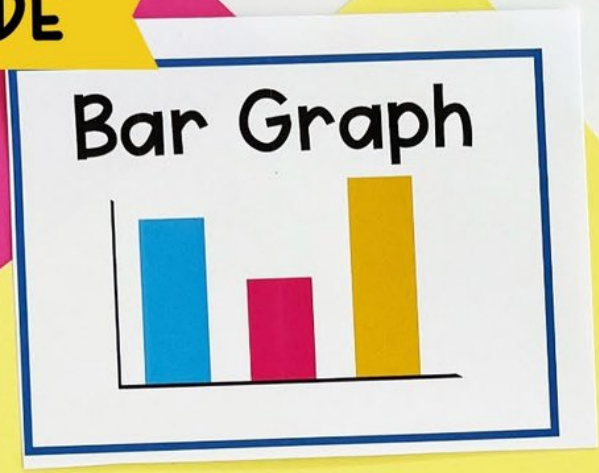
DATA

Organize, Represent, & Interpret

1ST GRADE





Data

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

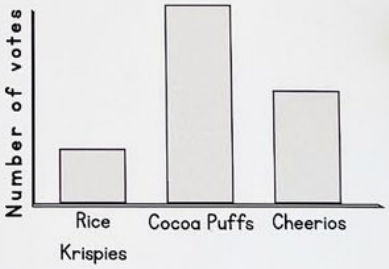
Tally Charts

What is your favorite dressing?

CATEGORY	DATA
Ranch	
Caesar	
Olive Oil	

Bar Graphs

What is your favorite cereal?

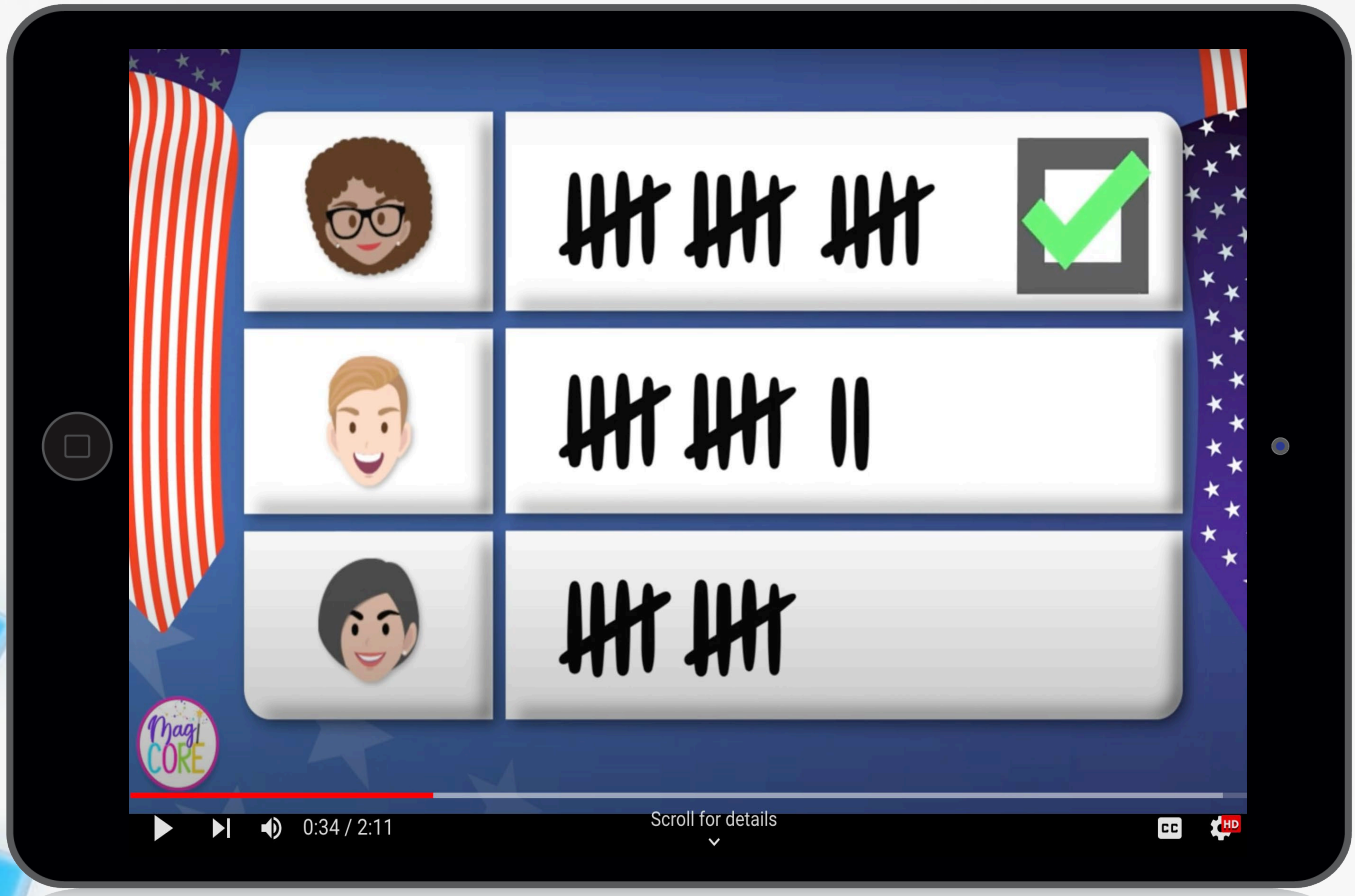


CCSS ALIGNED 1.MD.4.

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

Magic CORE

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




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:

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? _____
Which lunch item got the fewest votes? _____
How many more students chose pizza over hamburgers? _____
How many students chose chicken nuggets as their favorite lunch
How many students voted in all? _____
How many fewer votes did chicken nuggets get than hamburge
Which lunch item got 5 votes? _____

Name: _____

Data Quiz

1. Use this tally chart to help you create a bar graph.

Lunch Item	Tallies
Hamburger	𝍸
Chicken Nuggets	III
Pizza	𝍸 𝍸

Favorite Lunch Item

Number of Students

Hamburger | Chicken Nuggets | Pizza

Answer
about t

2. Which lun
number o
3. How many
nuggets an
4. Which lunch
number of
5. How many m
over hamburg
6. How many stu
nuggets as the
_____
7. How many stud
_____
8. How many fewe
nuggets get than
_____
9. Which lunch item
_____

DATA

Organize, Represent, & Interpret

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 Bar Graph
13. Bar Graph Template
14. Bar Graph Worksheet
15. Day 4 Model Pictograph
16. Pictograph Template
17. Pictograph Worksheet
18. Day 5 Model Word Problems
19. Mini-book
20. Making Graphs - Taking Data
21. Making Graphs - Bar Graphs
22. Skittles Activity
23. Problem Solver
24. Data Scoot
25. Quiz

Organize, Represent, & Interpret Data

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 placed on using tally charts as a means of organization. Then, students will work on representing their data through tally charts, bar graphs, and 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. Along with mastery 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 data 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.

