

10-4 Misleading Statistics (Pages 504–508)

The same data can be used to support different points of view depending on how that data is displayed.

<p>Looking for Misleading Graphs</p>	<p>Here are some things to check as you decide if a graph is misleading.</p> <ul style="list-style-type: none"> • Is one of the axes extended or shortened compared to the other? • Are there misleading breaks in an axis? • Are all the parts of the graph labeled clearly? • Does the axis include zero if necessary? • If statistics are compared, do they all use the same measure of central tendency, or does one use the mean and another the median?
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EXAMPLES

A What words do you need to put on your graphs?

Graphs need a title and labels on the scales for each axis.

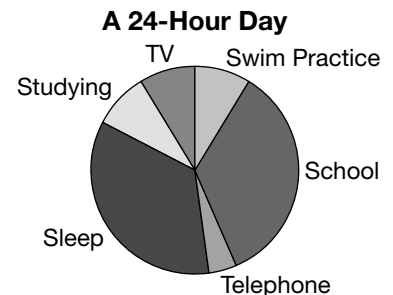
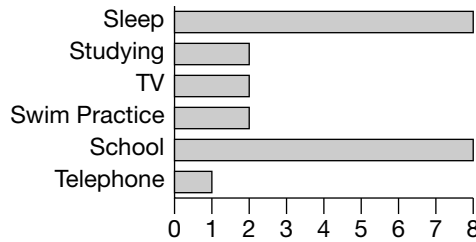
B What do you check on the scales and the axis when you look for a misleading graph?

Make sure the axis includes 0 if it applies. Check that the distance between the units is uniform. Is the scale chosen to minimize or emphasize change?

PRACTICE

A student made the table below and used it to make the bar graph and circle graph to the right of it.

A 24-Hour Day	
Activity	Hours
Sleep	8
Studying	2
TV	2
Swim Practice	2
School	8
Telephone	1



1. What is wrong with the data in the table?
2. What is missing on the bar graph? *HINT: Interpret the meaning of the School bar.*
3. What is missing in the circle graph?
4. Compare the visual effects of the bar graph versus the circle graph.



5. Standardized Test Practice Generally, the best measure of central tendency is

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| <p>A the mode.</p> <p>C the median.</p> | <p>B the mean.</p> <p>D dependent on the data.</p> |
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Answers: 1. The hours don't add up to 24. 2. title; unit of measure for the x-axis 3. numerical data 4. Answers will vary. 5. D