


TRIP TO THE AQUARIUM

Project Based Learning

3rd Grade Print & Google Slides

TICKET PRICES-1

You will work with Aleia to determine ticket prices for your class trip to the Aqua-Land Sea Life Aquarium. Use the table to answer the questions below.

	TICKET PRICES				One Free Chaperone for every 50 students
	Adult	Child	School Field Trip Prices		
FULL-DAY ADMISSION	\$11.00	\$8.00	Group of 45 students	\$350.00	
HALF-DAY ADMISSION	\$7.00	\$5.00	Group of 45 students	\$200.00	

1. There are 100 students in your grade going on the full-day field trip. What will be the total cost for all students?

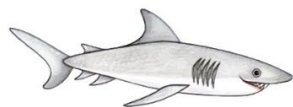
Show your steps.

$45 @ \$350.00 + 45 @ \$200.00 = 90 @ \$700.00$; then add $10 @ \$8.00$ each
 $= 10 \times 8 = \$80.00$. So, $\$700.00 + \$80.00 = \$780.00$ cost for all students.

2. There are 5 classroom teachers and 5 classroom assistants going on the field trip. They will pay the adult full-day admission. How much will they pay for the adults? Show how you know.

TICKET PRICES-2

Continue using the data in the table to answer the questions.



TICKET PRICES			
Adult	Child		

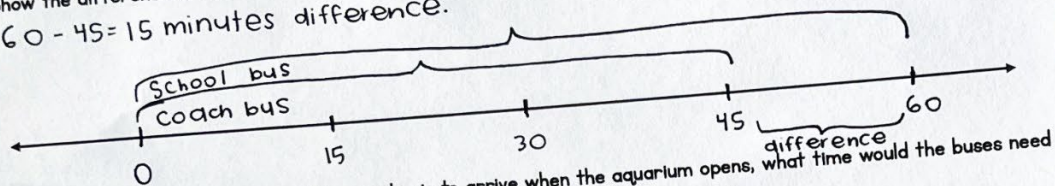
BUSING WORD PROBLEMS-1

Aqua-Land is 45 miles from your school. Read the information about travel time for each bus, and answer the questions below.

COACH BUS	SCHOOL BUS
Average speed = 60 miles per hour	Average speed = 45 miles per hour
Travel time = 45 minutes	Travel time = 60 minutes

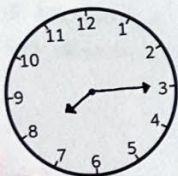
1. Show the difference in time it takes each type of bus to get to the aquarium using the number line below.

$60 - 45 = 15$ minutes difference.



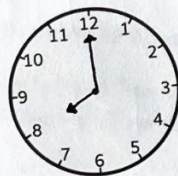
2. The aquarium opens at 9:00 am. If your plan is to arrive when the aquarium opens, what time would the buses need to leave your school? Write the start time in the box and show it on the analog clock.

COACH BUS



8:15 am

SCHOOL BUS



8:00 am



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3. Bus drivers must count the time it takes them to drive to and from the school as part of their daily total driving time. It takes 30 minutes to travel each way between the bus station and the school. What is the total number of minutes a coach bus driver will drive on the day of your field trip?

$30 + 30 + 45 + 45 = 150$ minutes total driving time for the coach bus drivers.

5. Last year, the 3rd grade planning committee chose to rent school buses for the field trip to save money. The buses left the aquarium at 4:15 to drive back to school. Unfortunately, they ran into traffic, which delayed their arrival back at school by 27 minutes. What time did the buses arrive at the school? Show how you know.

School bus takes 60 minutes to travel back to the school. They left at 4:15 and should have arrived at 5:15.

arrived at 5:15.



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- Realistic learning situations
- Print & Go, Low Prep

Meaningful practice of third grade math skills.

TRANSPORTATION-1

Now that the planning committee has completed purchasing tickets, it is time to consider options for transportation to Aqua-Land. Use the information in the table to answer the questions below.



	TRANSPORTATION	
	Cost per Bus	Seats per Bus
SCHOOL BUSES	\$145.00	39
COACH BUSES	\$299.00	60

1. How many people will be traveling by bus to Aqua-Land? Include students, teachers, instructional assistants, and chaperones. Show your thinking on the number line below.

