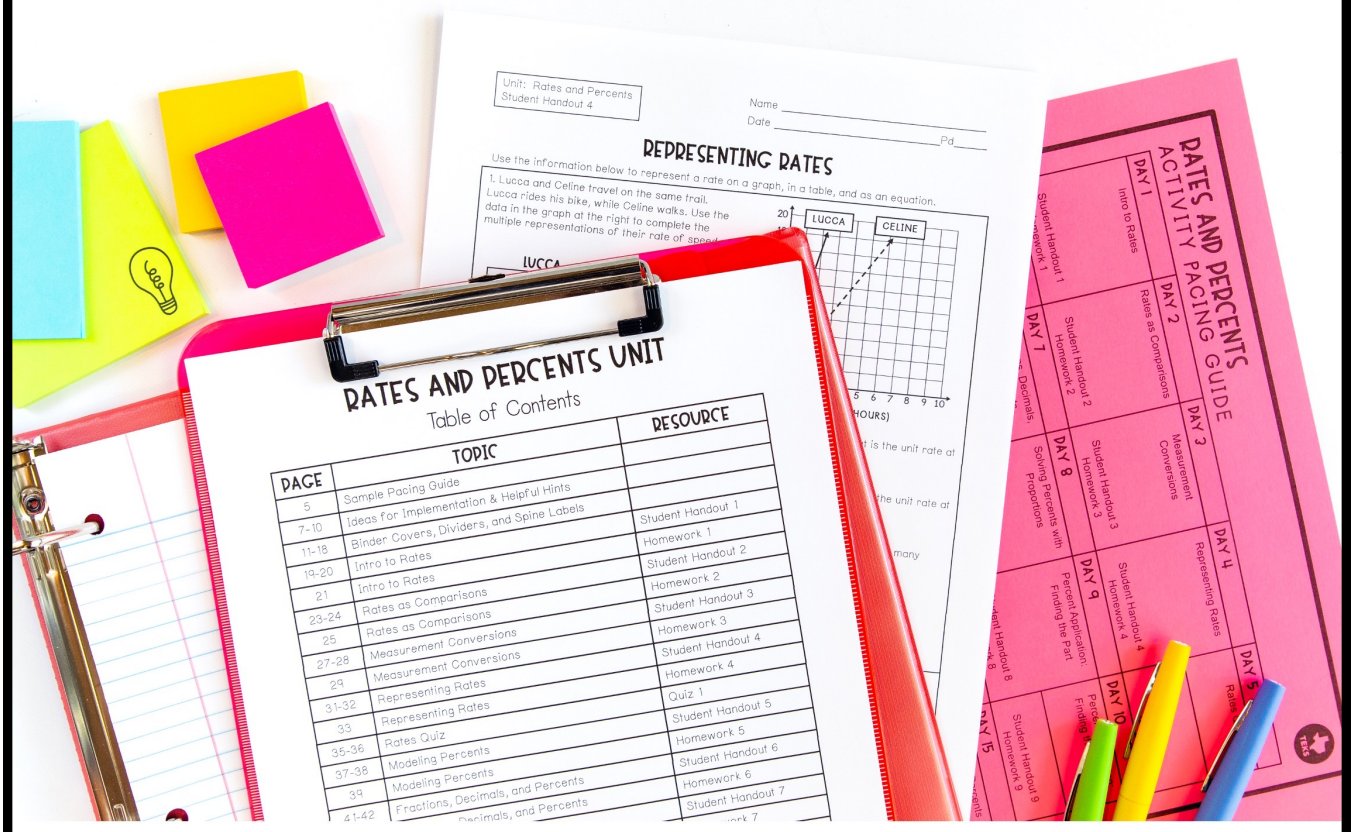
learning focus:

