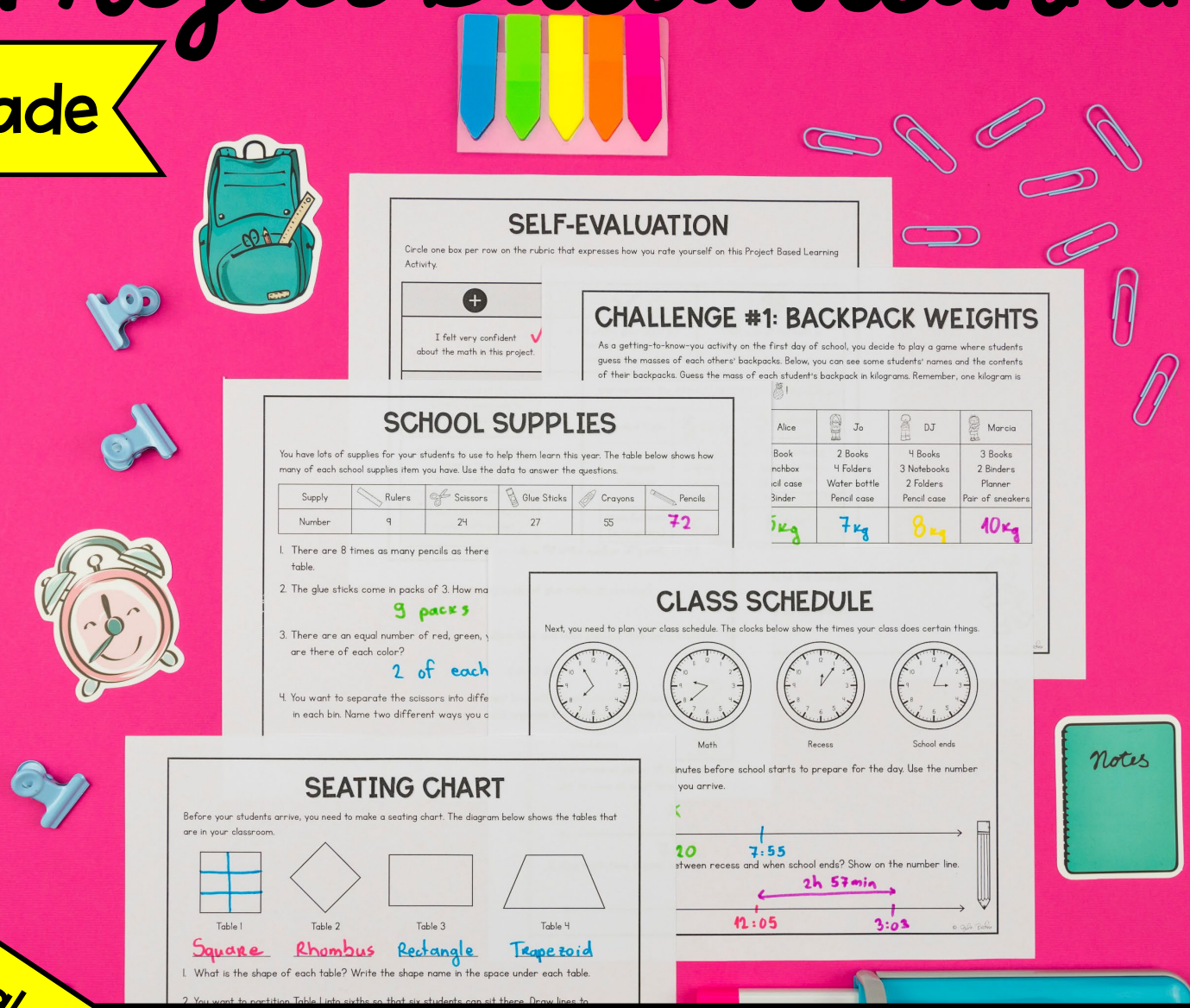
BACK TO SCHOOL

Project Based Learning

4th Grade



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SELF-REFLECTION

Write a reflection of your experience with this project. How did you feel about the math problems and activities? Explain what you found easy to do and any difficulties you had while working on this project. Did you enjoy this activity? Why or why not?

