

In the following math lesson, students will answer questions by collecting data, representing data, and communicating results. They will also use these results to predict future outcomes. Students will be able to identify different types of graphs including: bar graph, line graph, picture graph, and stem-and-leaf. They will also identify how to use them, discuss the reason each graph is important, and have the opportunity to create their own tally chart and graph. This is a fun lesson where students get to work together to learn about and create graphs.

**Grade Level:** 5<sup>th</sup>

**Concepts:** The different types of graphs and how to use them

**Objectives:**

The students will:

1. identify the different types of graphs.
2. discuss the reason each graph is important.
3. create their own tally chart and graph.

**Materials:**

- A graphing packet that includes an example of each type of graph (bar, line, circle, picture, stem-and-leaf plot) and a tally chart.
- Colored paper should also be inside the packet; must have at least two pieces, one for the graph and one for tally chart.
- Bar graph= green paper, line graph= red paper, circle graph= white paper, picture graph= yellow paper, stem-and-leaf plot= pink paper, and a white piece of paper in each packet for the tally chart (write this on the board for students to see)
- Markers and crayons
- Overhead projector (optional)

**Procedure:**

- 1) Can anyone name a kind of graph? Students may name some that aren't even talked about, but that's O.K. Acknowledge that they are right, but we won't be talking about those kinds.
- 2) Write the graph names on the board. Put them in the order that the song is and then explain each kind of graph.  
(Song is optional)  
After each explanation, introduce the song verse that goes with it. Hand out a copy of the song to each student. Once you have finished each verse, go back and sing the whole song together.
- 3) Tell the students that they will be working with different types of graphs and learn different things about each one.
- 4) Divide the class into groups of five if possible and have them sit in a circle in their desks. Hand each student in the group a packet with a different colored piece of paper.

- 5) Ask the students what we need to know first when drawing a graph. If they say tally chart, they are correct. If no one answers correctly try and give them hints.
- 6) Ask the students what their favorite fast food restaurant is. Using the board or overhead projector, make a tally chart according to the students answers. Have them do the same on their white piece of paper.
- 7) Once the tally chart is complete, have the students construct a graph according to the color of paper that they received in their packet.
- 8) During this time, circulate the room to be sure that everyone is on task and understands what they're suppose to be doing.
- 9) If a student finishes early, hand them a different color piece of paper so they can do a different type of graph.
- 10) Once everyone is finished in their groups, they should discuss what they found and show what their graph looks like.
- 11) Have everyone move their desks back into rows. Sing the with the students one more time.

**Evaluation:**

We will display each different type of graph on the board. The grouping will be every bar graph together, all circle graphs together and so on.

Discuss the differences in the graphs and why each one is important in its own way.

Ask students what the important parts of a graph are?

After you discuss this in class, ask the students to survey their friends or family on something that they would like to graph. Have them bring in a tally chart and a graph showing what they found.

\*Song is to the tune of Macarena by Los Del Rio. Lyrics by Jodi Baumgard.

**Grapharena**

Graphing is fun so lets all learn it  
 Don't be discouraged if you don't get it  
 Learn the different kinds and we'll be a hit  
 Do the Grapharena!

Use x and y axis for the line graphs  
 Do a couple more and use them as drafts  
 Ending result may look like a giraffe  
 Do the Grapharena!

Bar graphs make data easy to compare  
 Take the challenge if you dare  
 Then we'll all sit down and share  
 Do the Grapharena!

Now we're up to the stem-and-leaf plot

Data is grouped and put in a slot  
Put it in the wrong spot and you'll get caught  
Do the Grapharena!

Pie graphs are the ones that take the most time  
The percents have to be right on the dime  
Sometimes they look like the inside of a lime  
Do the Grapharena!

Picture graphs are so creative  
Like bar graphs but more inventive  
Everyone can be very constructive  
Do the Grapharena!

Graphing is fun so lets all learn it  
Don't be discouraged if you don't get it  
Learn the different kinds and we'll be a hit  
Do the Grapharena!