- ✓ 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

RATES & PERCENTS UNIT

6th GRADE

15 DAY CCSS-ALIGNED UNIT



A MANEUVERING THE MIDDLE ® RESOURCE

RATES & PERCENTS

6th GRADE

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

RATES AND PERCENTS UNIT

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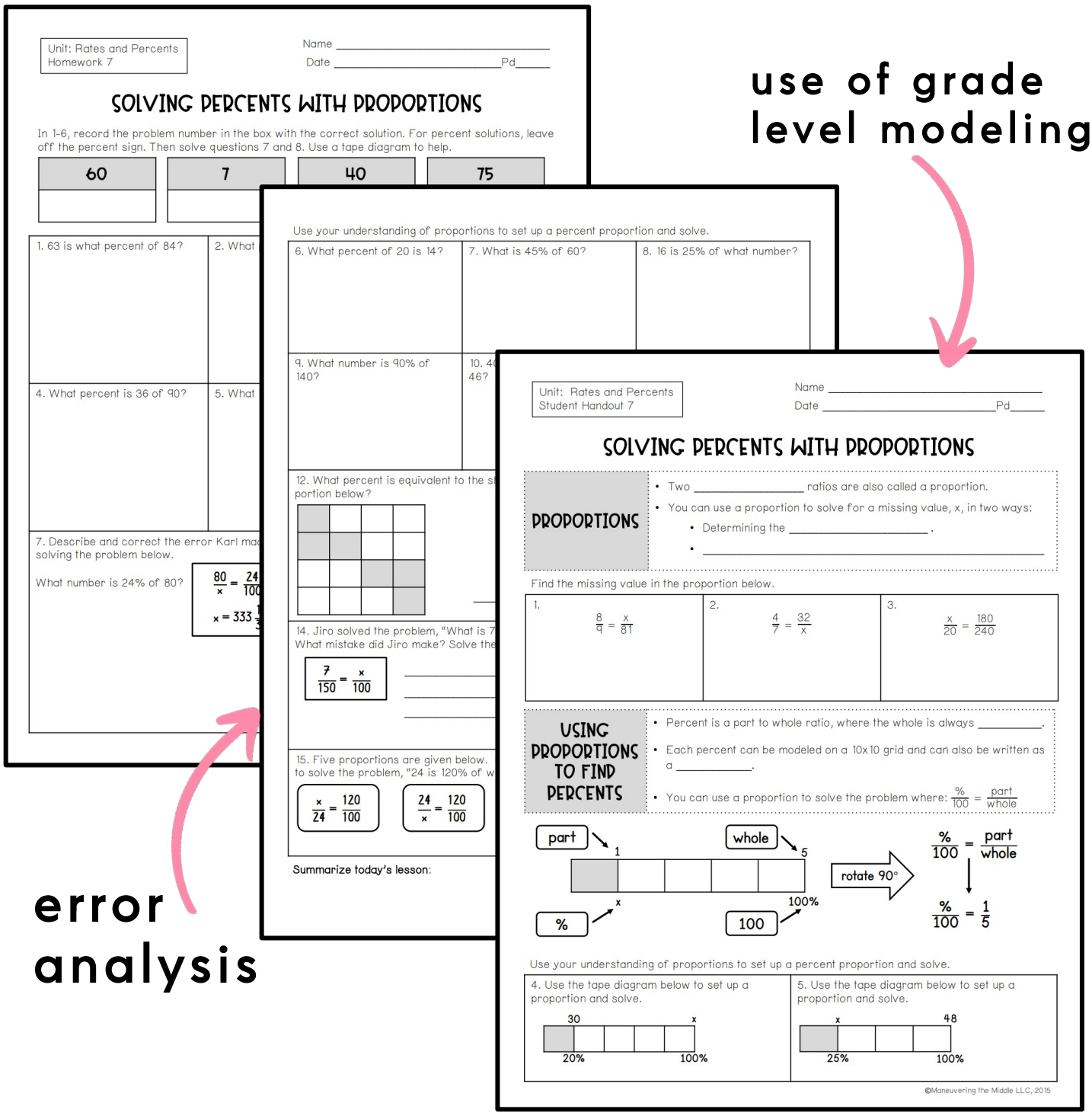
student friendly + real-world application