$100 + 5 + 5 + 5 = 115$ people going on the field trip



2. Determine how many buses you would need to rent for each type of bus. Show how you know.

SCHOOL BUSES $39 + 39 + 39 = 117$ seats,
So 3 school buses.

3

COACH BUSES $60 + 60 = 120$ seats,
So 2 coach buses.

2

3. Calculate how many extra seats there will be for each type of bus. Show how you know.

EXTRA SEATS ON SCHOOL BUSES

TRANSPORTATION-2

The school will be paying for the buses. The committee would like to keep costs down but would also like provide a comfortable ride for everyone going on the field trip.



	TRANSPORTATION	
	Cost per Bus	Seats per Bus
SCHOOL BUSES	\$145.00	39
COACH BUSES	\$299.00	60

Promotes critical thinking and problem solving.

PENGUIN PALOOZZA-1

The penguin habitat is a major attraction at Aqua-Land Sea Life Aquarium. There are 10 different species of penguins that live at the aquarium. Use the data below to create a bar graph of the number of penguins you will see on your field trip. Write a title in the gray box.

PENGUINS	King	Macaroni	Chinstrap	Rookhopper	Little Blue	Gentoo	Adelle	Emperor	Royal	Galapagos
	27	31	14	48	24	16	23	6	40	11

LIFE IN THE RAINFOREST-1

Life in the Rainforest is an amazing exhibit at the aquarium. One of the most popular attractions is the display of tree frogs. They come in all different colors and sizes. Some are poisonous, and some are not. Perhaps one of the more exciting things for visitors is to watch the tree frogs jump. Use the data in the table to answer the questions about the rainforest tree frogs.



	RAINFOREST TREE FROGS					
	Red-Eyed	Blue Dart	Squirrel	Amazon	Cuban	Goliath
Average length of frog in inches	2 ½ inches	1 ½ inches	1 inch	6 inches	3 inches	12 inches
Distance of one jump	1 foot	8 inches	6 inches	18 inches	3 feet	2 ½ feet

1. Which frog can jump the farthest? How do you know?

The Cuban Tree Frog jumps the furthest because 3 feet = 36 inches the largest distance.

2. What is the difference in the distance jumped between the Amazon Tree Frog and the Red-Eyed Tree Frog. Show your answer with an equation.

The difference between the jumps of the Amazon and Red-Eyed = $18 - 12$ (inches) = 6 inches

3. The Squirrel Tree Frog jumps 6 times its body length. How many times its body length does the Amazon Tree Frog jump?


The Amazon jumps 3 times its body length, $18 \div 6 = 3$.



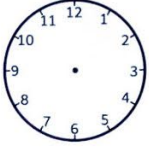


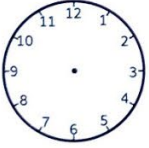
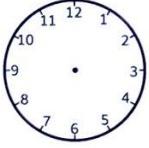


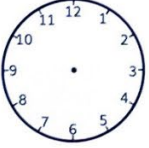
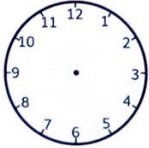

4. Order the frogs from the one that jumps the shortest distance to the one that jumps the farthest distance.

Squirrel, Blue Dart, Red-Eyed, Amazon, Goliath, Cuban

Digital Version in Google Slides

SCHEDULE FOR THE DAY-3

Use the line tool  to draw hands to show the start and end times for shows and events on your schedule. Lunch is done for you.

LUNCH		SHOW 1	
Start Time 	End Time 	Start Time 	End Time 
SHOW 2		SHOW 3	
Start Time 	End Time 	Start Time 	End Time 
SHOW 4		SHOW 5	
Start Time 	End Time 	Start Time 	End Time 

