

Build A Zoo

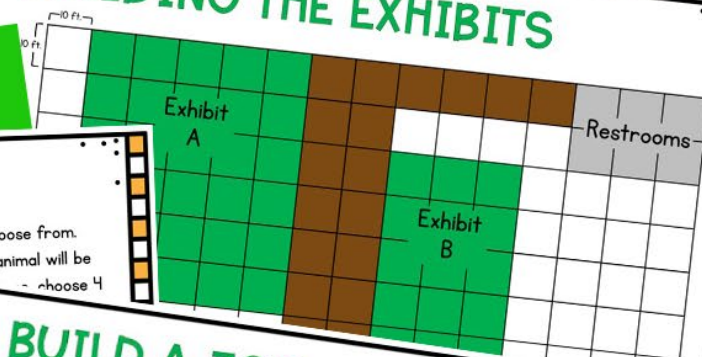
Project Based Learning

3rd Grade Print & Google Slides

BUILDING THE EXHIBITS

4. You decide that the animals in Exhibit B need more space. You expand the exhibit 10 feet. What is the new width of Exhibit B?

BUILDING THE EXHIBITS



CHOOSING YOUR ANIMALS

Your first step is to choose which animals to feature in your zoo. Think of pros and cons of including each animal type in your exciting zoo, or how difficult it might be to care for each type of animals for your zoo. Drag a checkmark to each animal type you choose.

Animal	Pros
Gorilla 	
Zebra 	
Giraffe 	
Crocodile 	
Flamingo 	
Lion 	

BUILD A ZOO

You have decided to open a zoo! It is your job to choose the animals in your zoo, build and design thoughtful enclosures for your animals to live in, keep your animals happy and healthy, and attract visitors to your zoo!

Here are your tasks:

- Read through the entire packet before beginning.
- Choose the animals for your zoo.
- Create a blueprint of your zoo.
- Calculate the length and width of the animal exhibits.
- Research and learn about your animals' natural habitats.
- Recreate the animal habitats in the exhibits while following a budget.
- Research animal feeding habits in the wild.
- Calculate how much food will be required to feed your animals.
- Write a blurb for a brochure promoting the zoo.
- Analyze the profit of the zoo.



Print & Digital Versions

CHALLENGE #3: PRIMATE CLASSES

The primate classes are so popular that you decide to offer classes about other types of animals, too. Under each class name, you see the time it begins. Drag each class to the clock that shows the correct start time.



ANIMAL HABITATS

You have \$1,000 to decorate the animal exhibits. Below are the different features you can purchase. You can purchase more than one of each feature. Consider what you learned about habitats, how much space is within each exhibit, and the budget. Drag an animal icon to each like in their exhibit. On the following slide, you will make a list of features to purchase.



Watering hole
\$120



Colorful plants



Sand
\$50



Tree
\$100



Climbing rocks
\$80



Tall grass
\$60



Tree
\$



Short grass

Drag me



CHALLENGE #3: PRIMATE CLASSES

You just built a new primate exhibit, and you want to offer classes to your visitors so they can learn about the monkeys, gorillas, and chimpanzees while visiting the zoo. The times each class begins are shown on the clocks below.



