



# **Analyze data**

**(observation, polls, tally marks)**

### Standard: 3.D.3.1

Analyze data displayed in a variety of formats to make reasonable inferences and predictions, answer questions, and make decisions.

Concept Skill:

Data

A **data** is a set/collection of information.

A **survey** is asking people a question and recording their answers. The data, or information collected in a survey, can be presented in many forms: \*numbers, pictures, charts, or graphs

One way to collect **data**, or information, is to conduct a **survey**. When you conduct a survey, you ask people a question and you record their answers. It is important but not necessary to ask a large group of people to get a good representation.

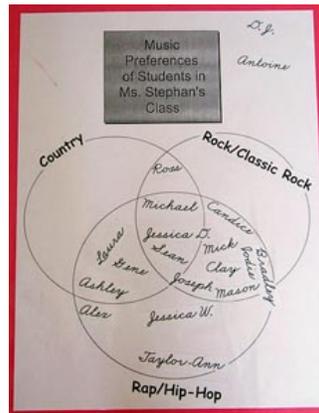
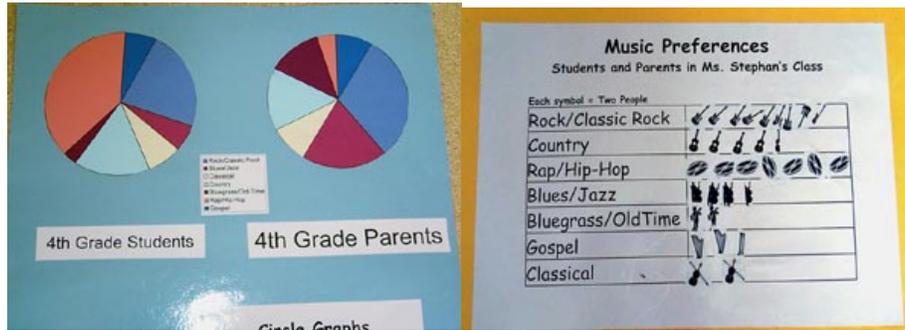


## Survey Steps



- \_ Think about what you want to find out. Write a question.  
(Remember to write an either/or question or a yes/no question.)
- \_ Present the question to the people being surveyed.
- \_ Record their responses.
- \_ Tally or count the responses.
- \_ Present the data on a graph.
- \_ Read the graph and state the results.

To display data, students can use a variety of representations including circle graphs, pictographs, tally charts, and venn diagrams. You can develop sets of comprehension questions to accompany each graph.



**Music Preferences Parents and Students**

	STUDENTS	ADULTS
Rock/Classic Rock		
Country		
Rap/Hip-Hop		
Blues/Jazz		
Bluegrass/OldTime		
Gospel		
Classical		

### Tally charts — questions

1. How many tallies in all?
2. How many more kids like Rap better than Rock?
3. How many more adults than kids like Gospel?
4. How many kids like Rock better than Country?
5. How many students like Hip-Hop better than Gospel?

# “Teacher Practice Materials”

## Example 1:

The parents of a third grade class are wanting to know how many of their children ate breakfast.

Breakfast Survey  
Did you eat breakfast this morning?  
\_\_\_\_ Yes \_\_\_\_ No



## Steps for Making a Pictograph

1. List survey response items.
2. Choose a picture. Decide how many the picture represents.  
**Ex. ☺ = 2 people**  
**Ex. Half a smiley face = 1 person**
3. Draw pictures for each item based on the data collected.
4. Write a title above the graph.
5. Write what the picture means below the graph.  
**Ex. ☺ = 2 people**  
**Ex. Half a smiley face = 1 person**

## Example 2:

The students in Mrs. Lara's class conducted a survey.

Favorite Pets		
Pet	Tally Marks	Number
		10
		4
		6

How can we figure out what kind of survey was conducted?

**Step 1:** Look at the title.

(The title will tell us what the survey was conducting).

**Step 2:** What is the title?

(The title is "Favorite Pets," so the graph is showing the favorite pets in Mrs. Lara's class).

**Step 3:** What kind of survey is being conducted?

(Favorite Pets)

## "STUDENT PRACTICE MATERIALS"

Kyle's class took a survey on what their favorite sport was. The sport each child chose is listed below.