SELF-EVALUATION

Circle one box per row on the rubric that expresses how you rate yourself on this Project Based Learning Activity.

+	✓	−
I felt very confident about the math in this project. ✓	I felt pretty good about my ability to complete the math in this project.	I felt a lot of the math in this project was too hard for me to do alone.
I understood all of the math and did not need help to complete the problems.	I understood most of the math but needed a little help to solve some of the problems. ✓	I understood some of the math but needed help to complete most of the problems.
I easily used many strategies to solve the math problems efficiently. ✓	I needed some help to use the best strategies for solving the math problems.	I had trouble understanding the best way to solve many of the math problems.
I feel I am ready for a harder math project.	I feel I would like to spend more time practicing similar math problems. ✓	I feel I need assistance to work on similar math problems

CHALLENGE #1: BACKPACK WEIGHTS

Each student weighs their backpack. Their actual backpack masses are in the table below. Use the data in the table to answer the questions.

Student Name	Marcus	Alice	Jo	DJ	Marcia
Actual Backpack					

CHALLENGE #1: BACKPACK WEIGHTS

As a getting-to-know-you activity on the first day of school, you decide to play a game where students guess the masses of each others' backpacks. Below, you can see some students' names and the contents of their backpacks. Guess the mass of each student's backpack in kilograms. Remember, one kilogram is approximately the weight of one pineapple !

Student Name	Marcus	Alice	Jo	DJ	Marcia
					3 Books 2 Binders Planner Pair of sneakers
					10kg

CHALLENGE #1: BACKPACK WEIGHTS

Here are some small items that students had in their backpacks. Estimate the weight of each item in grams. Below are the masses of some common items in grams to help you with your estimates.


paper clip = 1 gram


deck of cards = 100 grams


basketball = 500 grams

Items	Pencil	Binder	Sneakers	Full water bottle	Crayon	Sweatshirt	Novel	Glue stick
Estimated Mass (in grams)	10	100	500	500	10	300	1000	80

6. How many more grams do you estimate the heaviest items weighs than the lightest?

9990

7. Do you estimate any of these items weighs more than one kilogram? Explain.

No

SELF-REFLECTION

Write a reflection of your experience with this project. How did you feel about the math problems and activities? Explain what you found easy to do and any difficulties you had while working on this project. Did you enjoy this activity? Why or why not?

SELF-EVALUATION

Circle one box per row on the rubric that expresses how you rate yourself on this Project Based Learning Activity.

+	✓	−
I felt very confident about the math in this project.	I felt pretty good about my ability to complete the math in this project.	I felt a lot of the math in this project was too hard
I understood all of the math and did not need help to complete the problems.	I understood most of the but needed a little help to some of the problems	
I easily used many strategies to solve the math problems efficiently.	I needed some help to u the best strategies for solving the math problen	
I feel I am ready for a harder math project.	I feel I would like to spe more time practicing similar math problems	

SEATING CHART

10. You know Table 3 measures 8 feet long, but you don't know the width. If you know the area of the table is 40 square feet, what must the width be? 5in

11. Find the perimeter of Table 3. 26 ft

12. You know that the perimeter of Table 4 is the same as the perimeter of Table 3. Fill in the missing dimensions of Table 4.

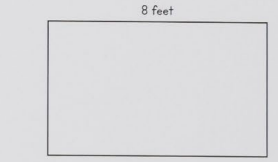

Table 3

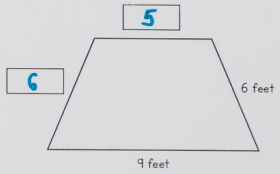

Table 4

SEATING CHART

Before your students arrive, you need to make a seating chart. The diagram below shows the tables that are in your classroom.

Table 1 — Square

Table 2 — Rhombus

Table 3 — Rectangle

Table 4 — Trapezoid

1. What is the shape of each table? Write the shape name in the space under each table.

2. You want to partition Table 1 into sixths so that six students can sit there. Draw lines to partition Table 1 into sixths.

