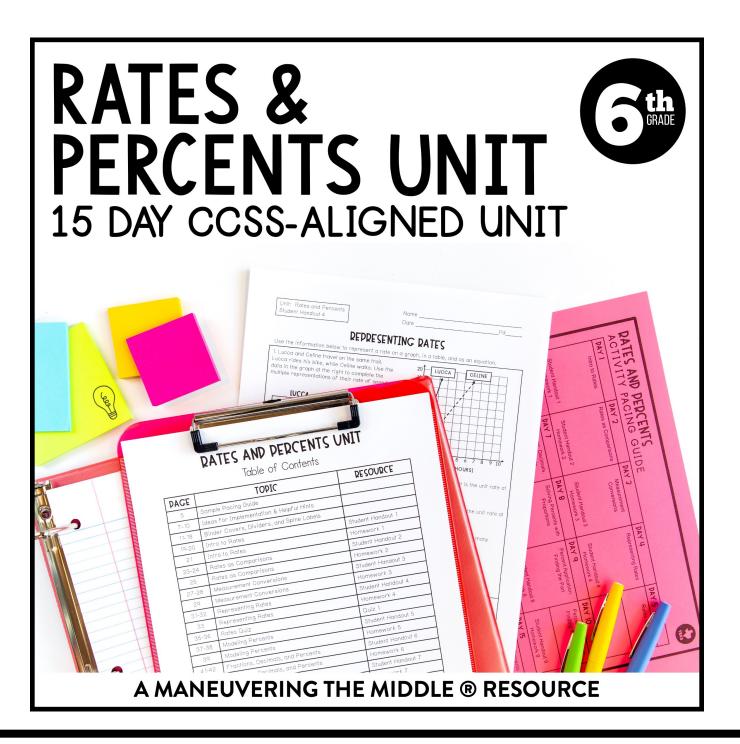
## learning focus:

- use rates to solve problems, including measurement conversions
- convert between fractions, decimals, and percents
- model and apply percents to real-world situations to find the percent, part, and whole





a 15 day CCSS-aligned unit CCSS: 6.RP.2, 6.RP.3, 6.RP.3b, 6.RP.3c, 6.RP.3d

# ready-to-go, scaffolded student materials

## **PATES AND PERCENTS UNIT**

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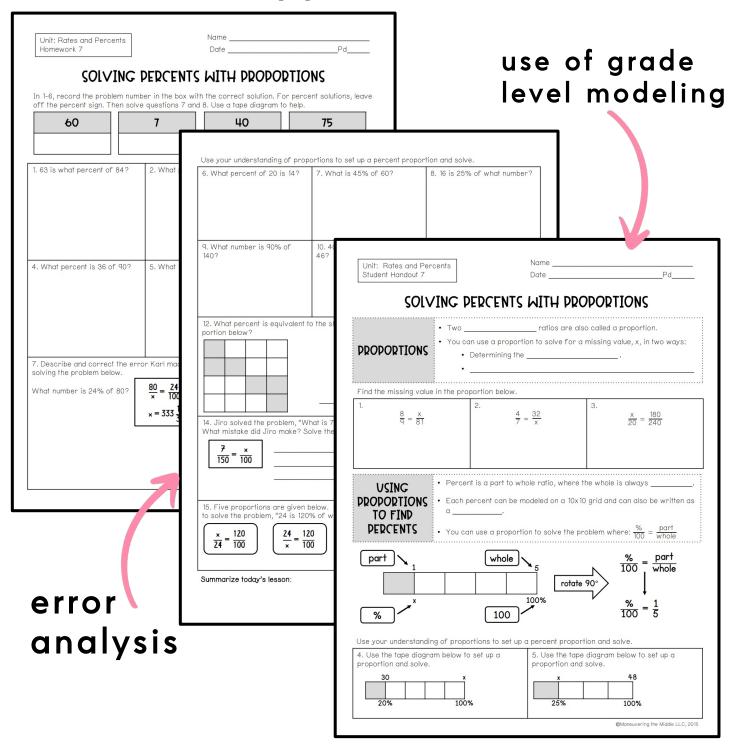
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# student friendly + real-world application



a 15 day CCSS-aligned unit

CCSS: 6.RP.2, 6.RP.3, 6.RP.3b, 6.RP.3c, 6.RP.3d

# streamline your planning process with unit overviews

## **PATES AND DEDCENTS**



#### STANDARDS

**6.RP.2** Understand the concept of unit rate a/b associated with a ratio a.b with  $b\ne0$ , and use rate language in the context of a ratio relationship.

