learning focus:

- ✓ understand and model ratios
- ✓ represent ratios with tables, equations and graphs
- ✓ apply ratio reasoning to solve real-world problems

RATIOS UNIT

10 DAY CCSS ALIGNED UNIT

6th GRADE

A MANEUVERING THE MIDDLE ® RESOURCE

RATIOS

6th GRADE

a 10 day CCSS-aligned unit
CCSS: 6.RP.1, 6.RP.3, 6.RP.3a

ready-to-go, scaffolded student materials

RATIOS UNIT

Table of Contents

PAGE	TOPIC	RESOURCE
4	Sample Pacing Guide	
5-6	Ideas for Implementation & Helpful Hints	
7-16	Binder Covers, Dividers, and Spine Labels	
17-18	Intro to Ratios	Student Handout 1
19	Intro to Ratios	Homework 1
21-22	Equivalent Ratios	Student Handout 2
23	Equivalent Ratios	Homework 2
25-26	Ratio Tables	Student Handout 3
27	Ratio Tables	Homework 3
29-30	Comparing Ratio Tables	Student Handout 4
31	Comparing Ratio Tables	Homework 4
33-34	Ratio Application	Student Handout 5
35	Ratio Application	Homework 5
37-38	Ratios Quiz	Quiz 1
39-40	Representing Ratios with Equations	Student Handout 6
41	Representing Ratios with Equations	Homework 6
43-44	Ratios on the Coordinate Plane	Student Handout 7
45	Ratios on the Coordinate Plane	Homework 7
47-50	Rations Unit Study Guide	Review
51-52	Ratios Unit Test	Test