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 read. 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 1" get? How many people voted in all?

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

Day 3: Bar Graphs

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

- 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 bar graphs today.
- Explain how a bar graph can go up and down or left to right. One square is equivalent to one vote.
- Show the Day 3 Model Bar Graph. Model using the data in the bar graph to answer the questions on the chart. (For the 4th question, be sure to model counting one at a time, and adding the category sums).

Guided Practice: You will make a bar graph as a class using sticky notes. Use the Bar Graph template or make your own. Pass out a sticky note to each student. You will be graphing favorite ice cream flavors. Write in 3 flavors you think most of your students would enjoy. Ask each student to come up and place their sticky note in the category of their choice. Arrange the sticky notes so they are going up and down. After the graph is complete, answer the following questions as a class:

- Which ice cream flavor got the most votes? Which got the fewest? How many people voted for "flavor 2?" How many students voted in all? How many more votes did "top flavor" get than "lowest flavor?"

Independent Practice: Students complete the "Bar Graph" Worksheet.

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Day 4: 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 beforehand. 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.

Day 5: 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.

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Day 6: Making graphs

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

- Review the unit vocabulary, the Data Song, and the "Data" Anchor Chart.
- Explain to students they will be taking data and creating their own bar graphs today.
- Explain that students will be taking data in a tally chart, then using the tally data to create a bar graph.
- Using the Tally Chart Template, model taking tally data from students on favorite recess activities. Narrate as you pick and write in 3 of your class's favorite activities. Model how to take the student data. Then, using the Bar Graph Template, write in the categories and title, then shade the number of squares to represent each data point.

Guided Practice: Guide students through the data collection process and model how to ask. For independent practice, they will make their bar graphs and answer questions. Students will be taking data on "What is your favorite color?" Pass out the student "Making Graphs – Taking Data" worksheet. Guide students through writing in the title of their chart, "What is your favorite color?" Then, tell students to pick the three colors they will take data on. Have the students write 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.

Independent Practice: Pass out the "Making Graphs – Bar Graph" worksheet. Remind students that they need to use the data from their tally chart to make the bar graph. Also remind students to write in the title of their graph and the 3 color categories. Make sure students know what "option" means and go over question #5. Students will make their bar graphs and answer the data questions.

Day 7: Making graphs

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

- 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 graphs again! Today, they will be choosing from 3 possible topics:
    - What is your favorite pet?
    - What is your favorite season?
    - What is your favorite dessert?

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Day 7 continued . . .

Guided Practice: Guide students in selecting which of the 3 topics they will take data on. Pass out another of the worksheets from yesterday, "Making Graphs – Taking Data." Once students have selected their question, have them write it in as the title. Then, instruct students to select their 3 categories and write those into the tally chart. Once everyone has their charts set up, allow students time to circulate the classroom and collect tally chart data from one another.

Independent Practice: Pass out the "Making Graphs – Bar Graph" worksheet. Remind students that they need to use the data from their tally chart to make the bar graph. Also remind students to write in the title of their graph and the 3 color categories. Make sure students know what "option" means and go over question #5. Students will make their bar graphs and answer the data questions.

Day 8: 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.

Day 9: Organize, Represent, and Interpret Data

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

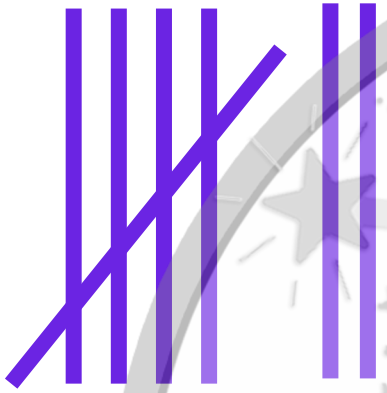
- Review the unit vocabulary, the Data Song, and "Data" Anchor Chart.

Guided Practice: Students complete the "Data Scoot."

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

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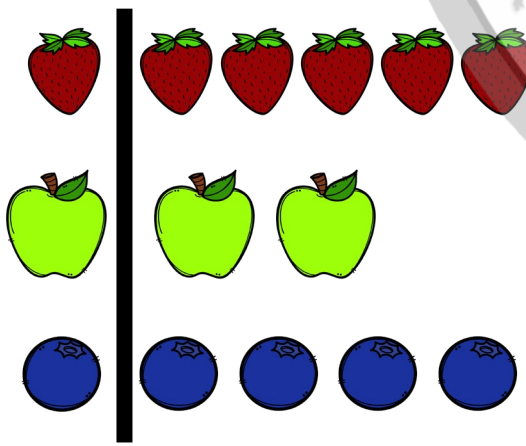
Tallies



Bar Graph



Pictograph



Data

Name	Data
Joe	12
Lamar	10
Evie	5

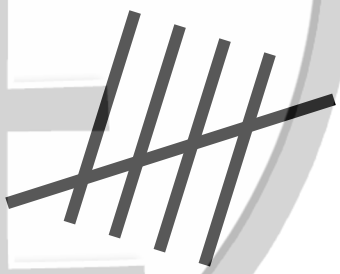
©Julie Bochese

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.

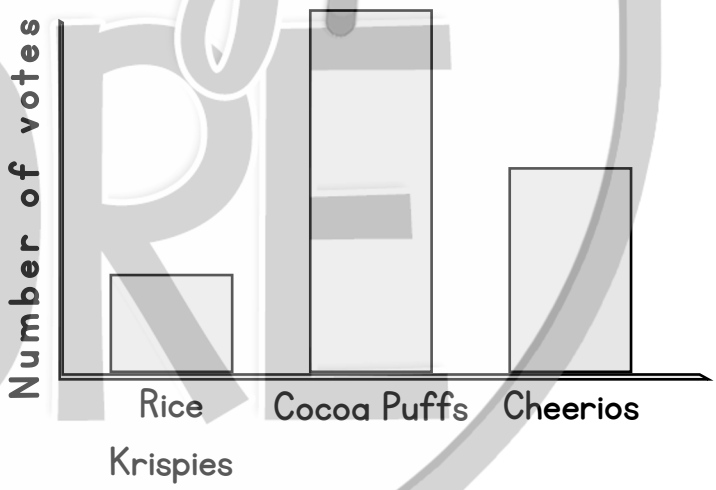
Tally Charts

What is your favorite dressing?