 $\textbf{6.RP.3} \ \ \text{Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.$ 

6.RP.3b Solve unit rate problems including those involving unit pricing and constant speed.

**6.RP.3c** Find a percent of a quantity as a rate per 100, solve problems involving finding the whole given a part and the percent.

 $\textbf{6.RP.3d} \ \ \text{Use ratio reasoning to convert measurement units, manipulate and transform units appropriately when multiplying or dividing quantities.}$ 

DAY 6

DAY II

Modeling Percents

Student Handout 5

Percents Quiz



key vocabulary



vertical alignment



- Rates are a way of compari
- Proportional relationships e
- · Proportional relationships a

#### **ESSENTIAL QUESTION**

- What information and strate
- · When would estimation be a
- How do I know that a relation

### **DATES AND DEDCENTS** PACING GUIDE

DAY 7

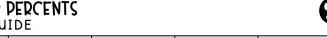
Fractions, Decimals,

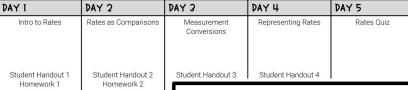
and Percents

Student Handout 6

Percent Application: Finding the Whole

Student Handout 10





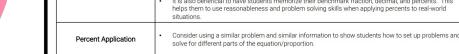
sample pacing calendar

### **PATES AND PERCENTS** OVERVIEW



TOPIC	TEACHING TIPS		
Unit Rate	Rate can be a fun topic to introduce because we literally see it everywhere. I liked to have my students do silly tasks with a partner and then calculate their rate. Examples include jumping jacks, push-ups, etc.  For unit pricing, be sure to snap a few real-life pictures next time you go shopping and discuss how you can be a better shopper when you take the time to determine the unit rate.		
	Emphasize the concept that rate is a comparison of two quantities with different units.		
Rates with Equations, Tables, and Graphs	When the x-value is one, the unit rate will be the y-value. This can be a tricky concept for kids to understand. Consider giving them a highlighter and having them highlight the ordered pair in the graph and the values in the table.		
Percent Models and	For students who are struggling it might be beneficial to use the base ten blocks for a more hands-on approach. I liked to connect the picture to the fraction over a hundred and then reduce in order to find the simplest form of the fraction.		
Representations	Search <u>www.illuminations.nctm.org</u> for the "Fraction Model Interactive" for a great visual tool of fractions, decimals, and percents.		
Finding Percent of a Number	There are several ways to determine the percent of a number, including an equation, a proportion, or a percent bar. For students who struggle to understand what is happening in the problem, I would suggest having them set up a proportion every time.		
	<ul> <li>It is also beneficial to have students memorize their benchmark fraction, decimal, and percents. This helps them to use reasonableness and problem solving skills when applying percents to real-world situations.</li> </ul>		
	Consider using a similar problem and similar information to show students how to set up problems and		

teaching ideas





a 15 day CCSS-aligned unit CCSS: 6.RP.2, 6.RP.3, 6.RP.3b, 6.RP.3c, 6.RP.3d

# unit study guide + assessments

Unit: Rates and Percents Quiz 1	NameF	quizzes
QUIZ: DATES  Answer the questions below. Be sure to sho  1. Duane can do 46 pull-ups in two minutes.	2	
Use the information to answer questions snapping $\frac{3}{4}$ of a picture per second.  2. How long will it take the camera to sna  3. How many pictures can be snapped wi	Solve each of the problems below. These r to ask questions if you need more help with I CAN UNDERSTAND THE CONCEPT OF	
Answer the questions below. Be sure to 4. A baker's dozen (13) of cookies is on a does each cookie cost?  5. The NFL regulation extra point is kicke from the goal line is the extra point kick?  6. How many kilograms are in 14,500 grants.	1. Four pounds of apples cost \$3.88. What is the price per pound?  I CAN USE UNIT PATES TO SOLY  4. Yvonne paid \$18.72 for 8 gallons of She then passed by another gas stat advertising \$2.29 per gallon. How m	SIXTH GRADE CURRICULUM
7. A water cooler holds 1,536 ounces of v water bottles can be filled from the water	would she have saved if she had wa purchased gas at the second location  6. Protein bars come in a 4-pack bo pack box. The 4-pack costs \$7.68 a pack costs \$22.32. Which box is the value?	PATES AND PERCENTS  UNIT FIVE: ANSWER KEYS
answer k included	_	
included		©MANEUVERING THE MIDDLE, 2015

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