3. What fraction of the whole table is each part of Table 1? 1/6

4. You know that two students named Aneesa and Tyler will sit at Table 1. What fraction of Table 1 is still available for other students to sit at? 4/6


CLASS SCHEDULE
Next, you need to plan your class schedule. The clocks below show the times your class does certain things.
School starts
Math
Recess
School ends
1. You arrive at school 35 minutes before school starts to prepare for the day. Use the number line to show at what time you arrive. Use the vertical lines to partition, the textboxes to label, and the semicircles to show your hops.
2. How much time elapses between recess and when school ends? Show on the number line.

SEATING CHART

10. You know Table 3 measures 8 feet long, but you don't know the width. If you know the area of the table is 40 square feet, what must the width be?

11. Find the perimeter of Table 3.

12. You know that the perimeter of Table 4 is the same as the perimeter of Table 3. Fill in the missing dimensions of Table 4.

13. Look at your diagrams for Tables 1-4 on the previous two slides. How many students can sit at the tables in your classroom? You have 22 students. Will you need extra tables?

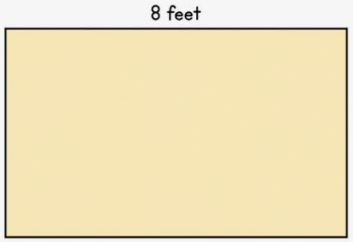

Table 3

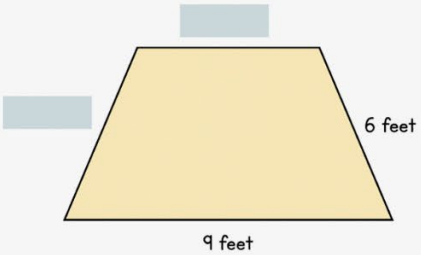

Table 4

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4. Class Schedule (Time)
5. School Supplies (Word Problems)
6. Pencil Lengths (Measurement and Line Plots)
7. Textbooks (Comparing Numbers, Place Value, Word Problems)
8. Challenge #1: Backpack Weights (Measuring and Estimating Mass)
9. Challenge #2: Lunch Time (Geometric Shapes and Money)
10. Self-Reflection & Evaluation
11. Answer Key

THANK YOU FOR PURCHASING THIS COMMON CORE KINGDOM DIGITAL RESOURCE!

The Google Slides version of this resource requires that you make a copy of the resource to your own Google Drive.

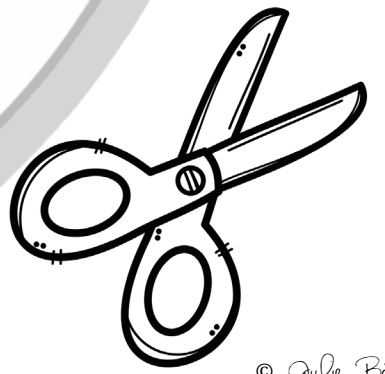
FOR THE TEACHER

BACK TO SCHOOL is a project-based learning task that was created for students in fourth grade. Students assume the role of a classroom teacher and plan a return to school for their students. It reviews third grade standards while introducing fourth grade standards. The following standards are addressed:

- 4.OA.A.1 Interpret a multiplication equation as a comparison.
- 4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers, using the four operations.
- 4.NBT.A.2 Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.
- 4.NBT.A.3 Use place value understanding to round multi-digit whole numbers to any place.
- 4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.
- 4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size.
- 4.G.A.3 Recognize a line of symmetry for a two-dimensional figure.
- 4.MD.A.1 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money.
- 4.MD.A.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.
- 4.MD.B.4 Make a line plot to display a data set of measurements in fractions of a unit.

DIRECTIONS:

1. Decide whether to have students complete the activities as a class, independently, or in small groups.
2. Preview the activity with your students.
3. Allow students class time to complete the activity. This can span several days.
4. Allow students an opportunity to complete extra challenge activities (Optional).
5. Allow students to complete the self-reflection and evaluation rubric.
6. Allow students an opportunity to share their completed projects.



BACK TO SCHOOL

It's the most wonderful time of the year: time to go back to school! You are a fourth-grade teacher, and you are getting ready to welcome your students to a new school year! Fill out the nametag below with your teacher name so your students can get to know you. You will be organizing your classroom, planning your class schedule, and making sure everything is ready for your fourth-grade students!