Football, baseball, football, soccer, basketball, basketball, football, volleyball, baseball, football, basketball, basketball, football, volleyball, volleyball, football, basketball, football, baseball, football.

Part A, on your answer sheet, fill in the table with tally marks for each kind of wood chosen.

Favorite sports

Type of sport	Tally Marks
football	
soccer	
baseball	
volleyball	
basketball	

Part B. Which sport was voted for the most. Explain your answer using words, pictures, or number.

A student in Mrs. Lara's class conducted a survey.

The subject each child chose is listed below.

P.E., Math, Art, Art, Science, P.E., Reading, Math, Art,  
P.E., P.E., Science, Spelling, Reading, Math, Art, Math,  
Art, P.E., Art.

Part A. Complete the chart below.

Favorite Subject		
Subject	Tally Marks	Number
Reading		
Art		
Spelling		
P.E.		
Science		
Math		

Part B. Use words, pictures or numbers to show how many more students chose art than science.

Part C. Which subject was liked the least in Mrs. Lara's class?

- A. Art
- B. Spelling
- C. Science
- D. reading

Deanna asked 18 third-grade students if they were going to see the new Harry Potter movie. The results of her survey are shown below.

not sure	no	yes
yes	yes	not sure
no	no	yes
no	yes	yes
yes	yes	not sure
yes	yes	not sure

Which of the following tally charts would BEST reflect the above information?

A

Yes	
No	
Not Sure	

B

Yes	
No	
Not Sure	

C

Yes	
No	
Not Sure	

D

Yes	
No	
Not Sure	

Scott asked his classmates to pick their favorite planets. The results of Scott's poll are in the tally chart shown below.

Planets	Tally

Complete the chart by filling in these planet names in the correct rows: Earth, Saturn, Mars, Jupiter, and Mercury. Use the following clues:

- Mars was most popular.
- Jupiter was chosen least.
- Saturn was chosen more times than Earth was.
- Mercury was the third most popular planet.

**"KEY"**

Kyle's class took a survey on what their favorite sport was. The sport each child chose is listed below.

Football, baseball, football, soccer, basketball, basketball, football, volleyball, baseball, football, basketball, basketball, football, volleyball, volleyball, football, basketball, football, baseball, football.

Part A, on your answer sheet, fill in the table with tally marks for each kind of wood chosen.

**Favorite sports**

Type of sport	Tally Marks
football	
soccer	
baseball	
volleyball	
basketball	

Part B. Which sport was voted for the most. Explain your answer using words, pictures, or number.

**Football, because there are 8 students that voted for it.**

**"KEY"**

A student in Mrs. Lara's class conducted a survey.

The subject each child chose is listed below.

P.E., Math, Art, Art, Science, P.E., Reading, Math, Art, P.E., P.E., Science, Spelling, Reading, Math, Art, Math, Art, P.E., Art.

Part A. Complete the chart below.

**Favorite Subject**

Subject	Tally Marks	Number
Reading	II	2
Art	IIII I	6
Spelling	I	1
P.E.	IIII	5
Science	II	2
Math	IIII	4

Part B. Use words, pictures or numbers to show how many more students chose art than science.

**Six students chose art and 2 students chose science.  $6-2=4$**

Part C. Which subject was liked the least in Mrs. Lara's class?

- A. Art
- \*B. Spelling**
- C. Science
- D. reading

Deanna asked 18 third-grade students if they were going to see the new Harry Potter movie. The results of her survey are shown below.

not sure	no	yes
yes	yes	not sure
no	no	yes
no	yes	yes
yes	yes	not sure
yes	yes	not sure

Which of the following tally charts would BEST reflect the above information?

A	Yes	
	No	
	Not Sure	
B	Yes	
	No	
	Not Sure	
C	Yes	
	No	
	Not Sure	
D	Yes	
	No	
	Not Sure	

Key \*A

Scott asked his classmates to pick their favorite planets. The results of Scott's poll are in the tally chart shown below.

Planets	Tally

Complete the chart by filling in these planet names in the correct rows: Earth, Saturn, Mars, Jupiter, and Mercury. Use the following clues:

- Mars was most popular.
- Jupiter was chosen least.
- Saturn was chosen more times than Earth was.
- Mercury was the third most popular planet.