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5. Transportation (Comparing cost, speed, and travel time between school bus and coach bus)
6. Busing Word Problems (Start time, End time, Elapsed time)
7. Chaperones (Dividing students into supervised groups, Word problems)
8. Schedule for the Day (Create a schedule for the field trip, Analog clocks, Timeline, Word problems)
9. Dolphin Discovery (In/Out machine with word problems)
10. Penguin Palooza (Using data to make a bar graph and line plot, Writing questions that compare numbers word problems)
11. Life in the Rainforest (Converting measurement data, Inches, Feet, Length, Weight, Word problems)
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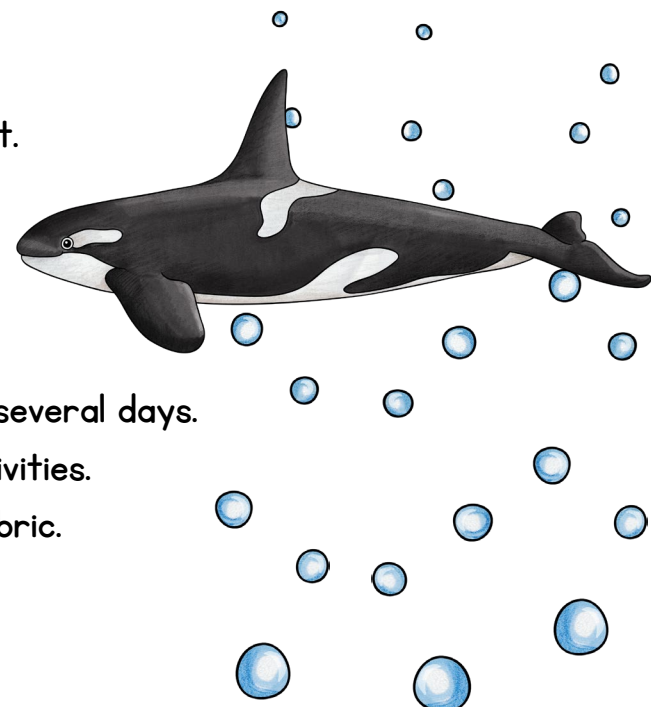
FOR THE TEACHER

A TRIP TO THE AQUARIUM is a project-based learning task that provides students with real world problems as they practice the following math standards:

- 3.OA.C.7 Fluently multiply and divide within 100 using strategies such as the relationship between mult/div, or properties of operation.
- 3.OA.D.8 Solve 2-step word problems using the four operations.
- 3.OA.D.9 Identify arithmetic patterns and explain them using properties of operations.
- 3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.
- 3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
- 3.NBT.A.3 Multiply one-digit whole numbers by multiples of 10.
- 3.MD.A.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems, involving addition and subtraction of time intervals in minutes.
- 3.MD.B.3 Draw a scaled bar graph to represent a data set.
- 3.MD.B.4 Generate measurement data. Show the data by making a line plot.

DIRECTIONS:

1. Assign students to work alone or in small groups.
2. Preview the activity with your students.
3. Allow students class time to complete the activity. This can span over several days.
4. Students have an opportunity to complete optional extra challenge activities.
5. Students will complete the self-evaluation reflection and evaluation rubric.
6. Allow students an opportunity to share their completed projects.



A TRIP TO THE AQUARIUM

Welcome to your school field trip adventure. In this packet, you will work on a planning committee to help plan a class field trip to a sea-life aquarium.

HERE ARE YOUR TASKS:

- Read through the entire packet before beginning.
- Read the informational slide about your school field trip.
- Determine costs for students, teachers, and other chaperones.
- Keep a running total as you calculate the total cost for tickets to the aquarium.
- Decide the type of bus (school bus or coach) you will use for the field trip.
- Solve word problems related to different types of busing options.
- Solve time-related word problems.
- Help your teachers divide students into groups for each chaperone.
- Plan and develop a schedule for visiting the aquarium.
- Use an In/Out machine to calculate ages of the dolphins.
- Learn about the many different types of penguins at the aquarium.
- Write questions for your friend to answer about penguin data.
- Learn about different types of animals in the Rainforest. Solve measurement problems about the different animals.
- (Optional) Complete the challenge pages.
- Complete the self-reflection and evaluation rubric.