All About Apes



Primate Diets



Monkey Habitats

1. Are the times on the clocks shown in AM or PM? How do you know?

2. What time does All About Apes begin?

3. What time does Primate Diets begin?

4. What time does Monkey Habitats begin?

5. Each class is one hour long. What time does each class end?

All About Apes

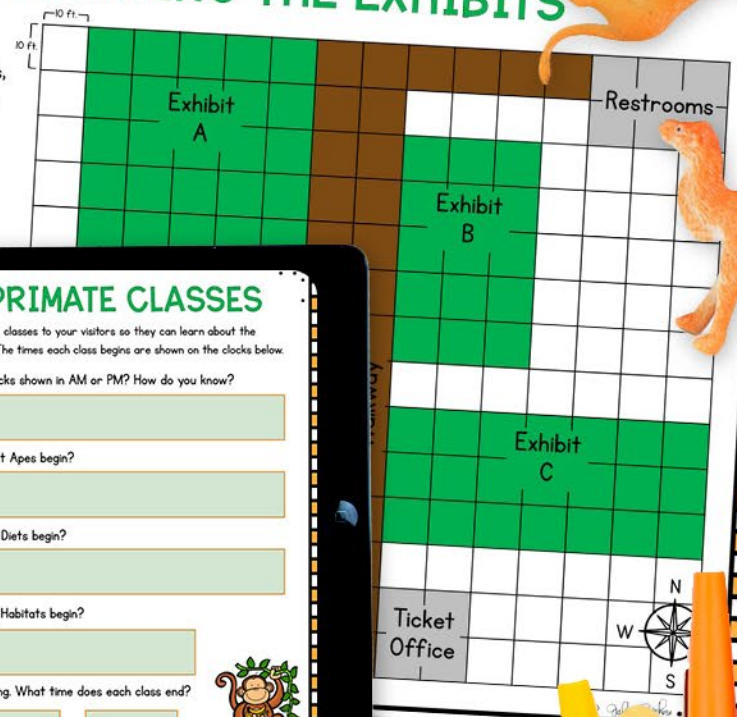
Primate Diets

Monkey Habitats



BUILDING THE EXHIBITS

Now that you've chosen your 4 animals, you must assign them to their exhibits. On this blueprint of the zoo, each square represents an area that is 10 feet long by 10 feet.



Aligned to Math Standards

ZOO BROCHURE


Now that your zoo is open, you need to attract visitors! You are going to publish a brochure to entice people to come to your zoo. Below, write a blurb to include in the brochure. Your goal is to make people want to come visit your zoo.

CHALLENGE #2: SNACK STAND

One of the ways you earn money at your zoo and keep your visitors happy is by running a snack stand. The menu for the snack stand is below. Answer the questions.

Soda.....	\$2
Hotdog.....	\$3
Popcorn.....	\$1.50
Pretzel.....	\$2.25
Popsicle.....	\$1

1. It costs the zoo \$1 to buy each hotdog from the hotdog supplier. The hotdogs come in packages of 24. What is the zoo's profit per package of hotdogs?

2. In one hour, the snack stand earned \$85 from selling soda and popsicles. How many sodas and popsicles could they have sold? Use the shape tool  to draw a diagram to show your thinking.

3. To attract more people to the snack stand, you offer a special deal where visitors can buy a popcorn and a pretzel together for \$3. If 5 people purchase popcorn and pretzels using this deal, how much less money did the snack stand earn than if they didn't offer the deal?

3. If meat for the lions costs \$100 per week?

Challenge Activities for Differentiation

ATTENDANCE

The pictograph below shows how many school groups had field trips to the zoo this spring. Use the information on the pictograph to answer the questions.

FIELD TRIPS AT THE ZOO

MARCH



4. How many more school groups visited ...

CHALLENGE #3: PRIMATE CLASSES

You just built a new primate exhibit, and you want to offer classes to your visitors so they can learn about the monkeys, gorillas, and chimpanzees while visiting the zoo. The times each class begins are shown on the clocks below.

1. Are the times on the clocks shown in AM or PM? How do you know?

CHALLENGE #3: PRIMATE CLASSES

The primate classes are so popular that you decide to offer classes about other types of animals, too. Under each clock name, you see the time it begins. Drag each class to the clock that shows the correct start time.



Nocturnal Critters

10:35 am

What's it like to be a Zookeeper?

1:15 pm

Big Cats

4:55 pm

Our Penguin Pals

9:40 am

Endangered Animals

3:25 pm

Animals of the Arctic

9:40 am

What time does each class end?

Primate Diets

Monkey Habitats



TABLE OF CONTENTS

1. Teacher and Student Directions
2. Choose Your Animals
3. Build the Exhibits (area and perimeter)
4. Animal Habitats (research, science, money)
5. Feeding Time (research, science, multiplication, repeated addition and subtraction)
6. Zoo Brochure (writing)
7. Zoo Attendance (money word problems)
8. Challenge #1 Reptile House (area and perimeter)
9. Challenge #2 Snack Stand (money word problems)
10. Challenge #3 Primate Classes (Schedule and Time)
11. Self Reflection and Rubric



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RESOURCE!

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requires that you make a copy of the
resource to your own Google Drive.

FOR THE TEACHER

BUILD A ZOO is a project-based learning task that involves using third grade math standards to solve problems related to building and maintaining a zoo. It is created for students in third grade. The following standards are addressed:

- 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
- 3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories
- 3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement
- 3.MD.C.6 Measure area by counting square units
- 3.MD.C.7. Relate area to the operations of multiplication and addition
- 3.MD.D.8 Solve real world and mathematical problems involving perimeters of polygons

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 extra challenge activities (optional).
5. Students will complete the self-evaluation reflection and evaluation rubric.
6. Allow students an opportunity to share their completed projects.