CATEGORY	DATA
Ranch	
Caesar	
Olive Oil	

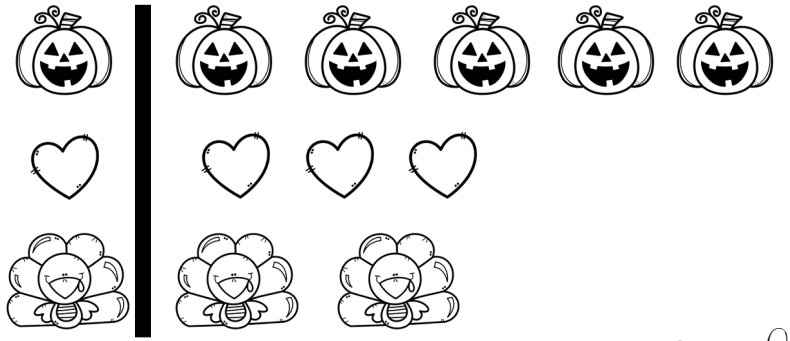
Bar Graphs

What is your favorite cereal?



Pictograph

What is your favorite holiday?



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Day 1 Model Chart

What is your eye color?

Category	Number	Tallies
Blue	5	
Green	8	
Brown	14	

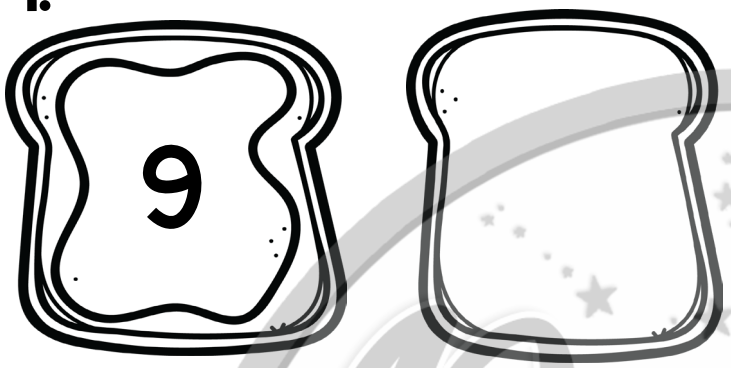
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Name: _____ Date: _____

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.



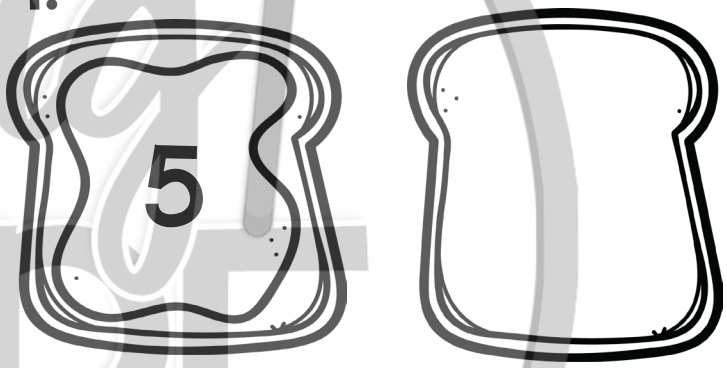
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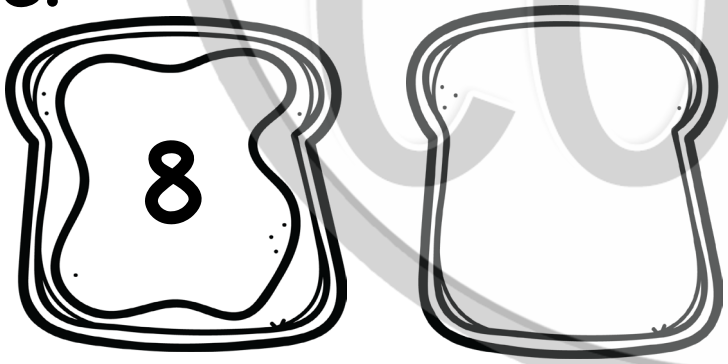
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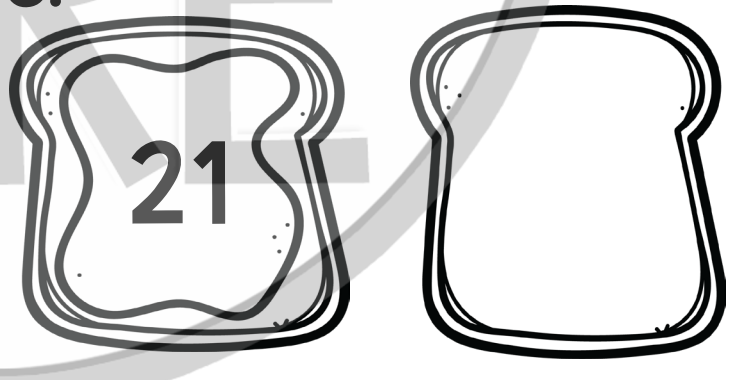
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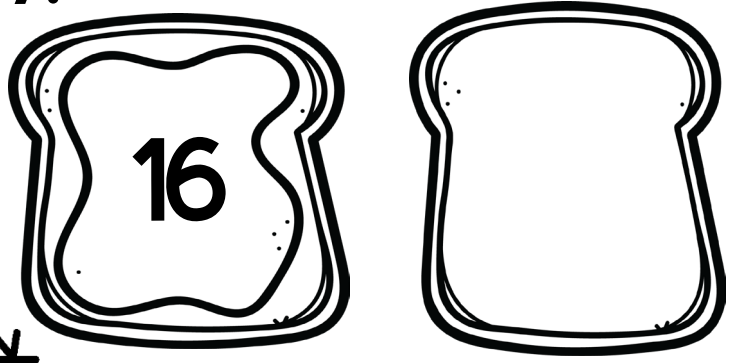
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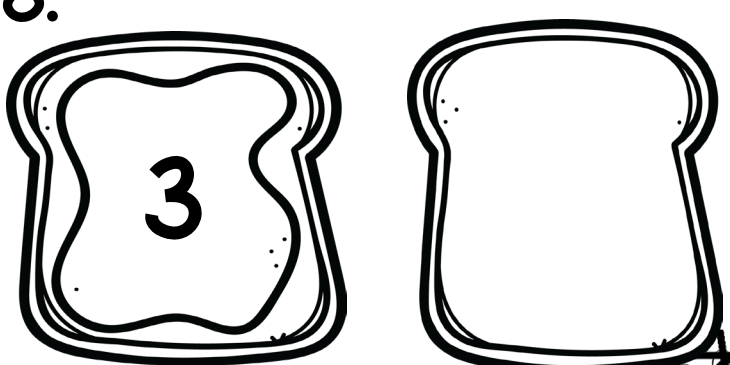
6.



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.



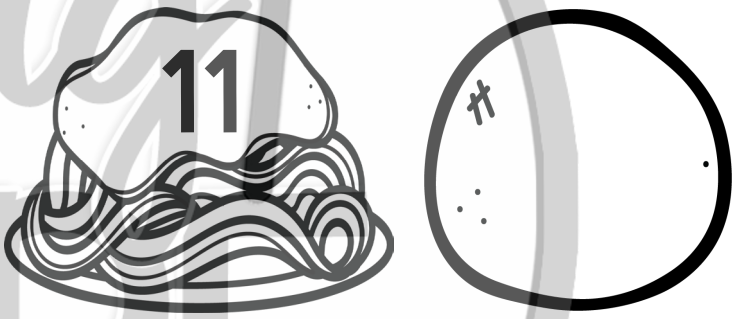
2.