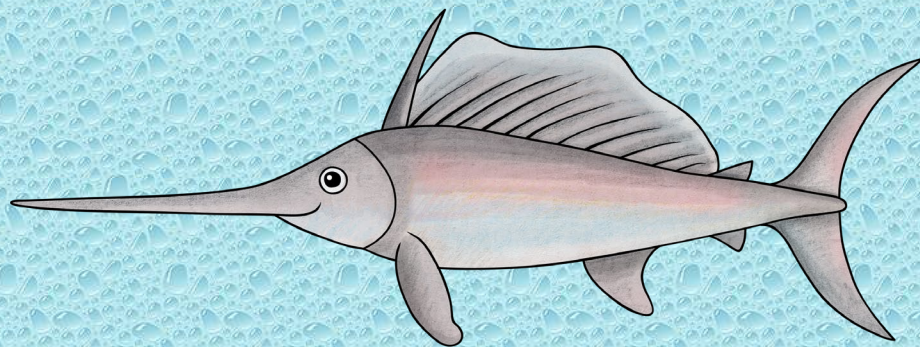


PLANNING A SCHOOL FIELD TRIP TO THE AQUARIUM



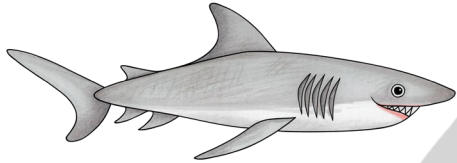
Your grade always ends the school year with a special field trip. This year, the students voted to visit the Aqua-Land Sea Life Aquarium. It is the largest aquarium in your state and has an amazing display of sea life and animal shows. The Aqua-Land Sea Life Aquarium is home to thousands of aquatic animals and offers a wide range of science exhibits to interest people of all ages. They are proud of their large touch tank and huge coral reef tank that houses hundreds of saltwater sea life.

All successful school field trips begin with excellent planning. You, several of your classmates, and your teachers have volunteered to work on the planning committee. You will help determine how much the field trip will cost. You will also help make decisions about renting buses, creating a schedule for the day, and choosing educational classes. However, the most important task for the planning committee is to make sure everyone stays safe and has fun. So, let's get busy planning the very best field trip of the year.



TICKET PRICES-1

You will work with Aleia to determine ticket prices for your class trip to the Aqua-Land Sea Life Aquarium. Use the table to answer the questions below.



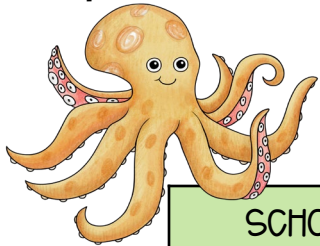
TICKET PRICES					
	Adult	Child	School Field Trip Prices		One Free Chaperone for every 50 students
FULL-DAY ADMISSION	\$11.00	\$8.00	Group of 45 students	\$350.00	
HALF-DAY ADMISSION	\$7.00	\$5.00	Group of 45 students	\$200.00	

1. There are 100 students in your grade going on the full-day field trip. What will be the total cost for all students? Show your steps.
2. There are 5 classroom teachers and 5 classroom assistants going on the field trip. They will pay the adult full-day admission price. What is the total cost for the adults? Show how you know.
3. What will be the total cost for all students, teachers, and classroom assistants?



TRANSPORTATION-1

Now that the planning committee has completed purchasing tickets, it is time to consider options for transportation to Aqua-Land. Use the information in the table to answer the questions below.



TRANSPORTATION		
	Cost per Bus	Seats per Bus
SCHOOL BUSES	\$145.00	39
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1. How many people will be traveling by bus to Aqua-Land? Include students, teachers, instructional assistants, and chaperones. Show your thinking on the number line below.



2. Determine how many buses you would need to rent for each type of bus. Show how you know.

SCHOOL BUSES

COACH BUSES

3. Calculate how many extra seats there will be for each type of bus. Show how you know.

EXTRA SEATS ON SCHOOL BUSES

EXTRA SEATS ON COACH BUSES

BUSING WORD PROBLEMS-1

Aqua-Land is 45 miles from your school. Read the information about travel time for each bus, and answer the questions below.

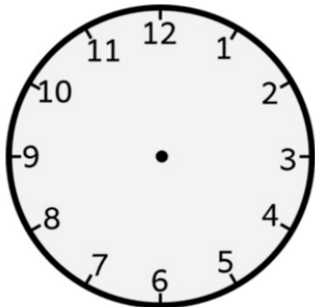
COACH BUS	SCHOOL BUS
Average speed = 60 miles per hour	Average speed = 45 miles per hour
Travel time = 45 minutes	Travel time = 60 minutes

1. Show the difference in time it takes each type of bus to get to the aquarium using the number line below.

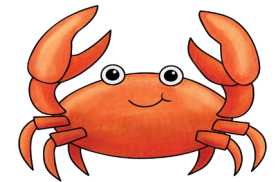
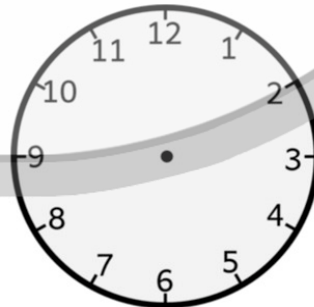


2. The aquarium opens at 9:00 am. If your plan is to arrive when the aquarium opens, what time would the buses need to leave your school? Write the start time in the box and show it on the analog clock.

