# Lizard Mound County Park

# Lesson Plan

# Grade 4

## BAR GRAPH ACTIVITY USING TALLY CHARTS

*(This activity will use the data collected in the **Mound Shape Data Collection Activity**)*

*Lesson plan pages1-4*

**Strand:** mathematics, science, social studies

Lizard Mound

# Bar Graph Activity Using Tally Charts

*(This activity will use the data collected on the Mound Shape Tally Chart see **Mound Shape Data Collection Activity** lesson plan)*

**Strand:** mathematics, science, social studies

**Grade Level:** grade 4

**Location:** classroom

## Objectives:

- organize collected data on a bar graph
- apply what they have learned
- analyze data
- make comparisons
- arrive to conclusions
- review names and shapes of the mounds in the Lizard Mound County Park

## Material:

- 1/2 inch grid paper (see **Resources**)
- pencil
- crayons or markers
- ruler

## Resources:

- Tally Charts made in **Mound Shape Data Collection Activity**
- https://www.waterproofpaper.com /graph-paper-half-inch.pdf -1/2 inch grid paper for bar graph printable
- https://www.youtube.com/watch?v=ReW4MPqXTvA -3:20 minute video demonstrating the basics of making a bar graph
- https://www.youtube.com/watch?v=LEXbMW-Amao -4:33 minute video demonstrating how to make a bar graph on graph paper
- **What I Learned From My Bar Graph** -printable using the bar graph with higher thinking skills



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## Vocabulary:

- *bar graph*: a way of using bars to show quantities or numbers so that they can easily be compared
- *data:* a collection of facts such as numbers, words, measurements, or observations
- *vertical in a graph:* lines that run up and down *horizontal in a graph:* lines that run from side to side
- *columns in a graph:* vertical, up and down
- *rows in a graph:* horizontal, side to side
- *linear mounds:* mounds that are shaped in a straight line
- *conical mounds:* mounds that are shaped in a rounded, circular top

## Procedure: *(There is a visual bar graph for teacher at the end of the lesson plan).*

1. Explain to students that they will create a bar graph using their saved Tally Chart data.
2. Say real-life scientists and many other people use charts and graphs as a way to organize, compare, and understand the data that they have collected. You will be doing the same!
3. Tell them that by watching two short videos they will learn how to make a bar graph.
   https://www.youtube.com/watch?v=ReW4MPqXTvA
   https://www.youtube.com/watch?v=LEXbMW-Amao
4. Some students will be able to apply the strategies shown in the video and make their own bar graph. They will record the data from their Mound Shape Tally Chart into a bar graph onto graph paper. Graph paper printable is in **Resources**.
5. For those students who need more guidance, follow the steps below:
   - Demonstrate how to make vertical and horizontal rows or columns on the graph paper.
   - Using a ruler, students will make 11 horizontal rows and 6 vertical columns on their graph paper. Explain that the columns are vertical (up and down), and that the rows are horizontal (side to side).
   - Label the top row with the mound shape names, starting with the second cell. Explain to the students that they might want to start with the least count and work their way up to the greatest count on their Tally Chart, and then put them in that order on their bar graph. This will make it easier to compare quantities.
   - Starting at the bottom, label the first column 1 and then up to 10. There should be an extra open cell at the top of this column.
   - Using their Tally Charts students will draw a bar to show the total for each shape onto the graph under each mound shape.
   - They should color or shade their bars to make comparing easier.
   - Help them decide a title for their graph and write it above the graph.
6. Tell students that scientists analyze, compare, and come to conclusions about the results of their graphs. We can be like scientists and do the same!
7. The following questions will help them analyze their bar graphs. This could be done verbally, whole class, or they could individually use the **What I Learned from My Bar Graph** printable found in **Resources.**
   - What did you learn when looking at your graph?
   - Ask which is the least, the most, the same, type of questions.
   - Ask how many more questions (i.e., How many more conical shapes than linear? etc.)



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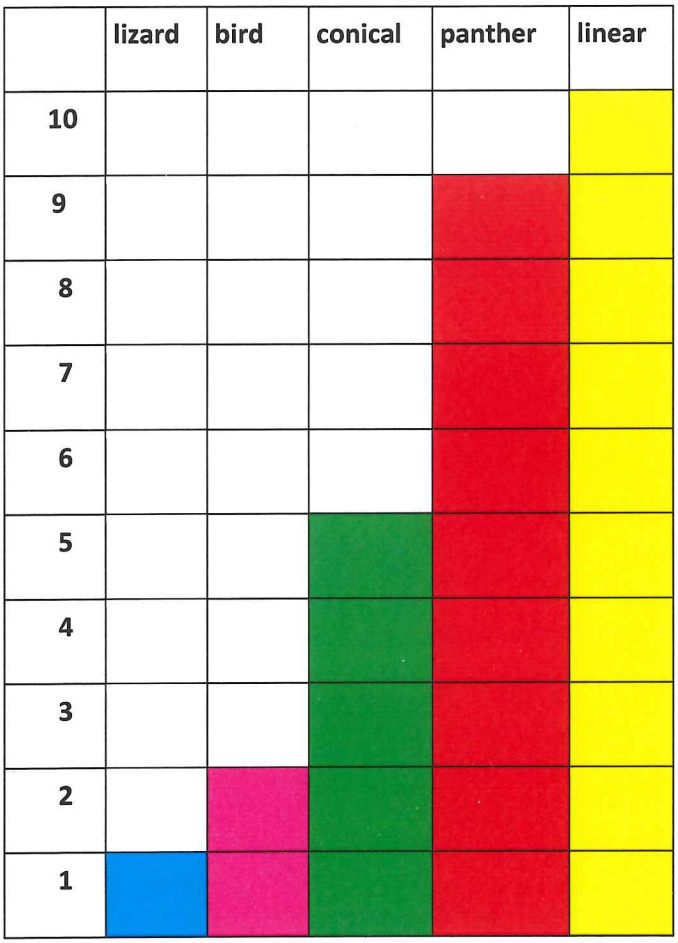
- How could this graph help us?
- Why do you think there is only one lizard shape in the park? (Note: *There is no exact reason for this, however, one theory is that animal shapes are thought to have a more important status than the geometric shapes*).
- Did something surprise you when you made your bar graph?

## Bar Graph Example:




## Sources:

http://www.amathsdictionaryforkids.com/qr/b/barGraph.html
http://amathsdictionaryforkids.com/qr/t/tally.html



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# What I Learned from My Bar Graph

1. What is the most common mound shape in the park?_____

2. Which shape is the least common?_____

3. What is the number difference between the conical mound and the linear shapes?_____

   Write a math sentence showing this. _____

4. How many more linear shapes are there than the bird shapes?_____

   Write a math sentence showing this. _____

5. Why do you think there is only one lizard shape?

_____

_____

6. What surprised you the most?

_____

_____

7. How could this graph help you?

_____

_____

8. What is the most important thing that you learned from your bar graph?

_____

_____



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