use of grade level modeling

error analysis



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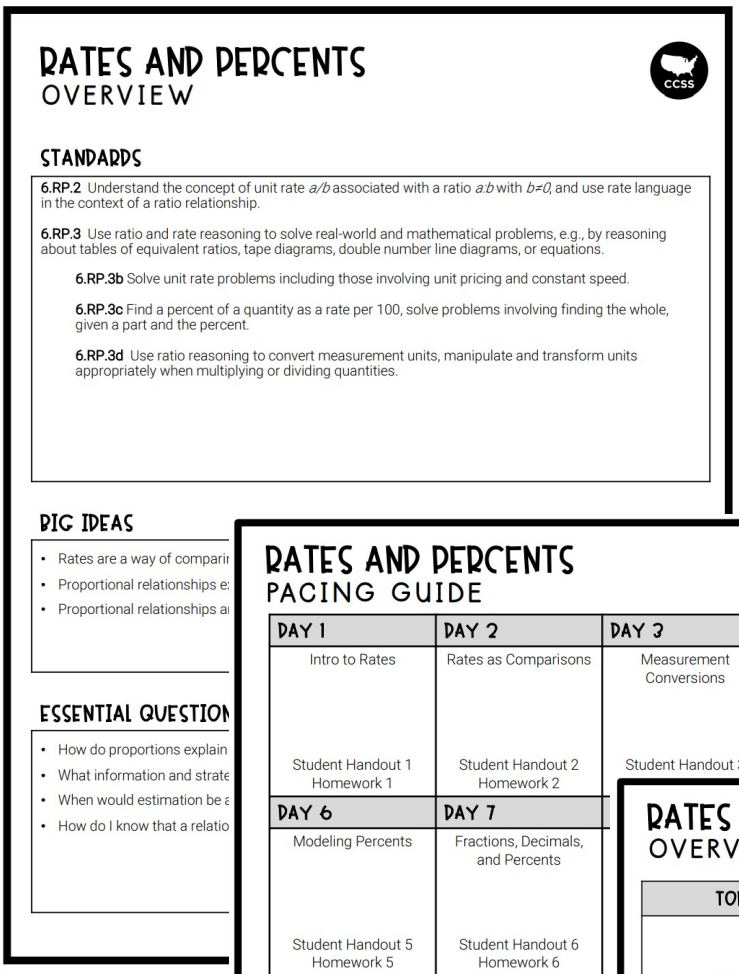
streamline your planning process with unit overviews



RATES AND PERCENTS
OVERVIEW

STANDARDS

6.RP.2 Understand the concept of unit rate *a/b* associated with a ratio *a:b* with *b≠0*, and use rate language in the context of a ratio relationship.

6.RP.3 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.

6.RP.3d Use ratio reasoning to convert measurement units, manipulate and transform units appropriately when multiplying or dividing quantities.

BIG IDEAS

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

ESSENTIAL QUESTION

- How do proportions explain
- What information and strate
- When would estimation be a
- How do I know that a relatio

✓ key vocabulary

✓ vertical alignment

sample pacing calendar

RATES AND PERCENTS
PACING GUIDE

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Intro to Rates Student Handout 1 Homework 1	Rates as Comparisons Student Handout 2 Homework 2	Measurement Conversions Student Handout 3	Representing Rates Student Handout 4	Rates Quiz
DAY 6	**DAY 7**			
Modeling Percents Student Handout 5 Homework 5	Fractions, Decimals, and Percents Student Handout 6 Homework 6			
DAY 11	**DAY 12**			
Percents Quiz Quiz 2	Percent Application: Finding the Whole Student Handout 10 Homework 10			

teaching ideas

RATES 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 Representations	• 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. • Search www.illuminations.nctm.org 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. • 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.
Percent Application	• Consider using a similar problem and similar information to show students how to set up problems and solve for different parts of the equation/proportion.

