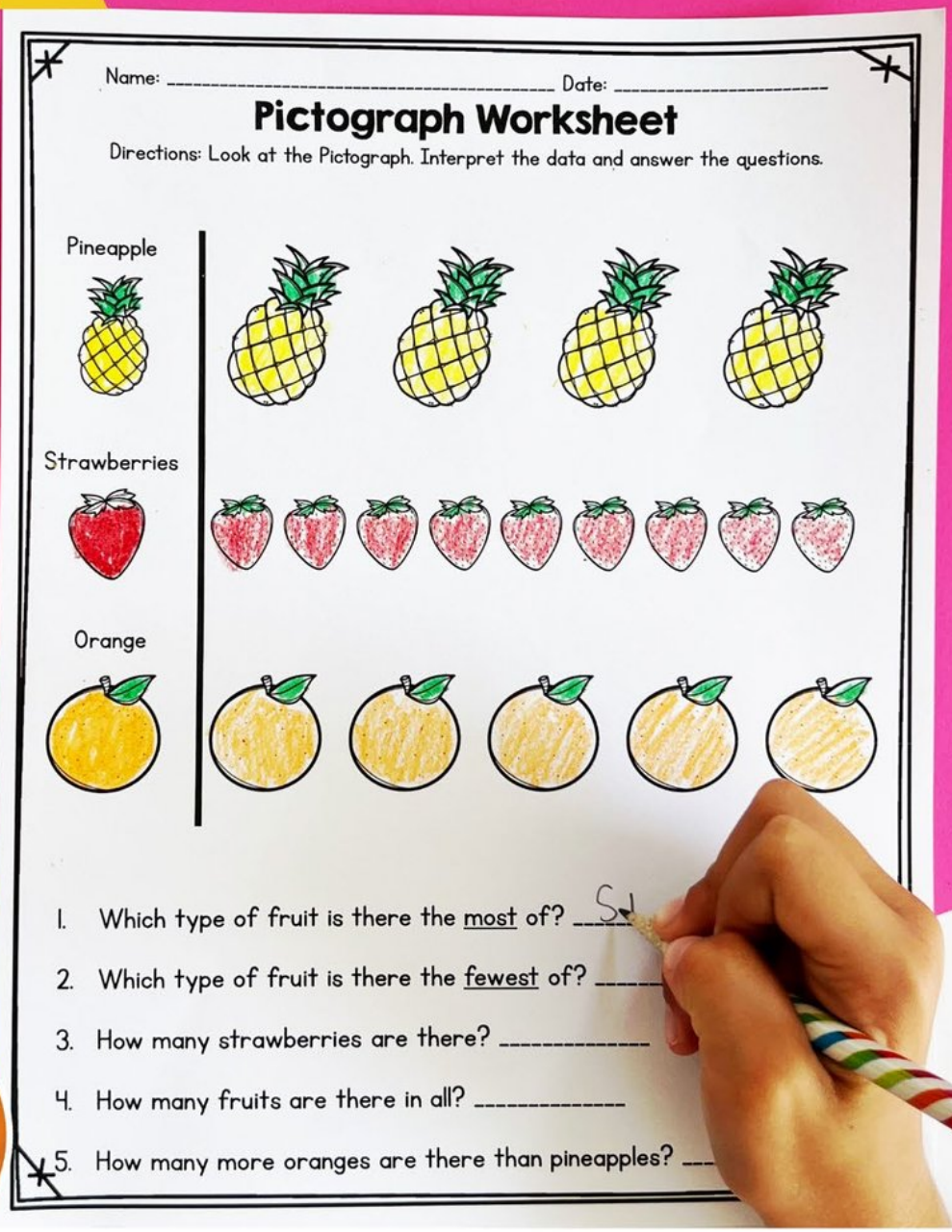
COLLECT AND INTERPRET DATA

Tallymarks & Pictographs

1ST GRADE

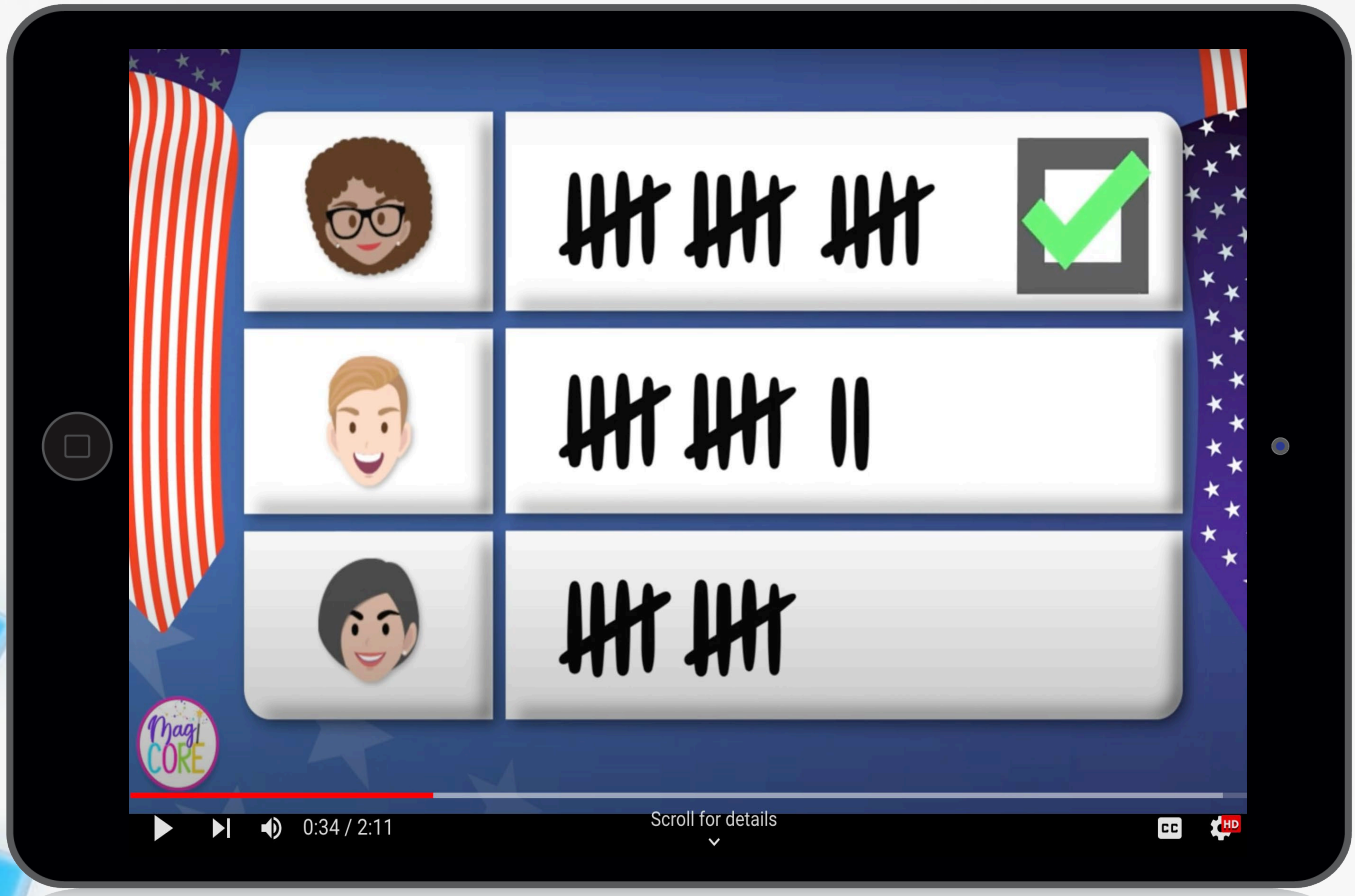


FLORIDA B.E.S.T. STANDARDS MA.1.DP.1.1

COMPLETE UNIT INCLUDES VIDEO SONG, ANCHOR CHARTS, WORKSHEETS, CENTERS, & ASSESSMENT

MagiCORE

Make Learning Fun!
Original song and video to introduce and reinforce the skill.




Date:
Tally Chart
Directions: Look at the images. Fill in the tally chart below based on the images. When you are finished with the chart, answer the questions about the data.
Category
Tallies
Frogs
Ladybugs
Butterflies


Pictograph Worksheet
Name
Pineapple
Strawberries
Orange
1. Which type of fruit is there the most of? STRAW
2. Which type of fruit is there the fewest of?
3. How many strawberries are there?
4. How many fruits are there in all?
How many more oranges are the


Let's Dive into Data
Organize, Represent, and Interpret Data
By: Madeline
Date:

COLLECT AND INTERPRET DATA

Tally Marks & Pictographs

1. Pedagogy
2. Lesson Plans
3. Vocabulary Cards
4. Data Song
5. Anchor Chart: Data
6. Day 1 Model Chart
7. Day 1 Guided Practice Chart
8. Make a Tally Worksheet
9. Day 2 Model Tally Chart
10. Tally Chart Template
11. Tally Chart Worksheet
12. Day 3 Model Pictograph
13. Pictograph Template
14. Pictograph Worksheet
15. Day 4 Model Word Problems
16. Mini-book
17. Taking Data - Tally Chart
18. Day 6 Model Tally Chart
19. Day 6 Model Pictograph
20. Tally Chart Half Sheet
21. Making Pictographs
22. Skittles Activity
23. Problem Solver
24. Data Scoot
25. Quiz

Collect & Interpret Data in Tally Marks and Pictographs

Understanding data is an essential part of understanding a problem and interpreting results. We gather data in formal and informal ways throughout our daily lives. Our students need to be able to gather data and organize it in an efficient and accurate manner, so the understanding of the data can be clear and useful. As students learn to represent data accurately, they are able to see the trends and meaning behind the data they have collected. This is an essential step in real-world problem solving and mathematical progression.