©Maneuvering the Middle LLC, 2015

A MANEUVERING THE MIDDLE® RESOURCE

RATIOS

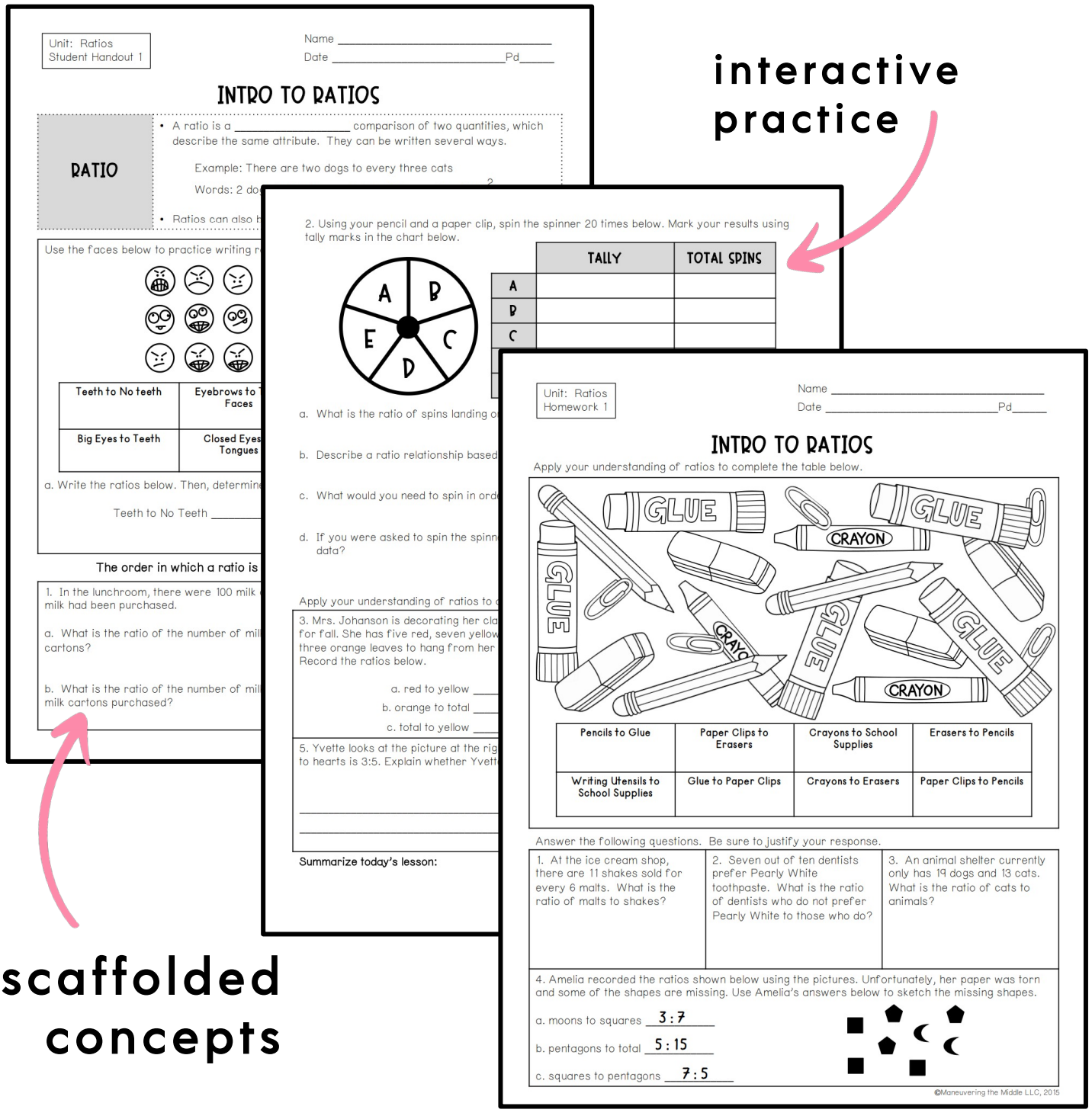
6th GRADE

a 10 day CCSS-aligned unit
CCSS: 6.RP.1, 6.RP.3, 6.RP.3a

student friendly + real-world application

interactive practice

scaffolded concepts



Unit: Ratios
Student Handout 1

Name _____
Date _____ Pd____

INTRO TO RATIOS

RATIO

• A ratio is a _____ comparison of two quantities, which describe the same attribute. They can be written several ways.

Example: There are two dogs to every three cats

Words: 2 do

• Ratios can also

Use the faces below to practice writing r

Teeth to No teeth	Eyebrows to Faces
Big Eyes to Teeth	Closed Eyes Tongues

a. Write the ratios below. Then, determin

Teeth to No Teeth _____

The order in which a ratio is

1. In the lunchroom, there were 100 milk milk had been purchased.

a. What is the ratio of the number of mil cartons?

b. What is the ratio of the number of mil milk cartons purchased?

2. Using your pencil and a paper clip, spin the spinner 20 times below. Mark your results using tally marks in the chart below.

	TALLY	TOTAL SPINS
A		
B		
C		

a. What is the ratio of spins landing o

b. Describe a ratio relationship based

c. What would you need to spin in ord

d. If you were asked to spin the spinn data?

Apply your understanding of ratios to

3. Mrs. Johanson is decorating her cla for fall. She has five red, seven yellow three orange leaves to hang from her Record the ratios below.

a. red to yellow ____
b. orange to total ____
c. total to yellow ____

5. Yvette looks at the picture at the rig to hearts is 3:5. Explain whether Yvett

Summarize today's lesson:

Unit: Ratios
Homework 1

Name _____
Date _____ Pd____

INTRO TO RATIOS

Apply your understanding of ratios to complete the table below.

Pencils to Glue	Paper Clips to Erasers	Crayons to School Supplies	Erasers to Pencils
Writing Utensils to School Supplies	Glue to Paper Clips	Crayons to Erasers	Paper Clips to Pencils

Answer the following questions. Be sure to justify your response.

1. At the ice cream shop, there are 11 shakes sold for every 6 malts. What is the ratio of malts to shakes?

2. Seven out of ten dentists prefer Pearly White toothpaste. What is the ratio of dentists who do not prefer Pearly White to those who do?

3. An animal shelter currently only has 19 dogs and 13 cats. What is the ratio of cats to animals?

4. Amelia recorded the ratios shown below using the pictures. Unfortunately, her paper was torn and some of the shapes are missing. Use Amelia's answers below to sketch the missing shapes.

a. moons to squares 3:7

b. pentagons to total 5:15

c. squares to pentagons 7:5

©Maneuvering the Middle LLC, 2015

A MANEUVERING THE MIDDLE® RESOURCE

RATIOS

6th GRADE

a 10 day CCSS-aligned unit
CCSS: 6.RP.1, 6.RP.3, 6.RP.3a

streamline your planning process with unit overviews

RATIOS
OVERVIEW

CCSS

STANDARDS

6.RP.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.

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.3a Make tables of equivalent ratios relating quantities with whole number measurements, find missing values in the tables, and plot the pairs of values on the coordinate plane. Use tables to compare ratios.

BIG IDEAS

- Ratios exist in everyday life.
- Ratios are a way of compari

ESSENTIAL QUESTION

- How can a ratio be used to c
- How can ratios be used to n
- What pattern do you notice

✓ key vocabulary

✓ vertical alignment

sample pacing calendar

RATIOS
PACING GUIDE

CCSS

DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Intro to Ratios Student Handout 1 Homework 1	Equivalent Ratios Student Handout 2 Homework 2	Ratio Tables	Comparing Ratio Tables	Ratio Application
DAY 6	**DAY 7**			
Ratios Quiz Quiz 1	Representing Ratios with Equations Student Handout 6 Homework 6			

RATIOS
OVERVIEW

CCSS

TOPIC	TEACHING TIPS
Equivalent Ratios	• Grab any colorful manipulatives (color tiles, pattern blocks, snap cubes, etc) and have students create their own ratios. Give them a ratio of 4 blue to 3 green and ask them to produce an equivalent ratio. Ask students to share their ratios and strategies, and help students to connect them to scaling. • Emphasize the concept that equivalent ratios are a result of a multiplicative comparison and can be scaled.
Problem Solving with Ratios	• Though it is common to teach cross-multiply and divide, students should focus on the multiplicative comparison and use scaling if possible. It results in a lot less math and requires critical thinking to determine the best method. • I personally liked to teach students to set up a tic-tac-toe board so that there was a space for students to include a label. Tape diagrams are another excellent option for students who struggle and need a pictorial representation.
Ratio Tables	• Students should be familiar with both creating a table and graph from a ratio and using a table or graph to determine the ratio. Emphasize that any equivalent ratios will reduce to the same ratio.
Ratios and Equations	• Writing an equation from a situation can be difficult. One tip is to have students determine the y-value when x is zero; this represents the additive portion of the equation.
Ratios and the Coordinate Plane	• This is an excellent opportunity to practice graphing skills with real-world application. Students should be able to connect the x-value with the x-axis and then explain it in the form of a situation. • For students who struggle, encourage them to create a table of values before answering any questions. Remind students that the x-values in a table are always on the left or on the top. The y-values are always on the right or on the bottom.