Here are your tasks:

- Read through the entire packet before beginning.
- Create seating charts for your students.
- Plan your class's daily schedule.
- Organize your classroom supplies.
- Help your students complete a fun measurement activity on their first day of school.
- Determine how many textbooks you need for your students.
- Complete the challenge pages. (Optional)
- Complete the self-reflection and evaluation rubric.

SEATING CHART

Before your students arrive, you need to make a seating chart. The diagram below shows the tables that are in your classroom.

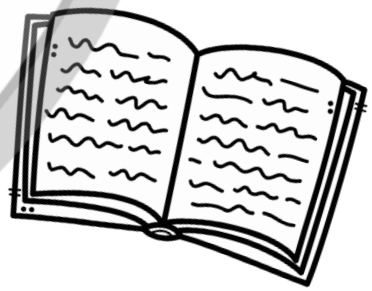
Table 1 | Table 2 | Table 3 | Table 4

1. What is the shape of each table? Write the shape name in the space under each table.

2. You want to partition Table 1 into sixths so that six students can sit there. Draw lines to partition Table 1 into sixths.

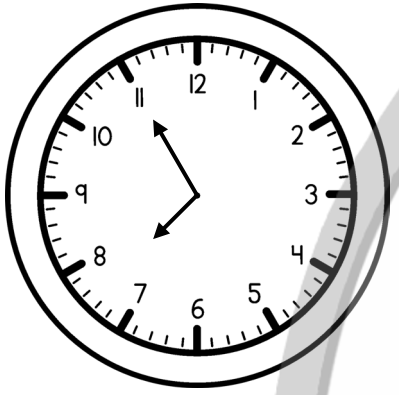
3. What fraction of the whole table is each part of Table 1?

4. You know that two students named Aneesa and Tyler will sit at Table 1. What fraction of Table 1 is still available for other students to sit at?



CLASS SCHEDULE

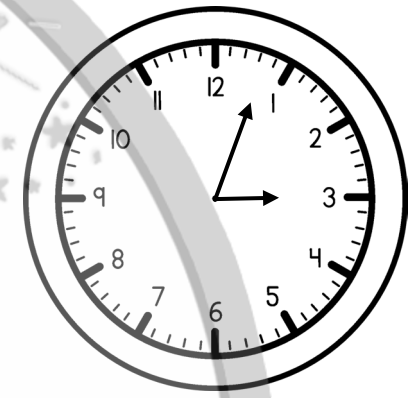
Next, you need to plan your class schedule. The clocks below show the times your class does certain things.



School starts

Math

Recess



School ends

1. You arrive at school 35 minutes before school starts to prepare for the day. Use the number line to show at what time you arrive.

2. How much time elapses between recess and when school ends? Show on the number line.

SCHOOL SUPPLIES

You have lots of supplies for your students to use to help them learn this year. The table below shows how many of each school supplies item you have. Use the data to answer the questions.

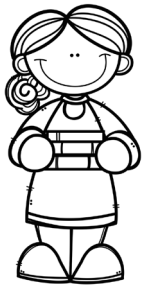
Supply	Rulers	Scissors	Glue Sticks	Crayons	Pencils
Number	9	24	27	55	

1. There are 8 times as many pencils as there are rulers. Fill in the number of pencils on the table.

2. The glue sticks come in packs of 3. How many packs of glue sticks do you have?

3. There are an equal number of red, green, yellow, blue, and black crayons. How many crayons are there of each color?

4. You want to separate the scissors into different bins with the same number of scissors in each bin. Name two different ways you could organize the scissors evenly into bins.

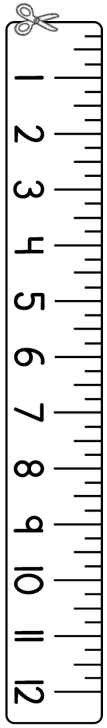


PENCIL LENGTHS

It's the first day of school, and your students have arrived at the classroom! For your first math class, you want your students to practice using a ruler. You have each student take out their pencils and measure them. Cut out the ruler and use to measure each student's pencil from the end of the eraser to the tip of the point. Record the pencil length to the nearest half inch in the table.