BUILD A ZOO







You have decided to open a zoo! It is your job to choose the animals in your zoo, build and design thoughtful enclosures for your animals to live in, keep your animals happy and healthy, and attract visitors to your zoo!

Here are your tasks:

- Read through the entire packet before beginning.
- Choose the animals for your zoo
- Create a blueprint of your zoo
- Calculate the area and perimeter of the animal exhibits
- Research and learn about your animals' natural habitats
- Recreate the animal habitats in the exhibits following a budget
- Research animal feeding habits in the wild
- Calculate how much food will be required to feed your animals
- Write a blurb for a brochure promoting your zoo and persuading people to visit
- Calculate profits for your zoo based on tickets sold
- Interpret data about zoo attendance
- (Optional) Complete the challenge pages
- Complete the self-reflection and evaluation rubric.

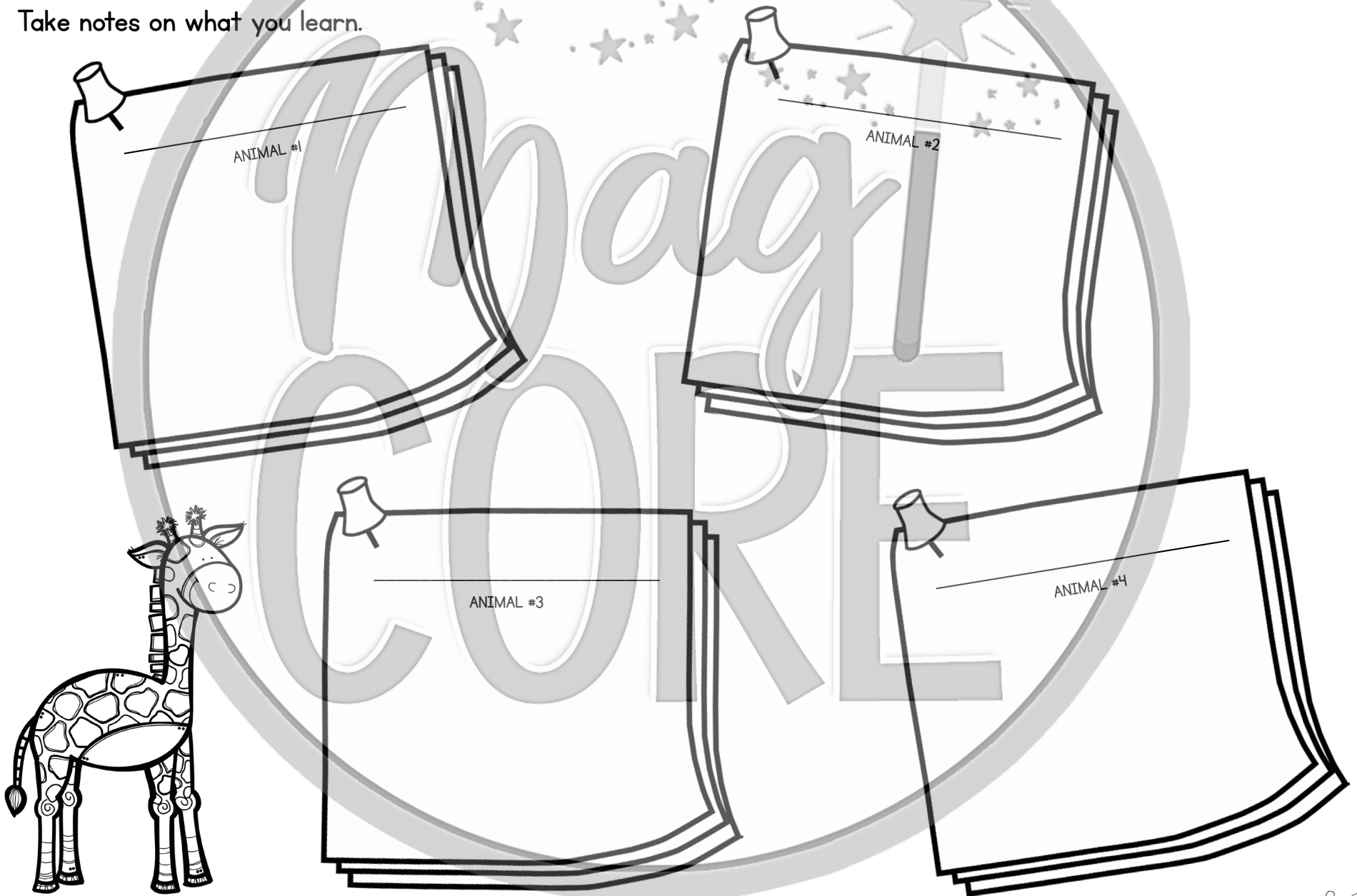
CHOOSING YOUR ANIMALS

Your first step is to choose which animals to feature in your zoo. Below are six animal types you can choose from. Think of pros and cons of including each animal type in your zoo. For example, you might consider if an animal will be exciting to visitors, or how difficult it might be to care for that type of animal. After weighing your options, choose 4 types of animal for your zoo. Circle the animals you chose.