3.



4.



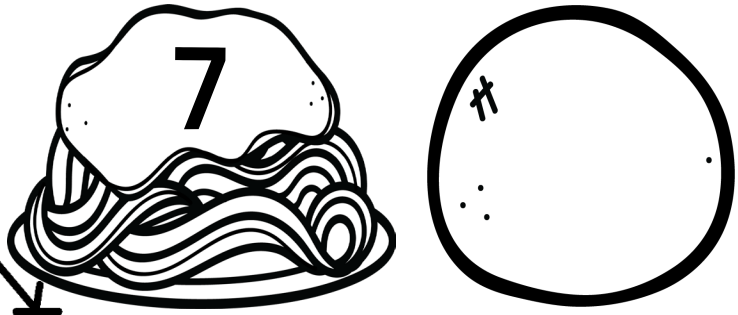
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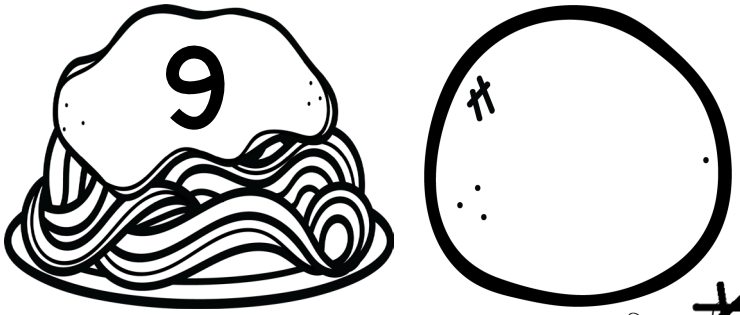
6.



7.



8.

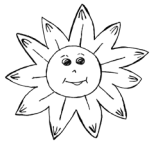
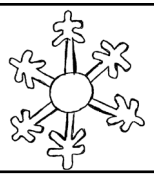


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Day 2 Model Tally Chart

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What is your favorite weather?

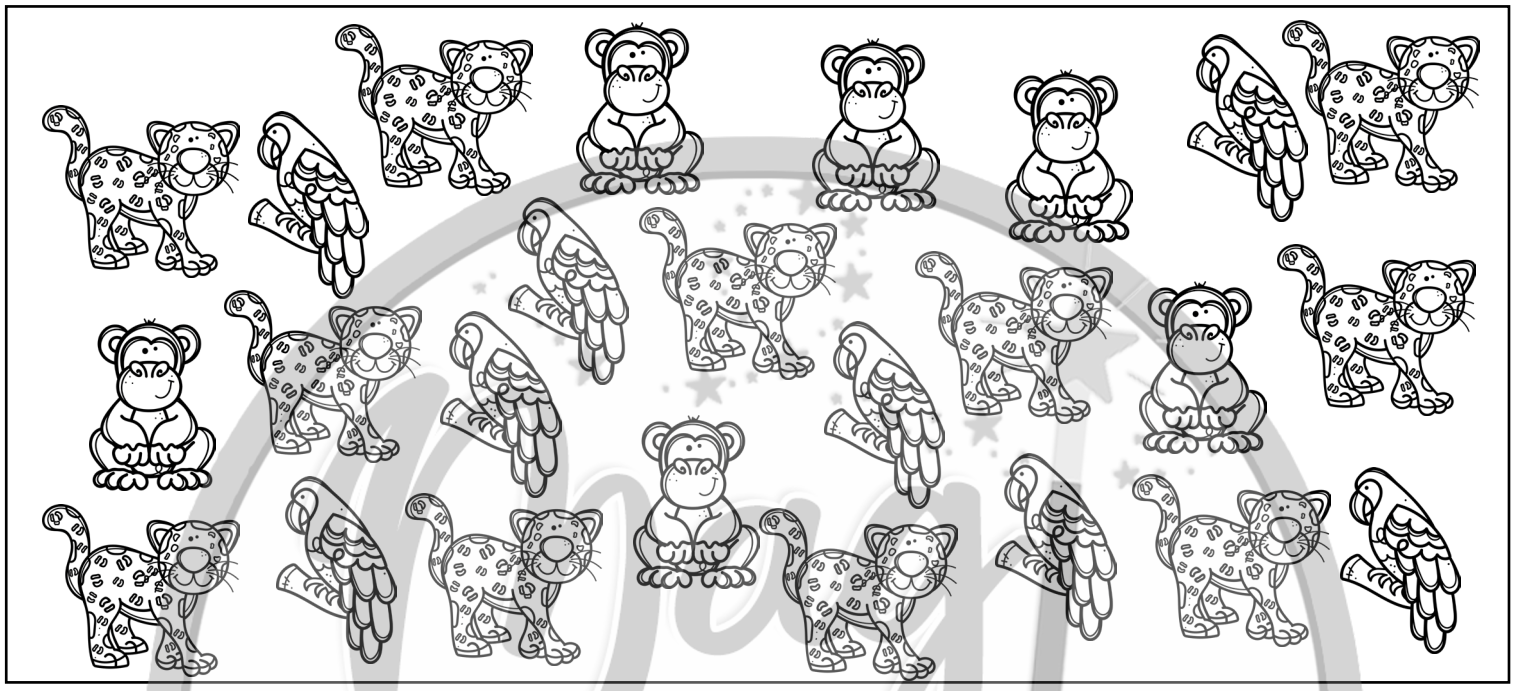
Category	Tallies
 sunny	𝍸 𝍸 ||||
 rainy	||
 snowy	𝍸 ||||

1. Which type of weather got the <u>most</u> votes? _____
2. Which type of weather got the <u>fewest</u> votes? _____
3. How many votes did "snowy" get? _____
4. How many people voted in all? _____