©Maneuvering the Middle LLC, 2017

teaching ideas

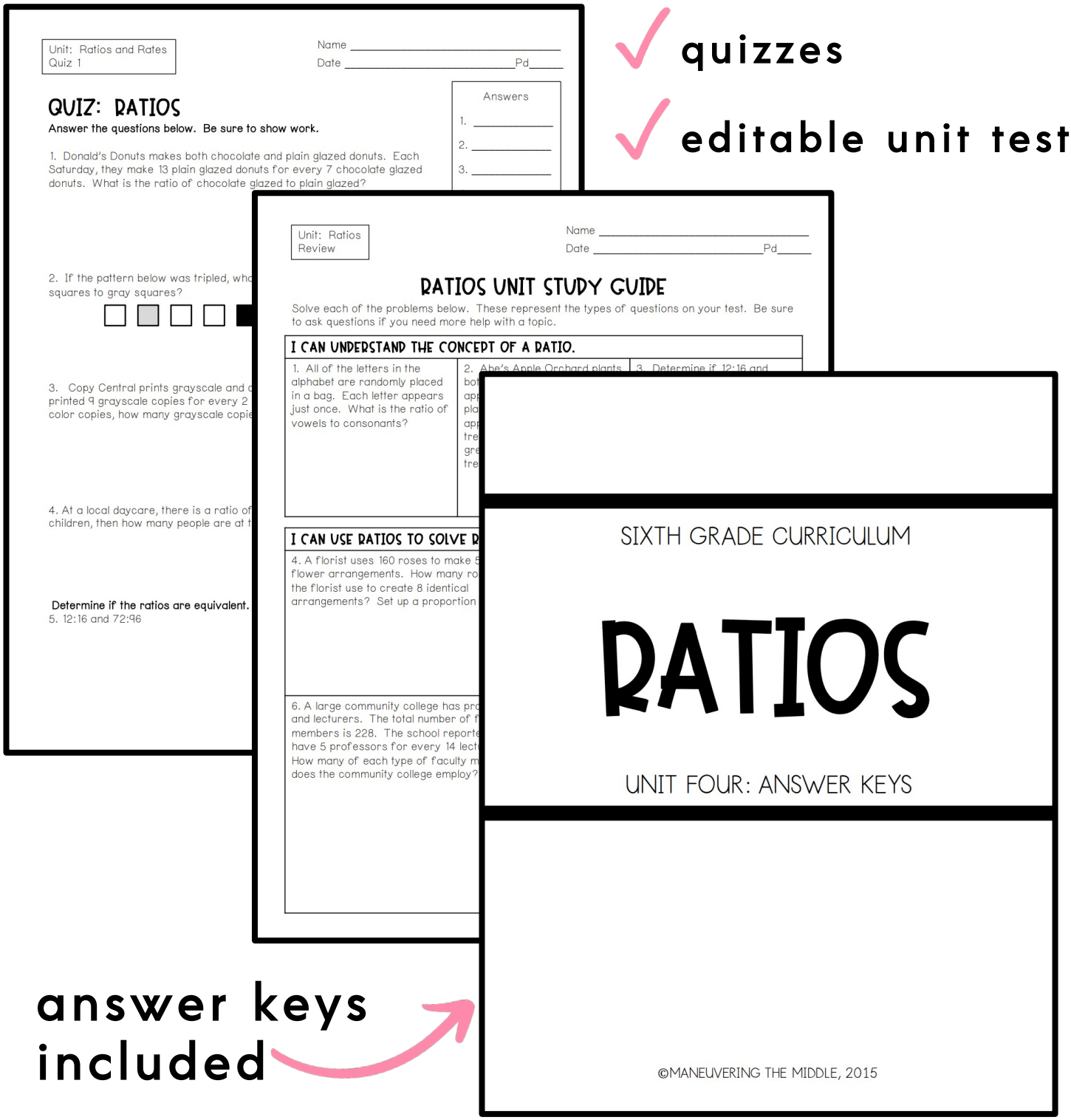
A MANEUVERING THE MIDDLE® RESOURCE

RATIOS

6th GRADE

a 10 day CCSS-aligned unit
CCSS: 6.RP.1, 6.RP.3, 6.RP.3a

unit study guide + assessments



✓ quizzes

✓ editable unit test

answer keys included

A MANEUVERING THE MIDDLE® RESOURCE