In this unit, students will begin by focusing on the data gathering and organizing part of the standard. Focus is places on using tally charts as a means of organization. Then, students will work on representing their data through tally charts, as well as pictographs. With these various forms of representation, students will be continuously challenged to interpret their data and deduce results from their data sets. The unit will challenge students to answer questions on total sum, individual data points, and comparative data. With mastering of data interpretation, the unit will also provide the students with the chance to create and gather their own research questions and data points.

Students will learn how to effectively and efficiently organize date in a meaningful and useful manner. Students will represent their data through a variety of methods, as well as accurately interpret data sets.

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Organize, Represent, & Interpret Data

Day 1: Introduce the concept of data and tallies

Mini Lesson: Introduce the purpose of the lesson today: to understand what data is, how it is measured, and how to use tallies to take data.

- Introduce the unit vocabulary.
- Introduce the Data Song.
- Explain to students that before we can start interpreting data, we have to know what data is, how it can be represented, and how to organize it.
- Introduce the "Data" Anchor Chart. Explain what data is, the different ways to collect data, and highlight the various charts we can use to represent data.
- Explain to students that they will be practicing making tallies today.
- Show the Day 1 Model Chart. Model making each of the chart values in tallies. Be sure to put emphasis on how you make a 5, and how you can count by 5s to count tallies.

Guided Practice: Show students the Day 1 Guided Practice Chart. As a class, work together to make the chart values in tallies.

Independent Practice: Students complete the "Tally Match" Worksheet.

Day 2: Tally Charts

Mini Lesson: Introduce the purpose of the lesson today: to record data and organize it using a tally chart.

- Review the unit vocabulary and watch the Data Song.
- Review the "Data" Anchor Chart; pointing out the parts of a chart: title, categories, data
- Have students review making tallies by putting the following numbers up on the board: 15, 7, 18. Ask students to come up and make the numbers in tallies.
- Explain to students that they will be learning about Tally Charts today.
- Show the Day 2 Model Tally Chart. Model using the data in the Tally Chart to answer the questions on the chart. (For the 4th question, be sure to model counting one at a time, and adding the tally sums).

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Day 2 continued . . .