Animal	Pros	Cons
Gorilla 		
Zebra 		
Giraffe 		
Crocodile 		
Flamingo 		
Lion 		

ANIMAL HABITATS

Now that the animal exhibits have been built, it is time to decorate them. You want to make each exhibit resemble the animals' natural habitat as closely as possible. Research in which type of habitat each animal lives in the wild. Take notes on what you learn.

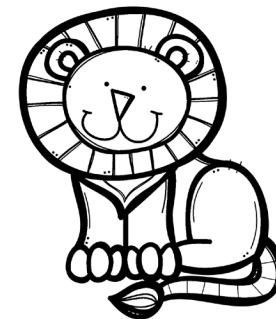


FEEDING TIME

The table below shows how much food one of each type of animal is fed per day. Use the data on the table to answer the questions.

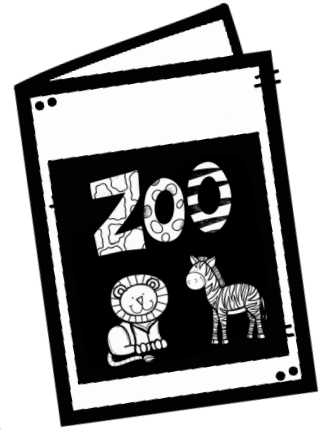
ANIMAL	Zebra	Giraffe	Lion	Flamingo	Gorilla	Crocodile
FOOD CONSUMED PER DAY	20 lbs.	70 lbs.	10 lbs.	1 lb.	60 lbs.	2 lbs.

1. How much does a giraffe eat in one week? Draw a model to show your thinking.
2. How much more does a gorilla eat in one week than a zebra eats in one week?
3. If meat for the lions costs \$20 a pound, how much would it cost to feed one lion for a week?



ZOO BROCHURE


Now that your zoo is open, you need to attract visitors! You are going to publish a brochure to entice people to come to your zoo. Below, write a blurb to include in the brochure. Your goal is to make people want to come visit your zoo.



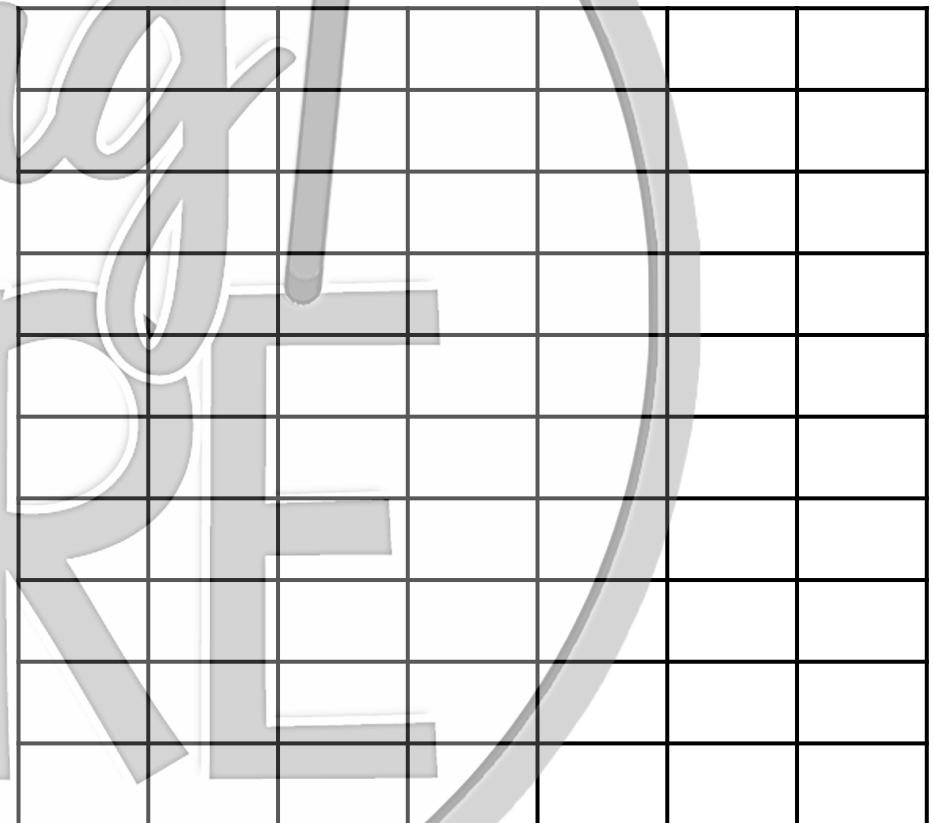
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CORE

