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FREE LEARNING NOTES FOR ZAMBIA

GRADE 4

Mathematics

Statistics: Bar Graphs and Line Graphs

Lesson notes for learners · Competence-Based Curriculum

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Bar graphs and line graphs show how things differ across groups. For example, we can use a bar chart to compare the number of girls and boys in a class. In this note you will collect data, put it in a frequency table and draw a bar graph and a line graph.

AFTER THESE NOTES YOU SHOULD BE ABLE TO

- Collect data and put it in a frequency table with tally marks
- Draw a bar graph and a line graph on square grid paper
- Read a graph and say which is the highest and the lowest
- Say what data, statistics, bar graph and line graph mean

KEY WORDS

Data	Information we collect, such as counts.
Frequency table	A table that shows each item, its tally marks and how many there are.
Bar graph	A graph that uses bars to compare groups.
Line graph	A graph made by joining plotted points with straight lines.

1 Collecting data in a frequency table

Data is information we collect. In a school survey, groups can count people wearing black, the shoe sizes of teachers, the classrooms in the school, or the boys and girls in the Grade 4 class.

We record each count with tally marks. Then we put the data in a frequency table. A frequency table has three columns: the item, the tally marks and the frequency. The frequency is the number counted.

Look at the table to find the highest number. Ask which item it is.

Item	Tally marks	Frequency
Pencils	||||	4
Pens	||||		6
Sharpeners	||	2
Erasers	|||	3

Figure 1. A frequency table of writing materials in a pencil case

2 Bar graphs and line graphs

We can show data on square grid paper. In a bar graph, the categories are on the x-axis and each bar shows the number. The tallest bar is the highest number.

To make a line graph, mark a point for each count on the grid. Put the shoe sizes on the horizontal axis and the number of learners on the vertical axis. Join the points with straight lines. The result is a line graph. Check which size is the highest point on the line and which is the lowest.

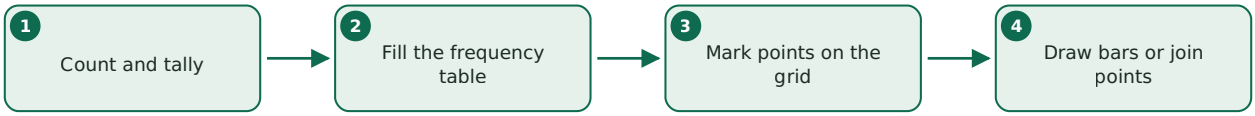


Figure 2. From counting to a graph

3 Reading graphs

We can read a graph to answer questions. For example, a bar graph of vehicle colours seen on the road shows which colour passed most. A line graph of temperature on three days shows which day was the warmest.

Teachers can also use computer tools to plot bar charts and line graphs.

TRY THIS

Count the boys and girls in your class or the people in your family by age. Make tally marks and a frequency table. Draw a bar for each group.

REMEMBER

- Data is information we collect
- A frequency table has item, tally marks and frequency
- A bar graph uses bars to compare groups
- A line graph joins plotted points with straight lines
- The highest bar or point shows the greatest number

? Check yourself

1. What are the three columns of a frequency table.
2. What do we do to make a line graph after marking the points.
3. What does the tallest bar show.
4. What is data.
5. During a classroom check at Kapiri Mposhi Primary School, learners counted 4 pencils, 6 pens, 2 sharpeners and 3 erasers in their pencil cases. The teacher asks them to make a frequency table. (a) What are the three column names. (b) Which item has the highest frequency. (c) How many pens are there.
6. Learners at Feira school measured the temperature at midday on three days: Day 1 was 22 degrees Celsius, Day 2 was 26 degrees Celsius and Day 3 was 24 degrees Celsius. They plotted a line graph. (a) What goes on the x-axis. (b) What goes on the y-axis. (c) Which day is the highest point.

ANSWERS

1. The item, the tally marks and the frequency.
2. Join the points with straight lines.
3. The highest number.
4. Information we collect.
5. (a) Item, tally marks and frequency. (b) Pens. (c) 6.
6. (a) The day. (b) The temperature in degrees Celsius. (c) Day 2.

Written by 25Schools to follow the Grade 4 Mathematics syllabus of the Zambian competence-based curriculum. Free for learners to read, download and share. More notes and quizzes at 25schools.com.