Jameel Evie Fabiola Jake

Student Name	Jameel	Evie	Fabiola	Jake
Pencil Length (in inches)				



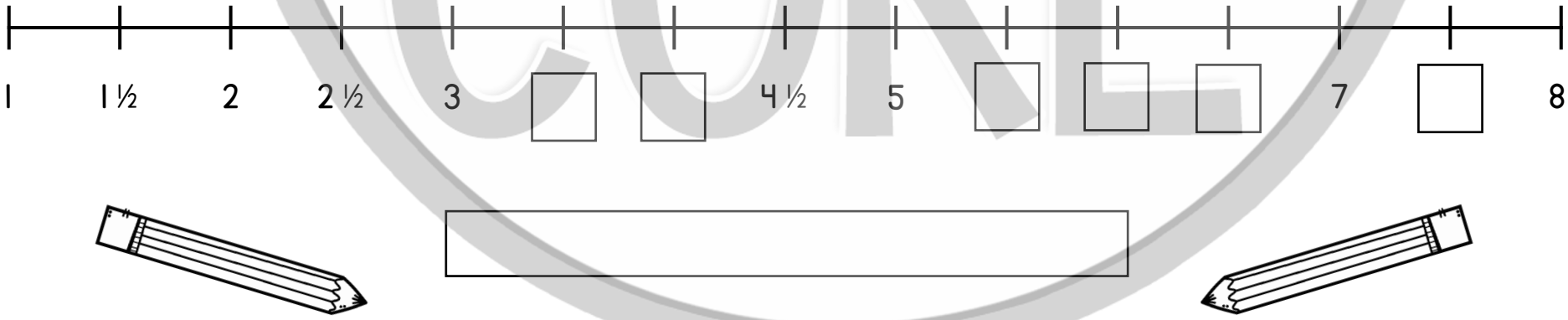
1. Whose pencil is the longest?

2. Whose pencil is the shortest?

3. How much longer is Jameel's pencil than Evie's pencil?

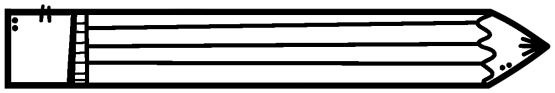
PENCIL LENGTHS

4. Look at the information on the table you created on the previous page. Use that data to create a line plot of pencil lengths below. Fill in the missing measurements on the line plot. Then, draw an X to plot the length of each pencil. Finally, give your line plot a title in the bottom box.



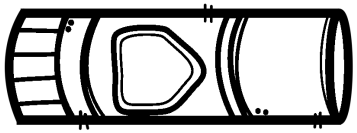
PENCIL LENGTHS

Marlena wants to compare the length of her pencil to the length of some other items in the classroom. Cut out and use the ruler to measure Marlena's pencil. Then, measure the other items and answer the questions.



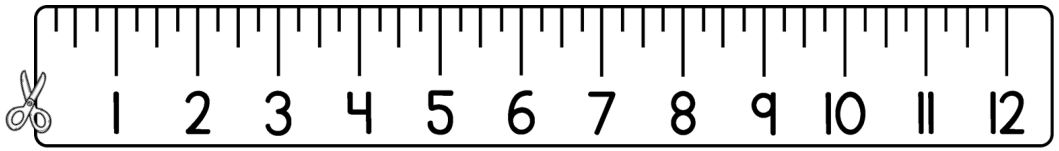
5. Marlena's pencil is _____ inches long.

6. The purple crayon is _____ inches long. Compare the lengths of the crayon and Marlena's pencil.



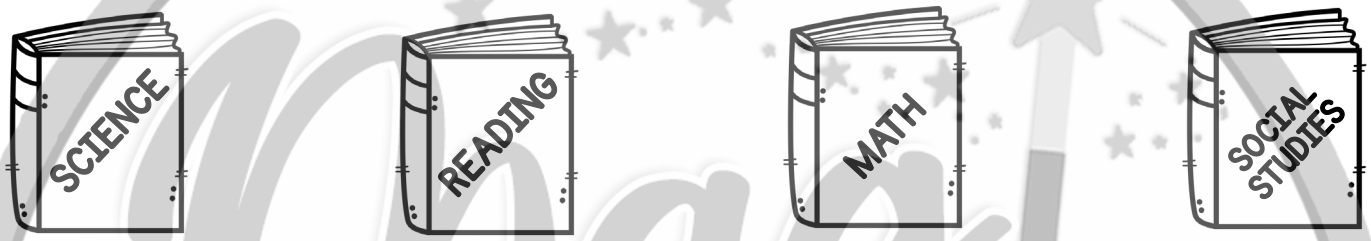
7. The glue stick is _____ inches long. Compare the lengths of the glue stick and Marlena's pencil.

