Lesson 3: Constructing Bar Graphs

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| Learning Goals:  |

* Learn the different parts of a bar graph
* Learn how to construct a bar graph from a predetermined scenario presented in a table.

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| Topic: Constructing Bar Graph |

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| A **bar graph** is useful for comparing facts. The bars provide a visual display for comparing quantities in different categories. |

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| **title** | The title tells us what the graph is about. |
| **labels** | The labels tell us what kinds of facts are listed. |
| **bars** | The bars show the facts. |
| **grid lines** | Grid lines are used to create the scale. |
| **categories** | Each bar shows a quantity for a particular category. |

Steps to complete a bar graph

* Decide on a title for your graph
* Draw the vertical and horizontal axes.
* Label the horizontal axes
* Label the vertical axes
* Decide on the scale. Explain that you should consider the least and the greatest number shown on the graph. Discuss what range of numbers should be shown on this bar graph
* Draw a bar to show the total for each fact and label each bar

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| Example(s):  |

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|   | A survey of students' favorite after-school activities was conducted at a school. The table below shows the results of this survey. |
| http://www.mathgoodies.com/lessons/graphs/images/tab.gif |
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| **Students' Favorite After-School Activities** |
| **Activity** | **Number of Students** |
| Play Sports | 40 |
| Talk on Phone | 31 |
| Visit With Friends | 75 |
| Play video games | 82 |
| Chat Online | 99 |
| School Clubs | 12 |
| Watch TV | 22 |

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| http://www.mathgoodies.com/lessons/graphs/images/tab.gif |
|  | Because the data in this table is not changing over time, a line graph would not be a good way to display this data. Each quantity listed in the table corresponds to a particular category.  |

Answer the following questions using the above bar graph.

1. What is the range of values on the horizontal scale?
2. How many categories are in the graph?
3. Which after-school activity do students like the most?
4. Which after- school activity do students like the least?
5. How many students like to talk on the phone?
6. How many students like to earn money?
7. Which two activities are liked almost equally?

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| Practice Questions:  |

Question 1:

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|  | Students in a class voted on their favorite fruit. Each student voted once. The table below summarizes the data collected from the class vote. Use this date to construct a bar graph. Remember to follow the steps outlined above.

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| **Fruit** | **Student Votes** |
| Mangos | 3 |
| Watermelons | 4 |
| Blueberries | 10 |
| Bananas | 2 |
| Grapes | 4 |

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|  | Question 2:The amount of fat in 5 different foods was measured as a percent. The data is summarized in the table below. Use this date to construct a bar graph.

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| **Food** | **Amount of fat in percentage (%)** |
| Peanut butter | 25 |
| Ice cream | 18 |
| Almond butter | 29 |
| Chocolate bar | 16 |
| Bacon | 50 |

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| **Answer the following questions using your bar graph above:** | http://www.mathgoodies.com/lessons/graphs/images/tab.gif |  |
| 1 | What is the title of this bar graph?  |  |  |
| 2 | What is the range of values on the (vertical) scale? | http://www.mathgoodies.com/lessons/graphs/images/tab.gif |  |
| 3 | How many categories are in the graph? | http://www.mathgoodies.com/lessons/graphs/images/tab.gif |  |
| 4 | What is the difference in percentage of fat between peanut butter and almond butter? | http://www.mathgoodies.com/lessons/graphs/images/tab.gif |  |
| 5 | Which food had the lowest percentage of fat? | http://www.mathgoodies.com/lessons/graphs/images/tab.gif |  |
| 6 | What percentage of fat is in bacon? | http://www.mathgoodies.com/lessons/graphs/images/tab.gif |  |
|  |  | http://www.mathgoodies.com/lessons/graphs/images/tab.gif |  |
| Strand 4 Lesson 3 Assessment:  |

Students in Mrs. Soltanidji’s class were surveyed about fast food restaurant and asked to choose the one fast food restaurant they liked most to eat at. The table below summarized the data collected from this survey. Use this date to construct a bar graph.

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| **Fast food restaurant** | **Student votes** |
| Tim Horton | 11 |
| Subway | 6 |
| Mr. Greek | 12 |
| Johnny’s burgers | 3 |
| McDonalds | 10 |

Answer the following questions using your graph above:

1. Which fast food restaurant was preferred most?
2. Which fast food restaurant was preferred by 3 students?
3. How many students preferred Subway?
4. Which fast food restaurant was preferred?