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 	

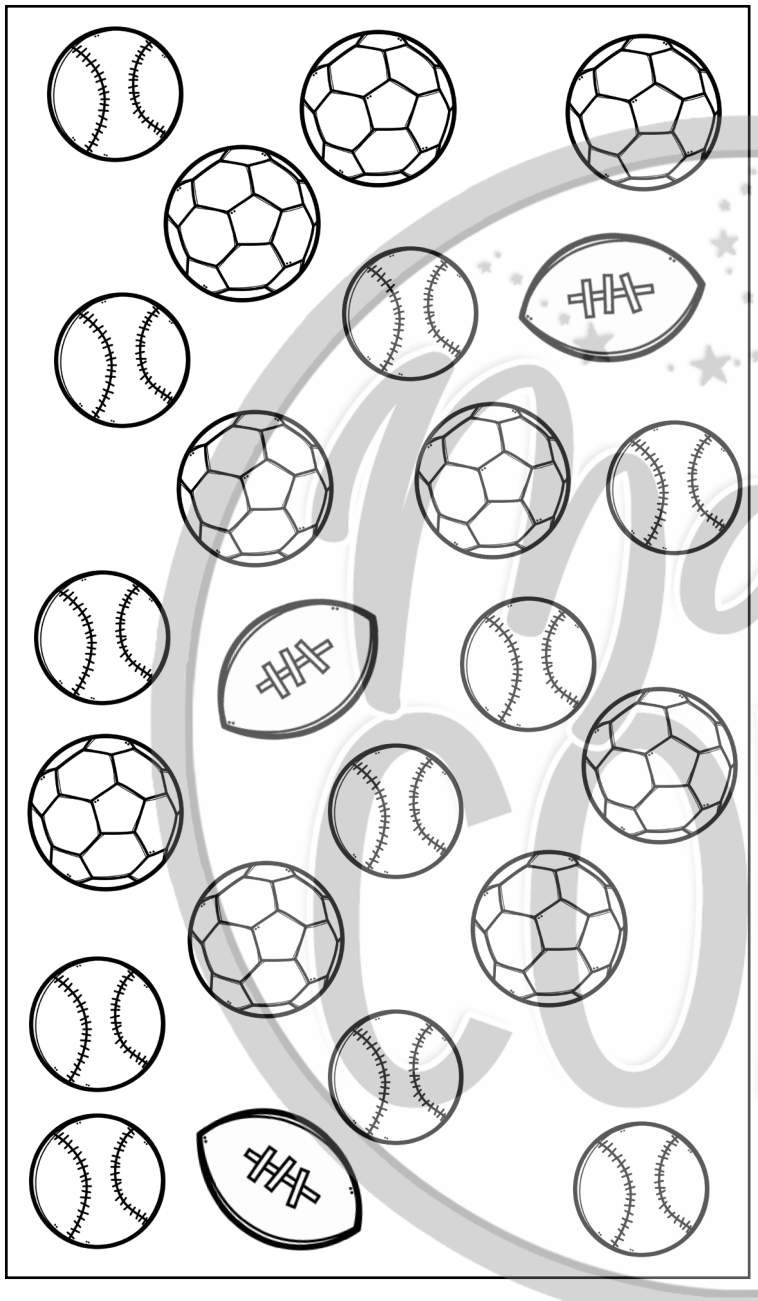
1. Which type of animal is there the <u>most</u> of? _____
2. Which type of animal is there the <u>fewest</u> of? _____
3. How many jaguars are there? _____
4. How many animals are there in all? _____

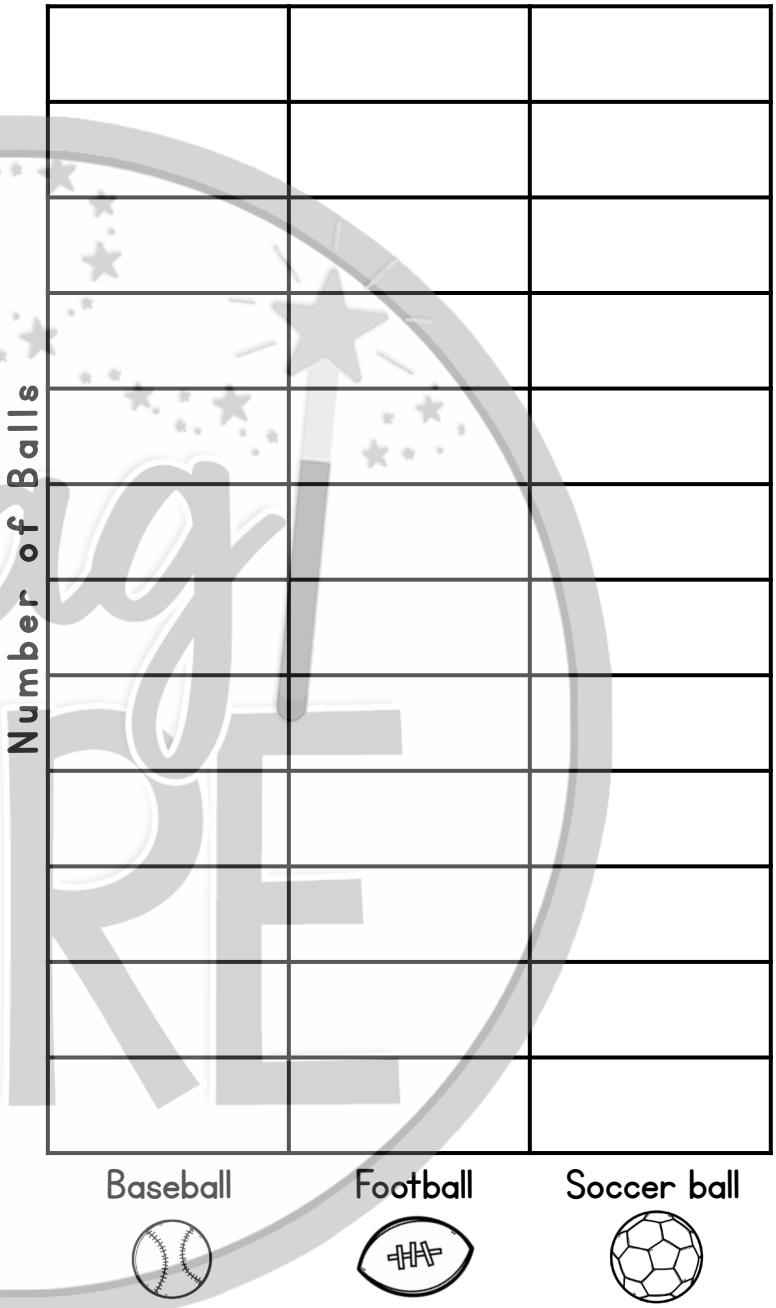
©Julie Brenso

Name: _____ Date: _____

Bar Graph Worksheet

Directions: Look at the images. Fill in the bar graph. Once you have made your bar graph, answer the questions about the data.





1. Which type of sports ball is there the most of? _____
2. Which type of sports ball is there the fewest of? _____
3. How many baseballs are there? _____
4. How many sports balls are there in all? _____

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Name: _____ Date: _____

Pictograph Worksheet

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



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? _____

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Day 5 Model Word Problems

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French Fries Eaten

Category	Tallies
Tori	
Marcus	
Theo	

1. Who ate the <u>most</u> French Fries? _____
2. How many more French Fries did Theo eat than Tori? _____
3. Who ate 13 French Fries? _____
4. How many French Fries were eaten in all? _____
5. How many fewer French Fries did Tori eat than Marcus? _____

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?