Guided Practice: You will be making a tally chart as a class. Use the Tally Chart template or make your own. You will be charting favorite read-aloud books. Write in the 3 most recent read-alouds that your class has done. Ask students to come up and make a tally for their favorite read-aloud. Be sure to guide the student who finishes a group of 5. Work as a class to answer the following questions:

- Which book got the most votes? Which book got the fewest votes? How many votes did "Book I" get? How many people voted in all?

Independent Practice: Students complete the "Tally Chart" Worksheet.

Day 3: Pictographs

Mini Lesson: Introduce the purpose of the lesson today: to interpret data using a pictograph.

- Review the unit vocabulary and the Data Song.
- Review the "Data" Anchor Chart; pointing out the parts of a graph: title, categories, data
- Explain to students they will be working with pictographs today.
- Explain that a pictograph is similar to a bar graph, only we use pictures to represent the data.
- Show the Day 4 Model Pictograph. Model using the data in the pictograph to answer the questions on the chart.

Guided Practice: You will make a pictograph as a class using image cards. Use the Pictograph template or make your own. You will be graphing favorite animals. The template has lions, horses, and dolphins. Cut out the animal cards before hand. Ask each student to come up and pick the animal they like the most and tape their animal's picture in the graph. Arrange the image cards so they are going left to right. After the graph is complete, answer the following questions as a class:

- Which animal got the most votes? Which got the fewest? How many people voted for "horses"? How many students voted in all? How many more votes did "top animal" get than "lowest animal"?

Independent Practice: Students complete the "Pictograph" Worksheet.

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Day 4: Graphing and word problems

Mini Lesson: Introduce the purpose of the lesson today: to solve word problems about data.

- Review the unit vocabulary cards and the Data Song.
- Review the "Data" Anchor Chart.
- Explain to students that when we look at data, we want to understand what it is telling us. Remind students that they have already been practicing answering many of the questions.
- Use the Day 5 Word Problems Model Chart. Model interpreting the data and answering the questions.

Guided Practice: Show students the mini-book. Read through some of the word problems.

Independent Practice: Students complete the mini-book.

Day 5: Making Tally Charts

Mini Lesson: Introduce the purpose of the lesson today: to use organize data.

- Review the unit vocabulary, the Data Song, and the "Data" Anchor Chart.
- Explain that students will be taking data in a tally chart..
- Using the Tally Chart Template from Day 2, model taking tally data from students on favorite recess activities. Narrate as you write the title, then pick and write in 3 of your class's favorite activities. Model how to ask to take the student data and complete the tally chart:
    - Which activity received the most votes? Which activity got the fewest? How many more votes did (activity 1) get than (activity 2)? How many fewer votes did (activity 3) get than (activity 1)? How many students voted in all? How many students voted for activity 2?

Guided Practice: Guide students through the data collection process and model how to ask. For independent practice, they will be answering the questions on their charts. Pass out the student "Taking Data- Tally Chart" worksheet. Guide students through writing in the title of their chart, "What is your favorite color?" Then, tell students to pick their three colors they will take data on. Have the students write in those 3 colors in their tally chart. Once students have their tally charts set up, allow students time to circulate and take tallies as they collect data from each other.

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Day 5 continued . . .

Independent Practice: Students will answer the questions on their Tally Chart worksheet. Make sure students know what "option" means and go over question #5.

Day 6: Making Pictographs

Mini Lesson: Introduce the purpose of the lesson today: to use organize data in pictographs.

- Review the unit vocabulary and the Data Song.
- Review the "Data" Anchor Chart; make sure to highlight the title and categories.
- Explain to students they will be making pictographs!
- Use the Day 6 Model Tally Chart and Pictograph. First, label the pictograph and write in the categories. Model looking at the tally chart and using that data to help you make the pictograph. Make the images by either using stickers as representation or drawing basic shapes to represent. Then, model answer the questions from the Tally Chart page.

Guided Practice: Pass out the "Making Pictographs" worksheet and the "Tally Chart Half Sheet" to each student. Let students know that they will be using the tally chart data to make a pictograph. Have students use either shape stickers or they can draw symbols to represent each category.

Independent Practice: Students will answer the data questions about their pictographs.

Day 7: Review

Mini Lesson: Introduce the purpose of the lesson today: to use organize, represent and interpret data.

- Review the unit vocabulary and the Data Song.
- Review the "Data" Anchor Chart; make sure the highlight the title and categories.
- Remind students of all the charting and graphing work they have been doing.
- Introduce students to the "Skittles Data" activity. (You will need bags of skittles for this).

Guided Practice: Students complete the "Skittles Data" activity.

Independent Practice: Students complete the problem solver.

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Day 8: Organize, Represent, and Interpret Data

Mini Lesson: Introduce the purpose of the lesson today: to use organize, represent and interpret data.

- Review the unit vocabulary, the Data Song, and "Data" Anchor Chart.

Guided Practice: Students complete the "Data Scoot."

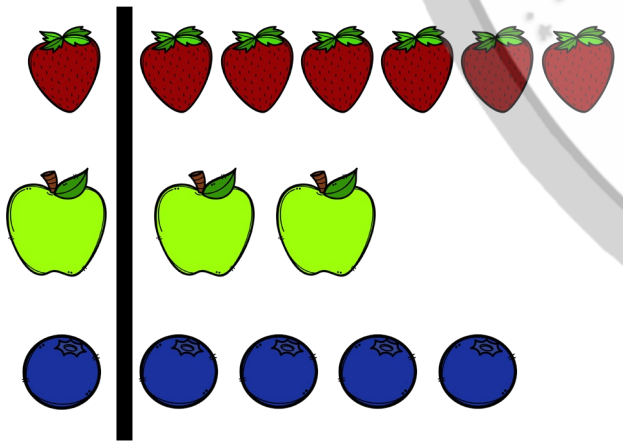
Independent Practice: Organize, Represent, and Interpret Data Quiz.