ZOO ATTENDANCE

The clipboard below shows how many people were in attendance at the zoo last week. Plot the data on the bar graph below by coloring each bar a different color. Label all necessary parts.



Day	# of People at Zoo
Sunday	190
Monday	110
Tuesday	140
Wednesday	130
Thursday	150
Friday	160
Saturday	200



x-axis label

CHALLENGE #2: SNACK STAND

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1. It costs the zoo \$1 to buy each hotdog from the hotdog supplier. The hotdogs come in packages of 24. What is the zoo's profit per package of hotdogs?








2. In one hour, the snack stand earned \$85 from selling soda and popsicles. How many sodas and popsicles could they have sold? Draw a diagram to show your thinking.

3. To attract more people to the snack stand, you offer a special deal where visitors can buy a popcorn and a pretzel together for \$3. If 5 people purchase popcorn and pretzels using this deal, how much less money did the snack stand earn than if they didn't offer the deal?

CHALLENGE #3: PRIMATE CLASSES


The primate classes are so popular that you decide to offer classes about other types of animals, too. Make a schedule of classes by choosing in which order you want the classes to take place.

1. Cut out classes below and paste them in the desired order on the schedule on the following page.
2. Calculate and record the end time for the first class using the start time and duration.
3. For the second class, the start time is the same as the end time of the previous class. Repeat the steps above.
4. Continue calculating start and end times for all classes until you reach the end of the schedule. If you calculated correctly, the last class should end at 4 pm!

 Nocturnal Critters 40 minutes 	What's it like to be a Zookeeper? 1 hour 10 minutes
 Endangered Animals 45 minutes	Animals of the Arctic 55 minutes 
Our Penguin Pals 1 hour 5 minutes 	 Big Cats 50 minutes
 Tropical Bird Talk 35 minutes	Adorable Animal Babies 30 minutes

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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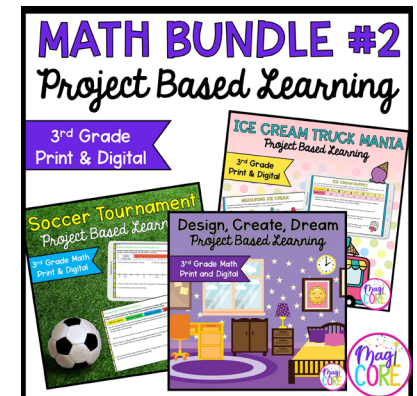
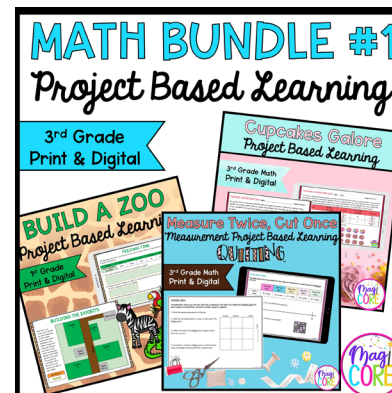
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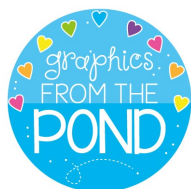
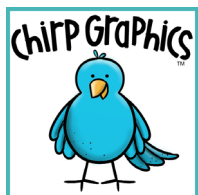


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