8. The pen is _____ inches long. Compare the lengths of the pen and Marlena's pencil.



TEXTBOOKS

Each student will receive a textbook for math, reading, science, and social studies. The textbooks and the number of pages in each are shown below.



	SCIENCE	READING	MATH	SOCIAL STUDIES
	109 pages	265 pages	223 pages	94 pages
Nearest 10	_____	_____	_____	_____
Nearest 100	_____	_____	_____	_____

1. Round the number of pages in each textbook to the nearest ten and nearest hundred.

2. Compare the number of pages in the different textbooks. Complete each number comparison by filling in the space with the correct symbol < , > , or = .

   94 ◯ 109 265 ◯ 223 223 ◯ 94 109 ◯ 265

3. The social studies book includes a 4-page glossary at the back of the book. The rest of the book is divided into 10 chapters, each with the same number of pages. How many pages are in each chapter?

CHALLENGE #1: BACKPACK WEIGHTS

As a getting-to-know-you activity on the first day of school, you decide to play a game where students guess the masses of each others' backpacks. Below, you can see some students' names and the contents of their backpacks. Guess the mass of each student's backpack in kilograms. Remember, one kilogram is approximately the weight of one pineapple !

Student Name	Marcus	Alice	Jo	DJ	Marcia
Backpack Contents	3 Books 2 Notebooks Headphones Sweatshirt	1 Book Lunchbox Pencil case 1 Binder	2 Books 4 Folders Water bottle Pencil case	4 Books 3 Notebooks 2 Folders Pencil case	3 Books 2 Binders Planner Pair of sneakers
Mass Estimate (in kilograms)					

1. Whose backpack do you estimate to be the heaviest?

2. Whose backpack do you estimate to be the lightest?

SELF-REFLECTION

Write a reflection of your experience with this project. How did you feel about the math problems and activities? Explain what you found easy to do and any difficulties you had while working on this project. Did you enjoy this activity? Why or why not?

RATE THIS PROJECT

Circle the statement you most agree with.

I am ready for something harder. This was just right. I found this very challenging.

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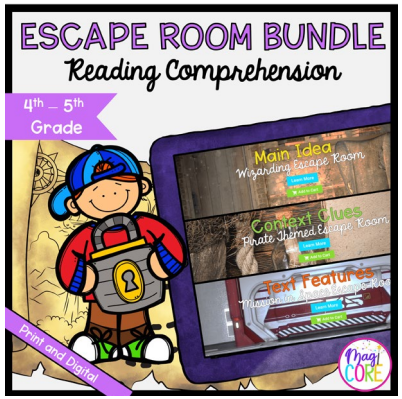

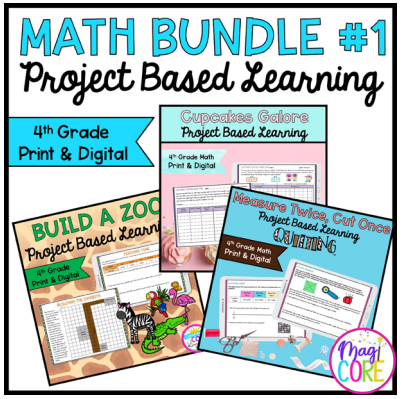

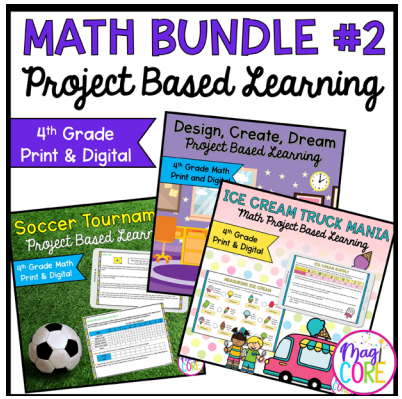

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