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Tallies



Pictograph



Data

Name	Data
Joe	12
Lamar	10
Evie	5

©Julie Bochese

Data Song

Data data
Read the data
Data data
Read the data
Data tells us statistics and facts
It shows us the info we have

Just like a tally chart
Showing our data in all marks
The tallies and the category
Give us the data and tell the story

Data data
Read the data
Data data
Read the data
Data tells us statistics and facts
It shows us the info we have

And we have the bar graph too
The bars will tell you what is true
small ones are less, and big bars more
The length tells the data for sure







©Julie Bochese

Data data
Read the data
Data data
Read the data
Data tells us statistics and facts
It shows us the info we have

And the pictograph is so easy
Just look at the images that you see
They represent all the different amounts
The pictures tell us what it's all about

Data data
Read the data
Data data
Read the data
Data tells us statistics and facts
It shows us the info we have
Data data
Read the Data
Data data
Read the data

©Julie Bochorse

Data

Data is a set of facts or statistics collected together. We can organize it, represent it, and interpret it in many ways.

Tally Charts

Title

What is your favorite salad dressing?

Choices/Options

CATEGORY	DATA
Ranch	
Caesar	
Olive Oil	

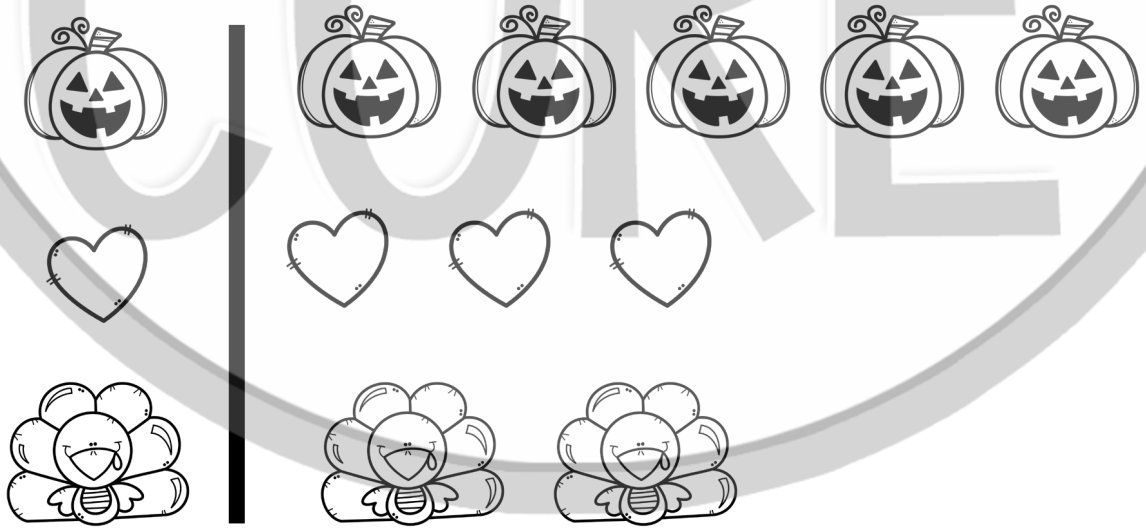
Number of votes

Pictograph

Title

What is your favorite Holiday?

Choices/Options



Number of votes

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Day 1 Model Chart

What is your eye color?

Category	Number	Tallies
Blue	5	
Green	8	
Brown	14	

©Julie Brinson

Name: _____ Date: _____

Make a Tally

Directions: Finish the sandwiches! Help finish the sandwiches by looking at the number on the first slice, and then writing that number in tallies on the second slice.

1.



2.



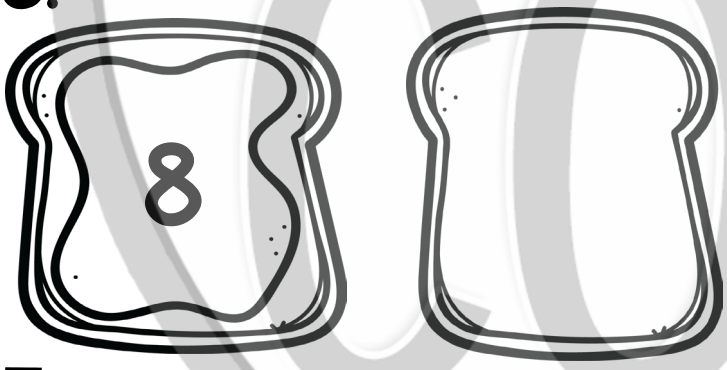
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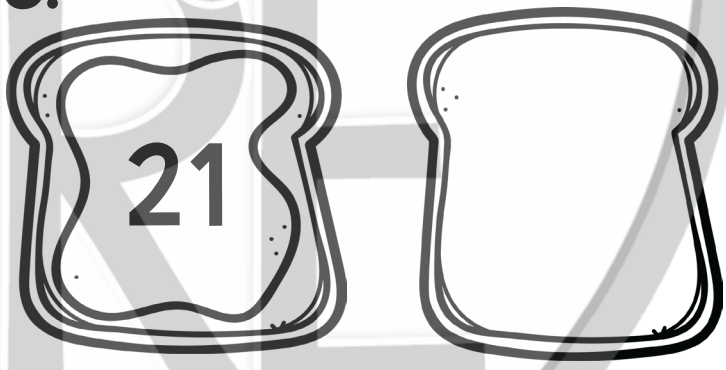
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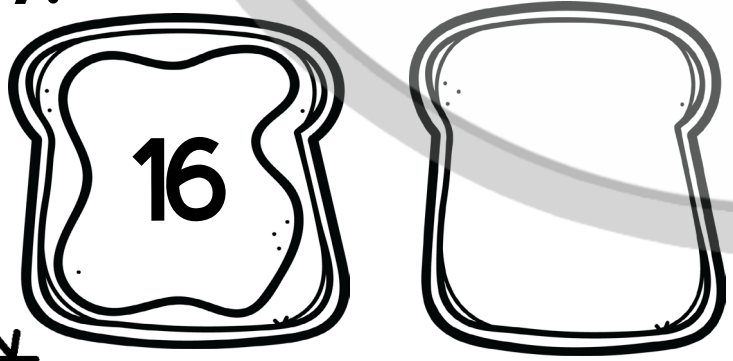
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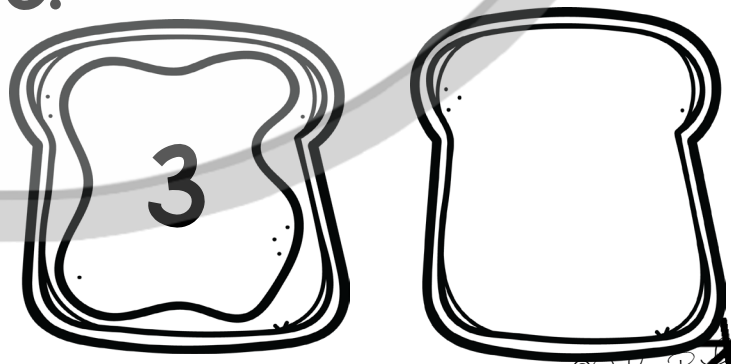
6.