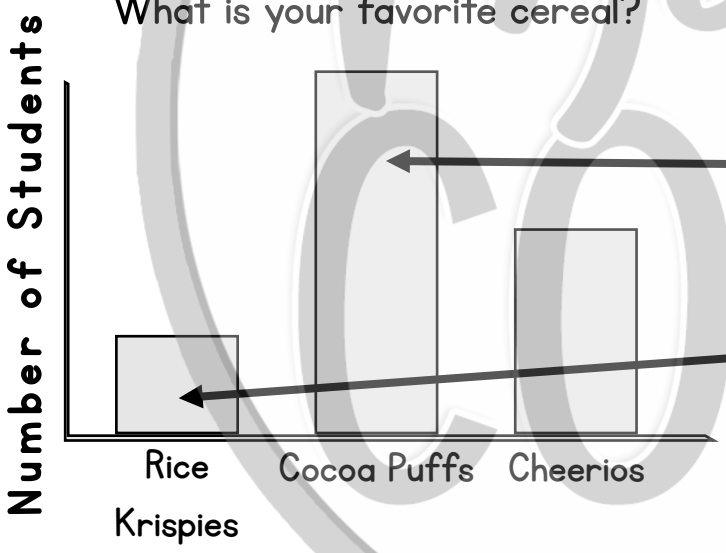
CATEGORY	DATA
Ranch	
Caesar	
Olive Oil	

Fewest

Most

Bar Graphs

What is your favorite cereal?

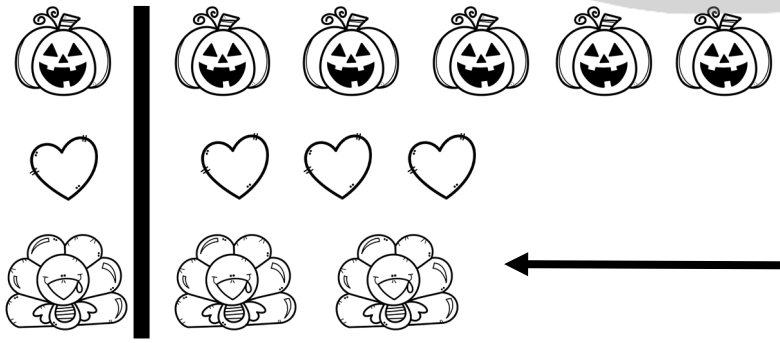


Most

Fewest

Pictograph

What is your favorite holiday?



Most

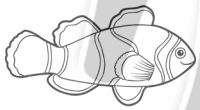
Fewest

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

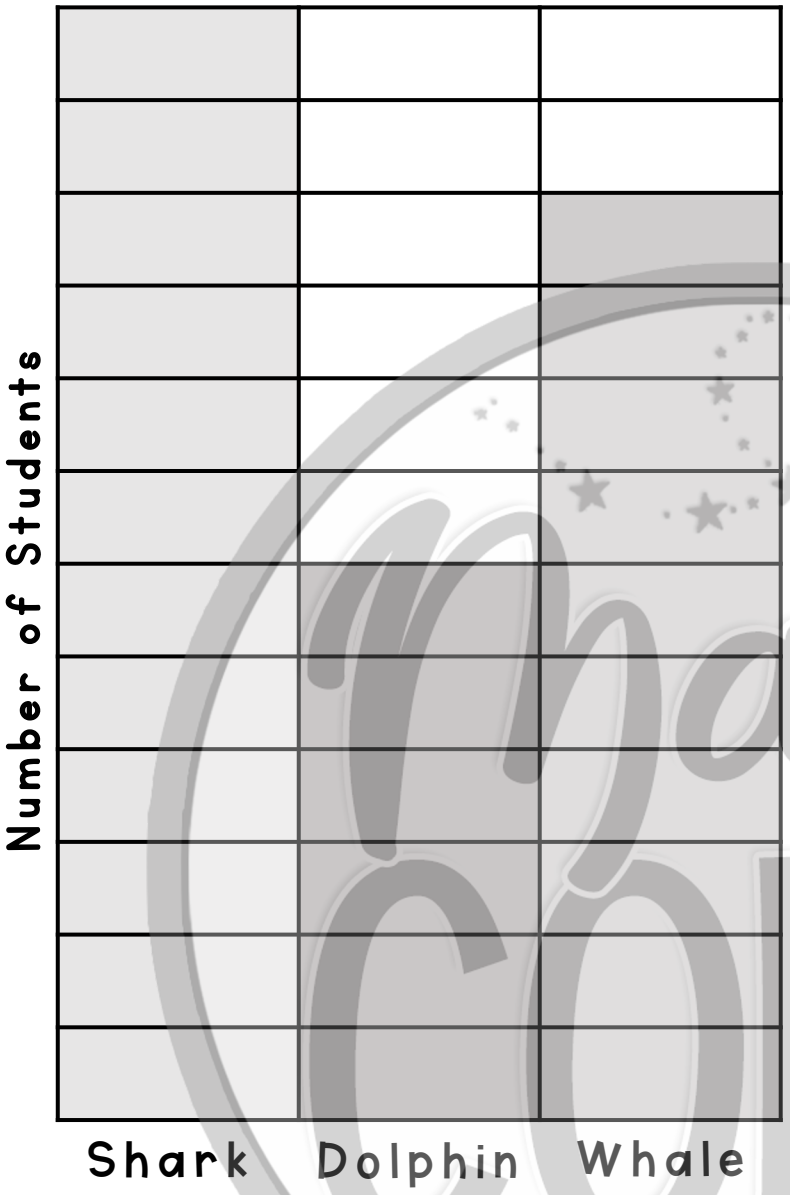
How many sea creatures in the fish tank?

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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What is your favorite sea creature?



Look at the bar graph. Interpret the data in the bar graph and use the data to answer the questions!



1. Which sea creature got the most votes? _____
2. Which sea creature got the fewest votes? _____
3. How many students voted for the shark? _____
4. How many students voted in all? _____
5. How many more votes did whale get than dolphin? _____
6. Which animal got 10 votes? _____

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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	