COACH BUS



SCHOOL BUS

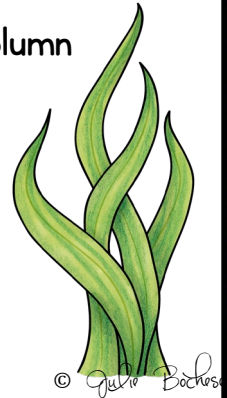


CHAPERONES-1

Each class will have 1 teacher, 1 classroom assistant, and 1 parent who will chaperone students on the field trip. Not all classes have the same number of students. Your task is to create groups in each class that show how many students each chaperone will oversee.

CLASS	NUMBER OF STUDENTS IN CLASS	CREATE AN ARRAY TO SHOW HOW THE STUDENTS CAN BE DIVIDED INTO EQUAL GROUPS	NUMBER OF STUDENTS IN EACH GROUP
Mrs. Guyer	18		
Mr. Murphy	21		
Ms. Craddock	15		
Miss Buckley	24		
Mrs. Peterson	22		

1. Divide the number of students in each class into groups that are of similar size. Draw an array in third column that shows how the student will be divided. In the last column, write the number of students in each group.
2. How does Mrs. Peterson's class differ from each of the other classes?



SCHEDULE FOR THE DAY-1

All chaperones will receive this schedule of shows and events. Together, each chaperone and their students will create a schedule for the day. The only rules they must follow are:

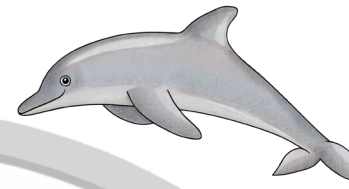
1. Pick one time for each show. Be sure shows do not overlap.
2. Lunch will be outside at the picnic tables. Everyone will meet for lunch at 12:05 pm.
3. Use the bathroom before boarding the buses.
4. Everyone must be on the buses by 4:15 pm.

Here is today's schedule for Aqua-Land Sea Life Aquarium. You will use the information to answer questions on the following pages.



AQUA-LAND SHOWS AND EVENTS	TODAY'S SCHEDULE	
	Show Times	Minutes
The George and Gracie Orca Show	9:15, 10:15, 11:15, 2:15	45
Dolphin Discovery-Meet Millie, Ziggy, and Sophie	10:30, 1:30	60
Daily Seal Feedings with Trainers	9:45, 12:30, 3:15	25
Live Web-Cam from Australia's Shark Alley	11:30, 2:30	30
Touch Tank Classroom	10:00, 11:30, 1:30, 3:00	45

DOLPHIN DISCOVERY-1



Solve the word problems below.

1. Millie is a 45-year-old dolphin who has lived at the aquarium for over 40 years. One of her offspring, Ziggy, also lives at the aquarium. Ziggy was born when Millie was 4 years old. Complete the In/Out machine to help you find out how old Ziggy is now.

		IN AND OUT MACHINE							
Millie's Age	5	10	15	20	25	30	35	40	45
Ziggy's Age	1			16					

2. What is the rule for the In/Out machine?
3. How old is Ziggy now? Show how you know.
4. How old will Ziggy be when Millie is 48 years old?
5. How old was Millie when Ziggy had his 18th birthday?

LIFE IN THE RAINFOREST-2

More popular animals to see in the *Life in the Rainforest* exhibit are the snakes. The snakes live in large tanks and are many different lengths. Use the data in the table to answer the questions about snakes.

ADULT SNAKE LENGTHS						
	Boa	Python	King	Viper	Coral	Cobra
Length	8 ½ feet	5 feet	6 feet	2 ½ feet	3 feet	12 feet
Length in Inches						

1. Convert the length of each snake to inches. Add the numbers to the table.
2. There are three fully grown adult King snakes at the aquarium. If you laid them end to end, about how many feet long would they be? Show with a drawing.
3. A baby cobra was born in May. It was 12 inches long at birth. In October, it measured 66 inches. How many inches did the cobra grow from May to October?
4. How many more inches will the baby snake grow before it is fully grown?