7.



8.



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Name: _____ Date: _____

Make a Tally

Directions: Finish the spaghetti! Help finish the spaghetti by looking at the number on the first pasta, and then writing that number in tallies on the meatball.

1.



2.



3.



4.



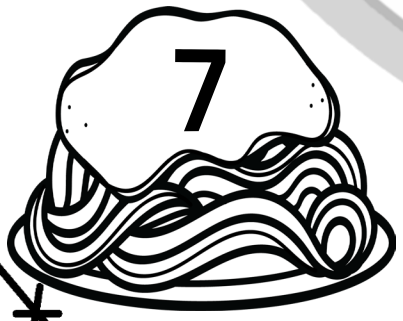
5.



6.



7.



8.

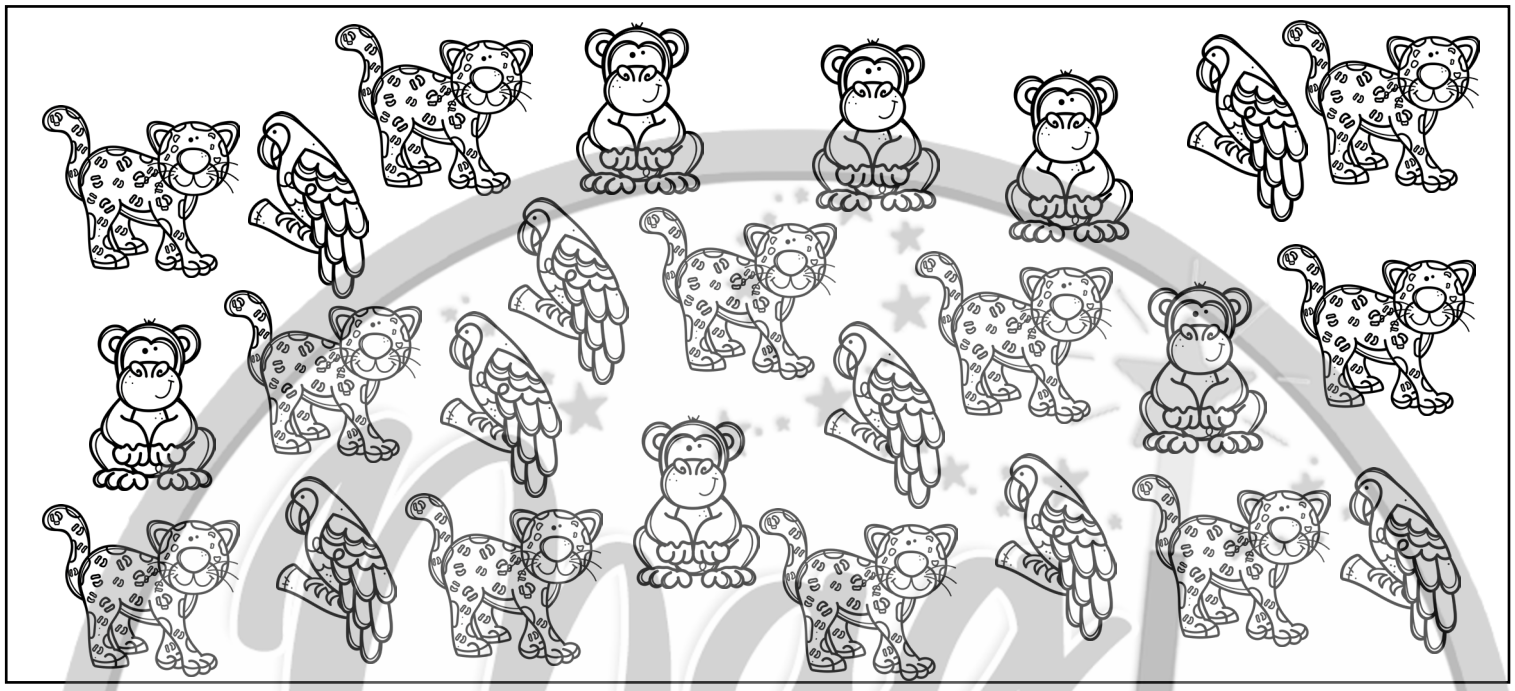


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Name: _____ Date: _____

Tally Chart

Directions: Look at the images. Fill in the tally chart below based on the images. When you are finished with the chart, answer the questions about the data.



Category	Tallies
Macaw	
Jaguar	
Chimpanzee	

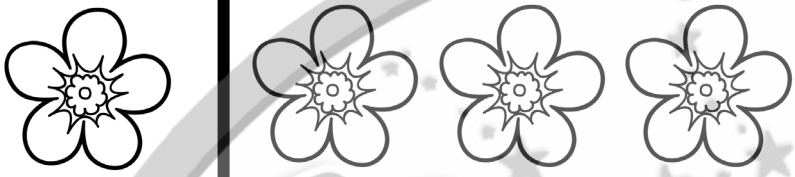
1. Which type of animal is there the most of? _____
2. Which type of animal is there the fewest of? _____
3. How many jaguars are there? _____
4. How many animals are there in all? _____