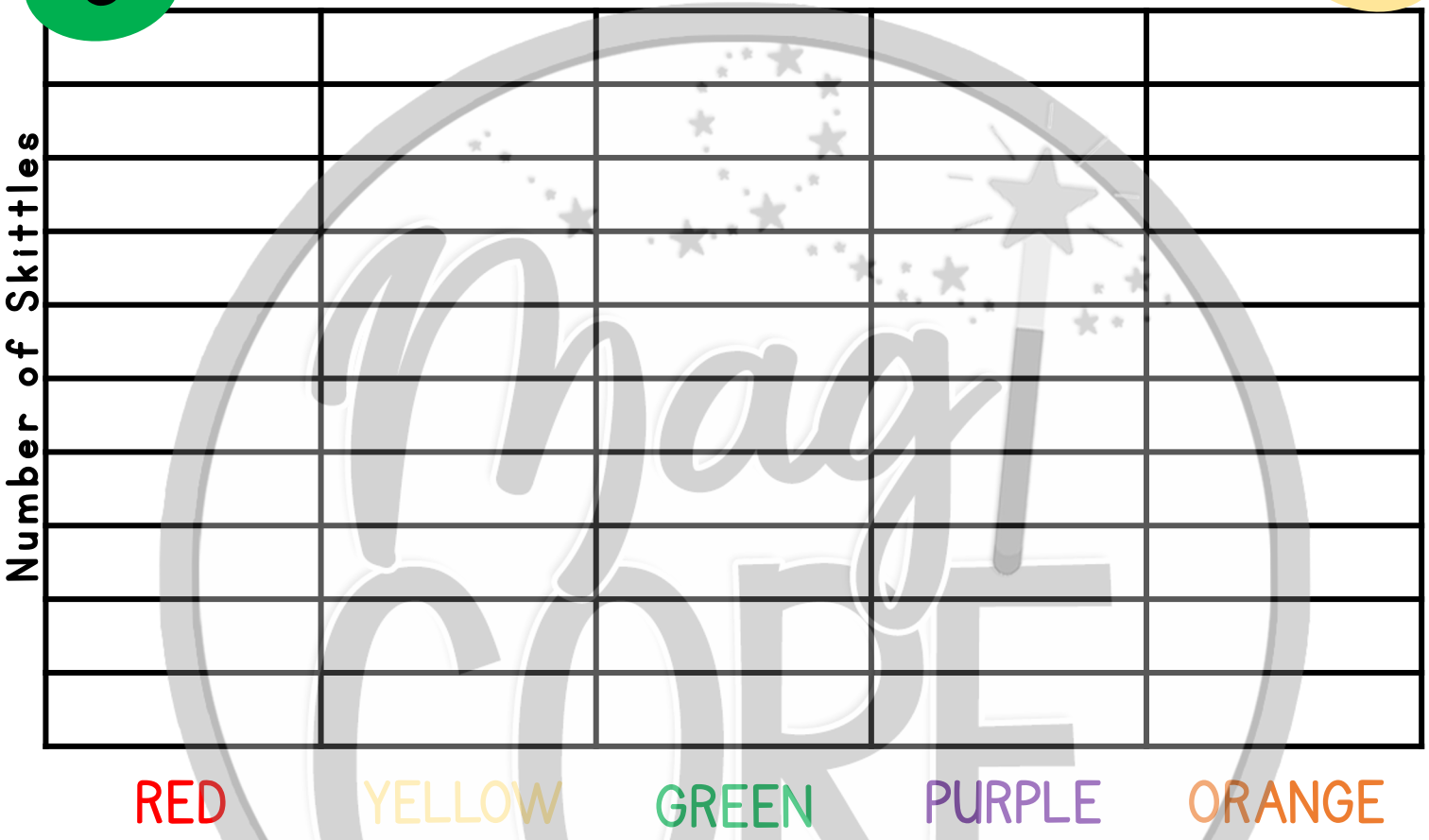
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Name: _____ Date: _____

Skittles Data Activity

Directions: Once you have tallied up your Skittles, use the data to make a bar graph. Then, use the bar graph to help you answer the questions.

My Skittles



1. Which color is there the most of? _____
2. Which color is there the fewest 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 chart. Use the chart to help you answer the questions.

Favorite Shape

Shape	Data
Circle	
Square	
Triangle	

1. Which shape got the <u>most</u> votes? _____
2. Which shape got the <u>fewest</u> votes? _____
3. How many voted for squares? _____
4. How many students voted in all? _____
5. How many more students voted for circle than triangle?

   _____

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Name: _____ Date: _____

Data Scoot!

Directions:

1. Place one card at each student's 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. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____

Score: ____/24

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1

Favorite Fruit

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

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

2

Favorite Fruit

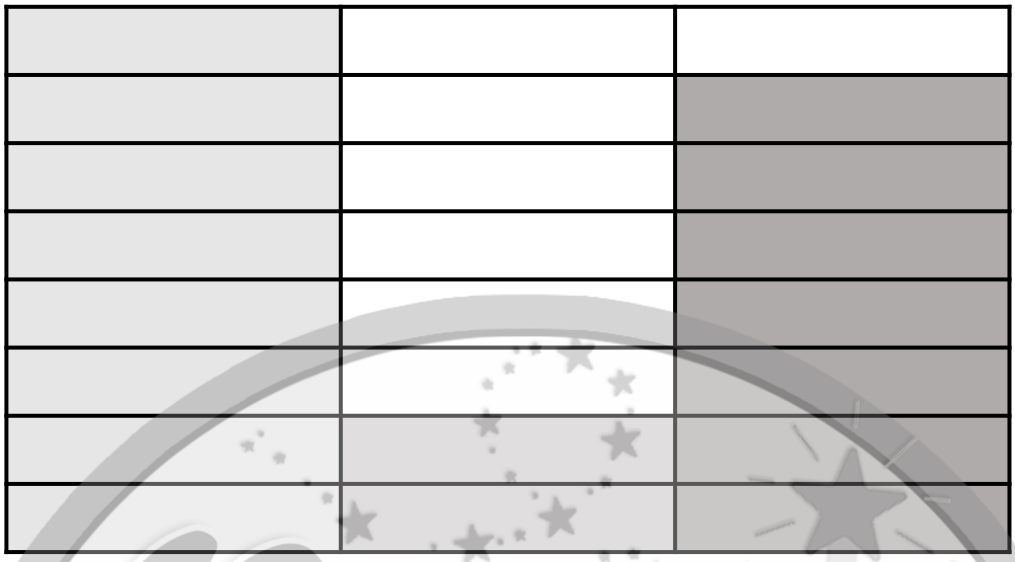
Fruit	DATA
Banana 	𝍸 𝍸 |||
Peach 	𝍸 ||
Raspberry 	𝍸 𝍸 𝍸 ||||

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

Magi CORE

9

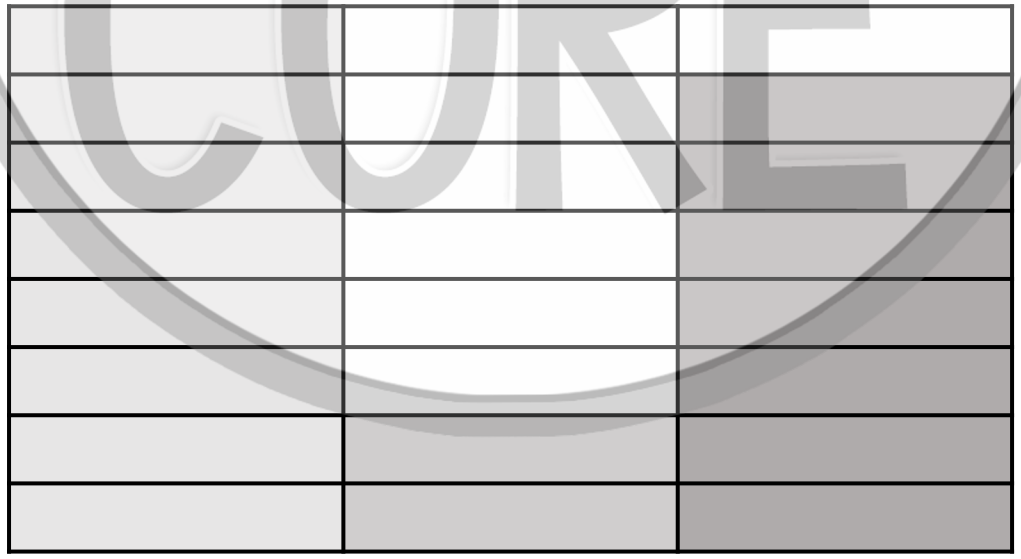
Favorite Cookie



Which cookie got the most votes?