CHALLENGE 1- SEAL FEEDINGS-1

Aqua-Land allows visitors to watch the seal feedings four times per day. Each seal eats a total of about 12 to 20 pounds of raw fish per day. Answer the questions below about seal feedings.

1. Margo is a fussy eater and only eats tuna. Each day, she eats 16 pounds of raw tuna. How many pounds of tuna does she eat at each feeding?

Draw a model to show your thinking.

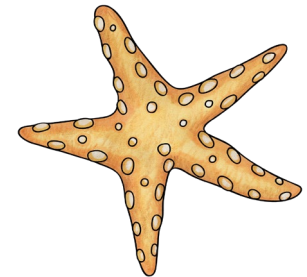
2. Coco likes a mix of raw squid and raw salmon at each meal. She eats a total of $3\frac{1}{2}$ pounds at each feeding. How many pounds of raw fish does Coco eat each **week**? Show how you know.

3. Franko eats more fish than the other seals. Each day, he eats 5 pounds of raw tuna for his first and last meals and 4 pounds of squid for his middle two meals. How many pounds of raw tuna does Franko eat each **week**? How many pounds of squid does Franko eat each **week**?

4. How much tuna is eaten by the seals each day at Aqua-Land Sea Life Aquarium?

SEALS AT AQUA-LAND

Name	Age	Weight
Margo	15 years old	245 pounds
Franko	21 years old	282 pounds
Coco	8 years old	220 pounds



CHALLENGE 2- GIFT SHOP

The Aqua-Land Gift Shop sells a set of plush stuffed sea animals. It is one of the best-selling items in the shop. Each week in the month of June, the gift shop donates 10% of the sales of the plush animal set to the *Coral Reef Alliance*. This alliance helps to make coral reefs healthier for the millions of sea animals who live there. Use the data in the table to answer the questions below.

	WEEK 1	WEEK 2	WEEK 3	WEEK 4
TOTAL SALES	\$637.00	\$923.00	\$885.00	\$771.00
ROUNDED TO THE NEAREST 100				
TOTAL DONATION TO THE CORAL REEF ALLIANCE	\$63.70	\$92.30	\$88.50	\$77.10
ROUNDED TO THE NEAREST 10				

1. Round the sales of the plush stuffed animal set for each week to the nearest hundred. Write the answers in the table.
2. Round the 10% donated to *Coral Reef Alliance* each week to the nearest ten. Write your answers in the table.
3. What is the total amount of money donated to *Coral Reef Alliance* in the month of June?
4. The Aqua-Land Gift Shop donated a total of \$1015.90 for the months of June and July combined. How much money did they donate in July?

A TRIP TO THE AQUARIUM

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

Drag the checkmark to the statement you most agree with.




I am ready for something harder.

It was just right.

I found this very challenging.

RUBRIC

SELF-EVALUATION RUBRIC: Shade the descriptor in each column that best explains how you would evaluate yourself on this project.

		
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 the math and did not need help to complete the problems.	I understand 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 determine 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.

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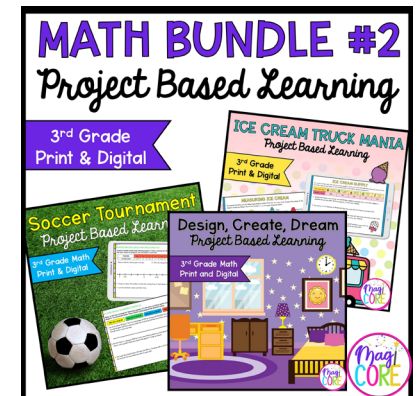
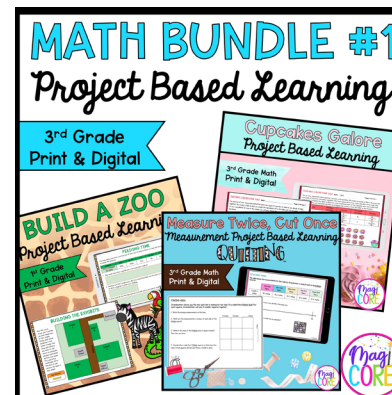
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