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Day 3 Model Pictograph

Flowers in the Garden

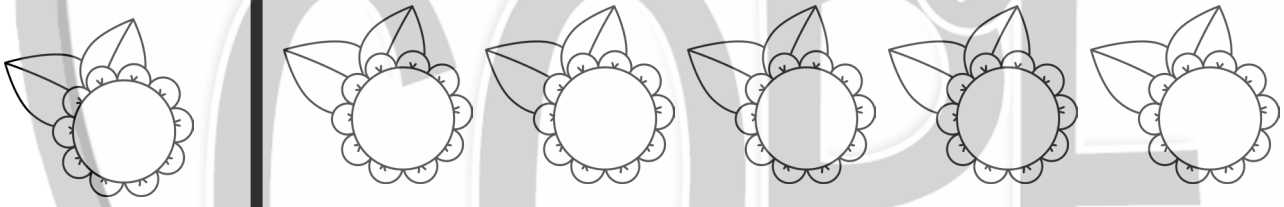
Violet



Daffodil



Sunflower



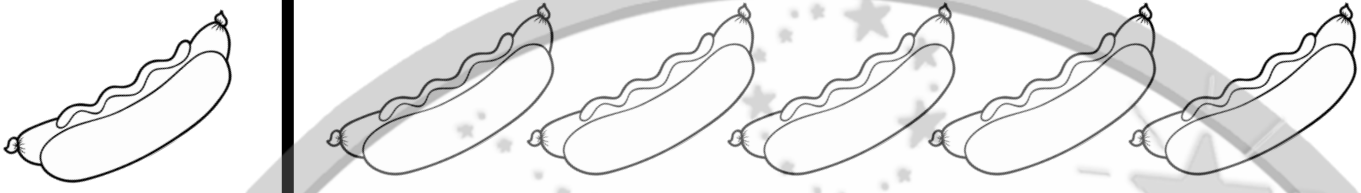
1. Which type of flower is there the most of? _____
2. Which type of flower is there the fewest of? _____
3. How many daffodils are there? _____
4. How many flowers are there in all? _____
5. How many more sunflowers are there than violet? _____

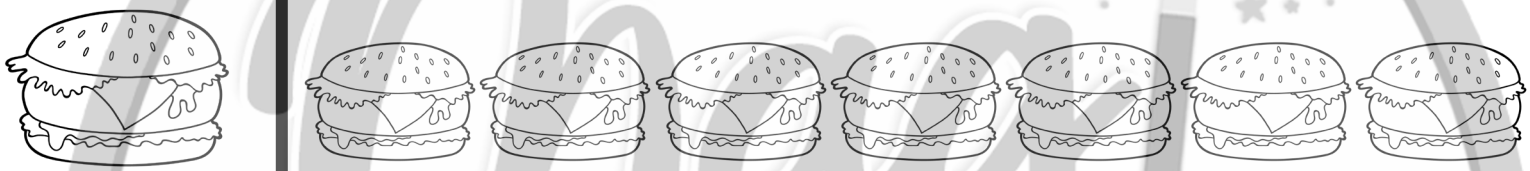
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Name: _____ Date: _____

Pictograph Worksheet

Directions: Look at the Pictograph. Interpret the data and answer the questions.

Hot dog 

Burger 

Pizza 

1. Which type of food is there the most of? _____
2. Which type of food is there the fewest of? _____
3. How many burgers are there? _____
4. How many foods are there in all? _____
5. How many more pizzas are there than hot dogs? _____

©Julie Brenoso

Let's Dive into Data

Organize, Represent, and Interpret Data



By: _____

Date: _____

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Data can be organized and represented in different ways.

Tally Charts

What is your favorite dressing?

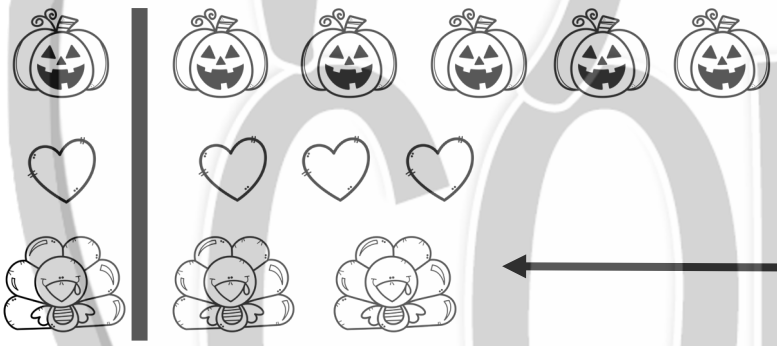
CATEGORY	DATA
Ranch	𝍸 ||
Caesar	𝍸
Olive Oil	𝍸 𝍸 𝍸

Fewest

Most

Pictograph

What is your favorite Holiday?



Most

Fewest

Organizing data makes it easier to understand and answer questions about data.

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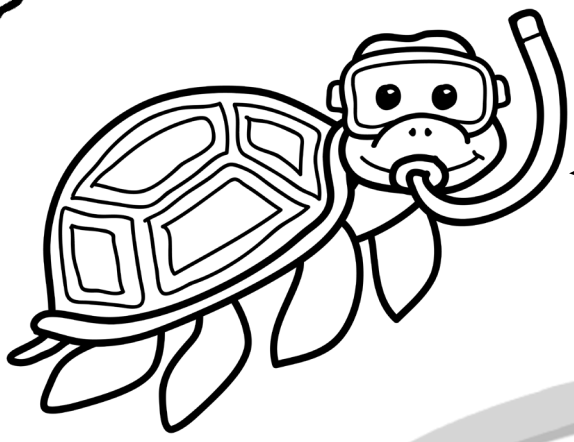
Look at the tally chart. Interpret the data in the tally chart and use the data to answer the questions!

How many sea creatures are in the fish tank?

ANIMAL	DATA
Clownfish 	𝍸 |||
Starfish 	𝍸 𝍸 𝍸 𝍸
Pufferfish 	𝍸 𝍸 𝍸 ||

1. Which type of sea creature is there the most of? _____
2. Which type of sea creature is there the fewest of? _____
3. How many pufferfish are there? _____
4. How many sea creatures are there in all? _____
5. How many more starfish are there than clownfish? _____
6. How many clownfish and pufferfish are there? _____

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Look at the tally chart. Interpret the data in the tally chart and use the data to answer the questions!