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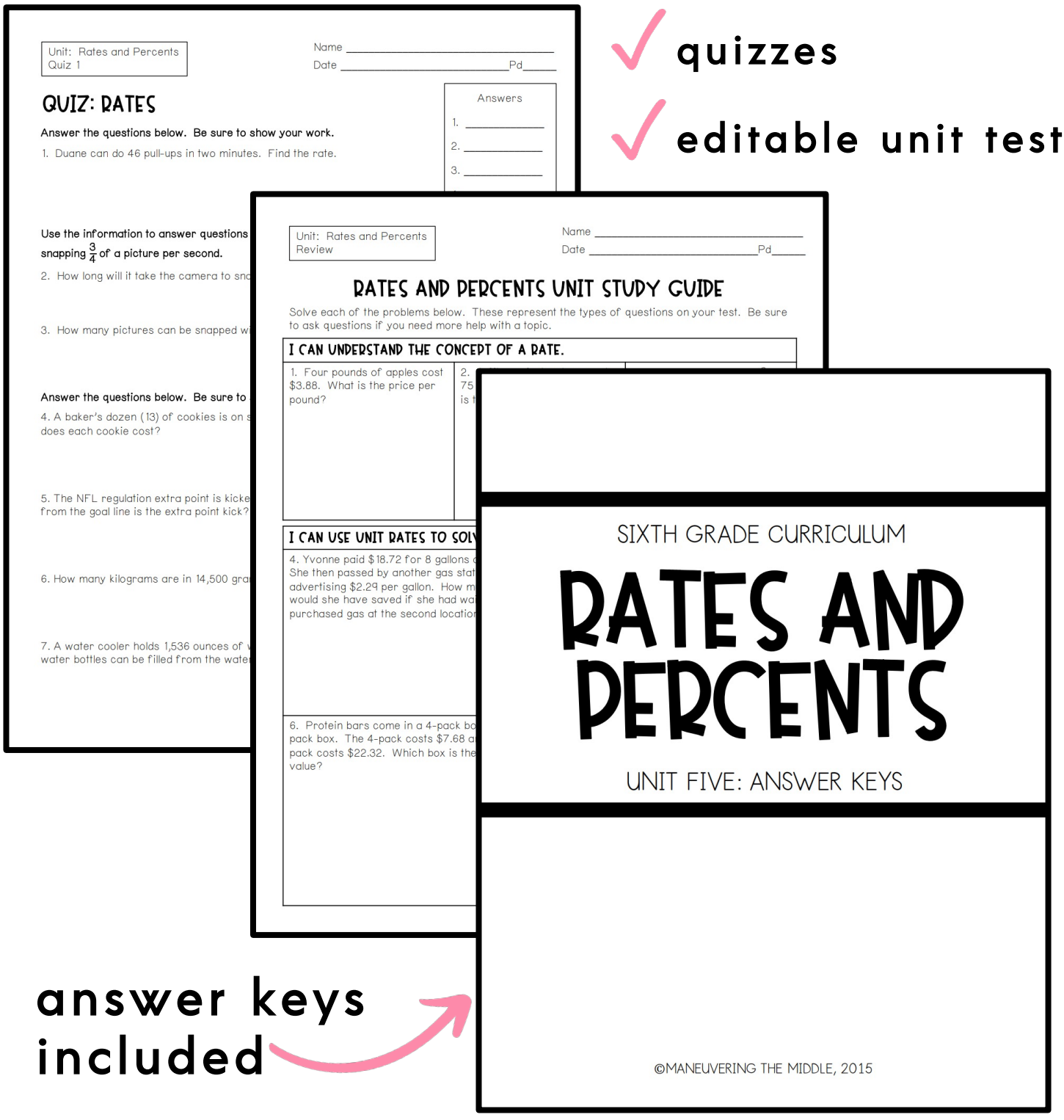
unit study guide + assessments



✓ quizzes

✓ editable unit test

answer keys included

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