10

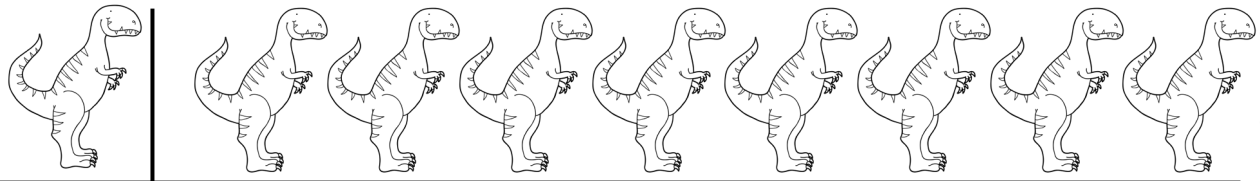
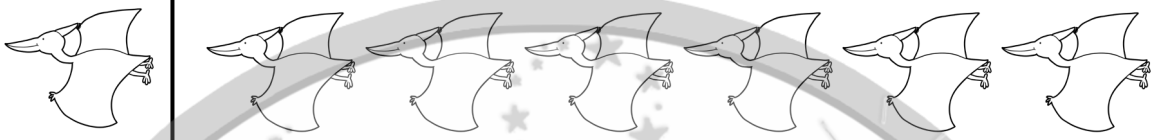
Favorite Cookie



Which cookie got the fewest votes?

17

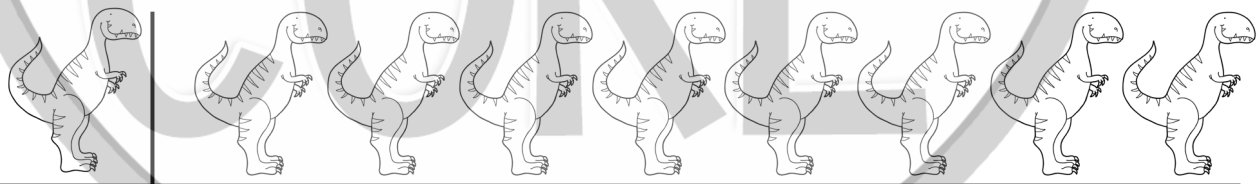
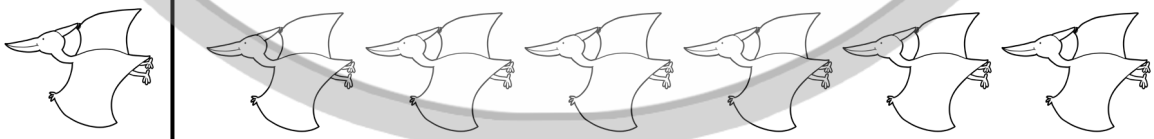
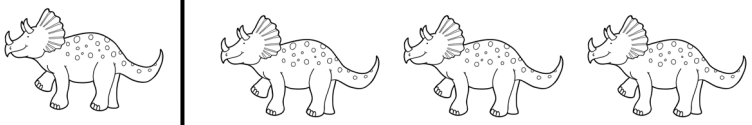
Favorite Dinosaur

Dino 1	
Dino 2	
Dino 3	

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

18

Favorite Dinosaur

Dino 1	
Dino 2	
Dino 3	

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

Name: _____ Date: _____

Data Quiz

1. Use this tally chart to help you create a bar graph.

Lunch Item	Tallies
Hamburger	𝍸
Chicken Nuggets	|||
Pizza	𝍸 𝍸

Favorite Lunch Item

Number of Students

Hamburger | Chicken Nuggets | Pizza

Answer the following questions about the data in your bar graph:

2. Which lunch item got the highest number of votes? _____
3. How many students voted for chicken nuggets and pizza? _____
4. Which lunch item got the fewest number of 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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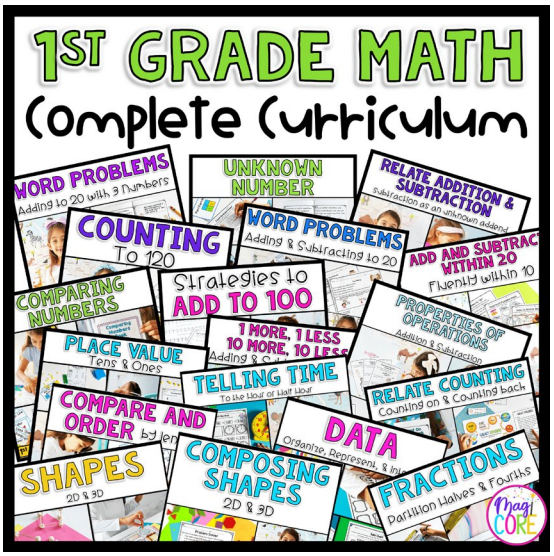
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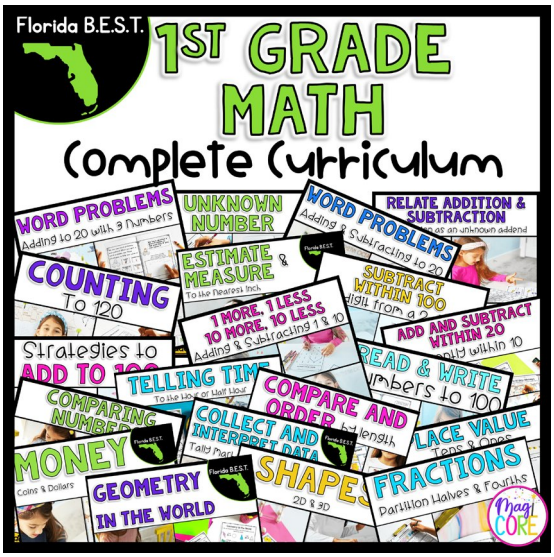
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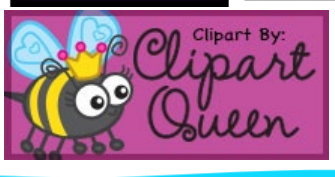




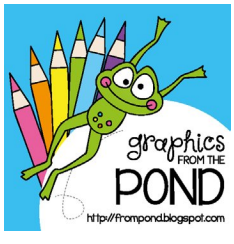














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