Shell Collection



1. Which type of shell is there the most of? _____
2. Which type of shell is there the fewest of? _____
3. How many of shell 3 are there are there? _____
4. How many shells are there in all? _____
5. How many shell 2s and shell 3s are there? _____
6. How many fewer of shell 1 is there than shell 2? _____

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Name: _____ Date: _____

Taking Data - Tally Chart

Directions: Write in the title and the options for your tally chart. Circulate the class and gather data using tally makes. Once you have collected all your data, answer the questions below the chart.

Title:

Choice	Data

1. Which option got the most votes? _____
2. Which option got the fewest votes? _____
3. How many voted for option 2? _____
4. How many students voted in all? _____
5. Subtract the option with the fewest votes from the option with the most votes, what is the difference? _____

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Name: _____ Date: _____

Skittles Data Activity

Directions: Open your bag of skittles. Group the skittles by color and then fill in the tally chart to organize the data.

My Skittles

Color	Tallies
RED	
YELLOW	
GREEN	
PURPLE	
ORANGE	

©Julie Brown

Name: _____ Date: _____

Skittles Data Activity

Directions: Once you have tallied up your Skittles, use the data to make a pictograph. Use different colored crayons to draw circles for the Skittles. Then, use the graph to help you answer the questions.

My Skittles

RED	
YELLOW	
GREEN	
PURPLE	
ORANGE	

1. Which color is there the most of? _____
2. Which color is there the least of? _____
3. How many Green Skittles are there? _____
4. How many Skittles are there in all? _____
5. Subtract the color with the lowest number from the color with the highest number. What is the difference? _____
6. How many orange and red Skittles are there? _____

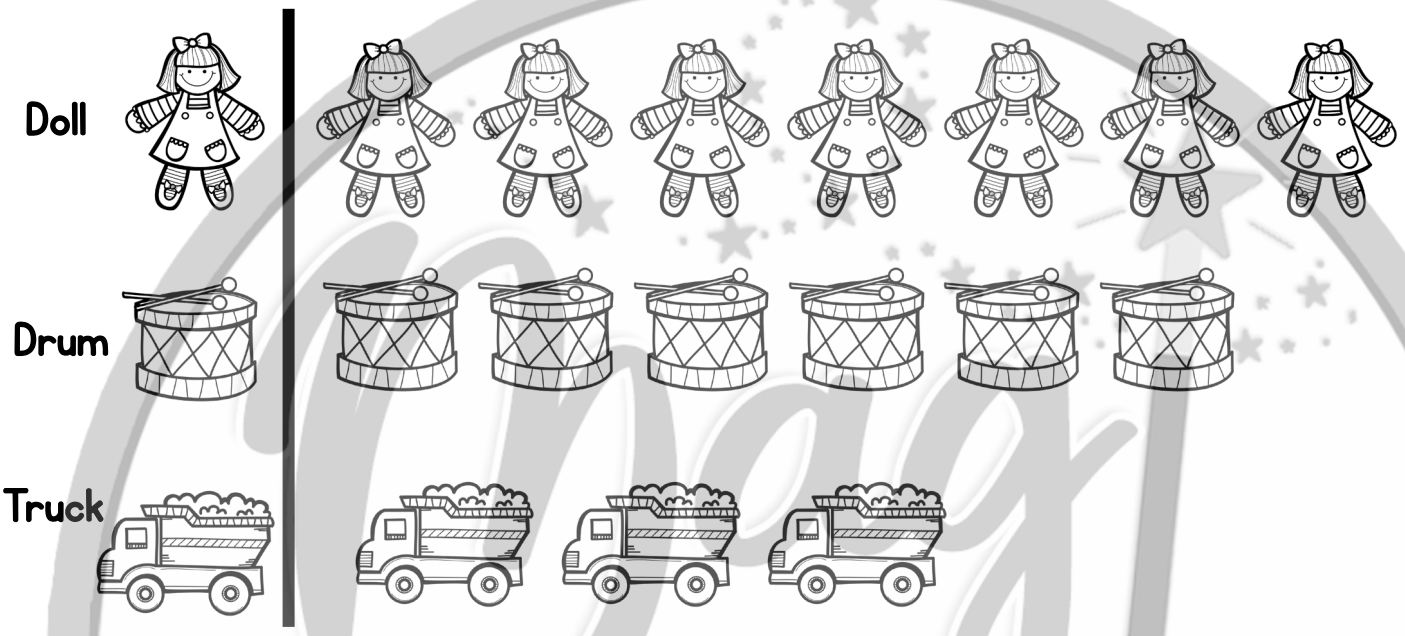
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Name: _____ Date: _____

Problem Solver

Look at the graph. Use the graph to help you answer the questions.

Favorite Toy



1. Which toy got the <u>most</u> votes? _____
2. Which toy got the <u>fewest</u> votes? _____
3. How many voted for the drum? _____
4. How many students voted in all? _____
5. How many more students voted for the doll than the truck?

_____

©Julie Bochese

Name: _____ Date: _____

Data Scoot!

Directions:

1. Place one card at each student seat.
2. Pass out the answer sheet to each student. (You can also have them number a piece of notebook paper)
3. Students begin answering the question at their seat and recording the answer on the corresponding sheet.
4. When most students are done say "scoot" and students should move to the next seat (review with students how they should rotate before beginning.) Be sure they take their answer sheets with them!
5. Continue rotating until each student has answered each question.

*These cards can also be used as Task Cards in a center.

©Julie Rose

Name: _____ Date: _____

Data Scoot!

Directions: Record your answer to each card on the line that matches the card number.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____

Score: ____/16

©Julie Bochorse

1

Favorite Fruit

Fruit	DATA
Banana 	𝍸 𝍸 | | |
Peach 	𝍸 | |
Raspberry 	𝍸 𝍸 𝍸 𝍸 | | | |

Which fruit got the <u>most</u> votes?

2

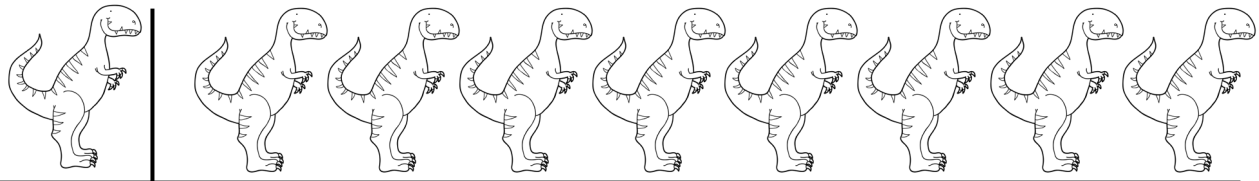
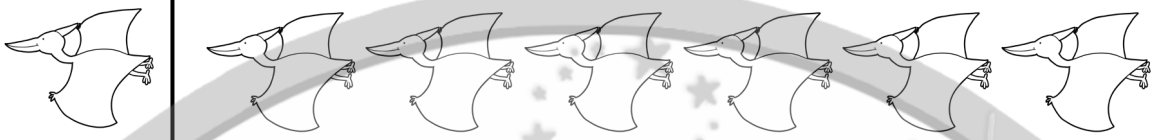
Favorite Fruit

Fruit	DATA
Banana 	𝍸 𝍸 | | |
Peach 	𝍸 | |
Raspberry 	𝍸 𝍸 𝍸 𝍸 | | | |

Which fruit got the <u>least</u> votes?

9

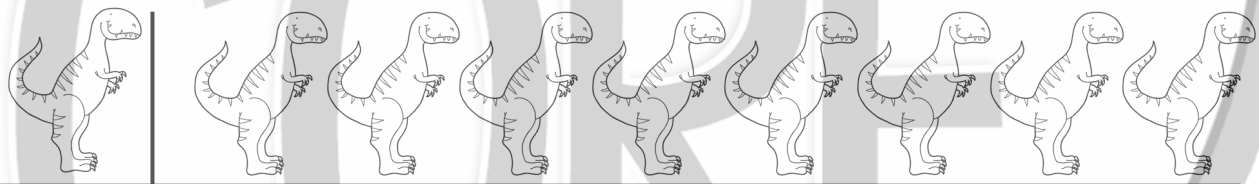
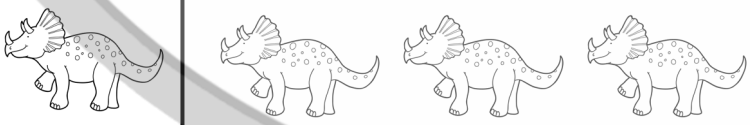
Favorite Dinosaur

Dino 1	
Dino 2	
Dino 3	

Which dinosaur got the <u>most</u> votes?

10

Favorite Dinosaur

Dino 1	
Dino 2	
Dino 3	

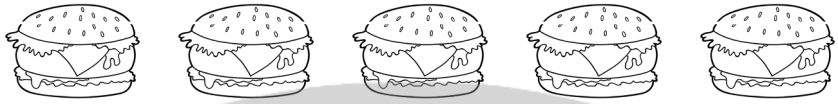
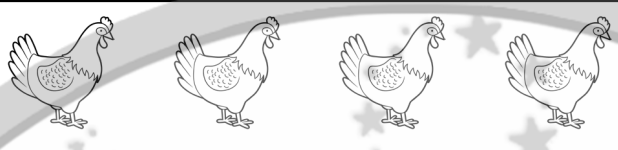
Which dinosaur got the <u>fewest</u> votes?

Name: _____ Date: _____

Data Quiz

1. Use this pictograph to help you fill in the tally chart.

Favorite Lunch Item

Hamburger	
Chicken Nuggets	
Pizza	

Lunch Item	Tallies
Hamburger	
Chicken Nuggets	
Pizza	

Answer the following questions about the data in your tally chart:

2. Which lunch item got the most votes? _____
3. How many students voted for chicken nuggets and pizza? _____
4. Which lunch item got the fewest votes? _____
5. How many more students chose pizza over hamburgers? _____
6. How many students chose chicken nuggets as their favorite lunch item? _____
7. How many students voted in all? _____
8. How many fewer votes did chicken nuggets get than hamburgers? _____
9. Which lunch item got 5 votes? _____

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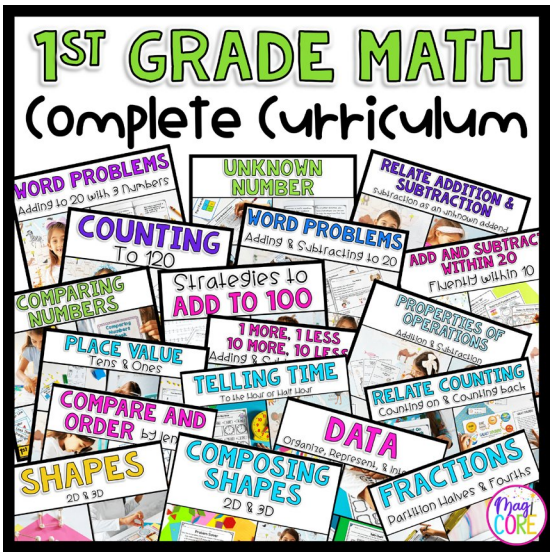
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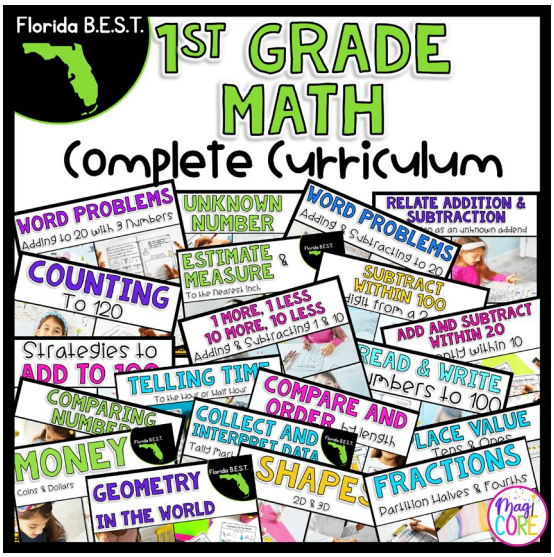
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