

# Pictograph Help!

## Part of a Series of Avoiding Graph Pitfalls

*Last updated: January 17, 2019*



SAINT LOUIS  
UNIVERSITY




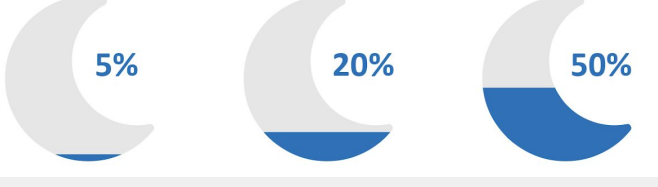
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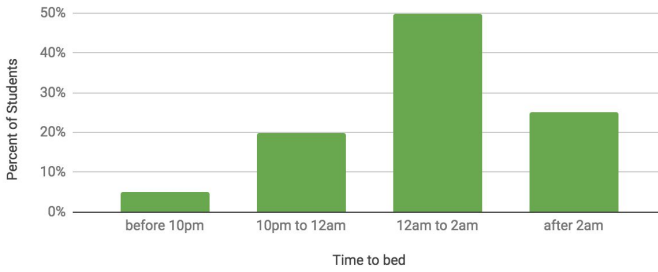
By Ada Ren & Andee Rubin

If you're reading this, it's probably because you have a pictograph that is statistically incorrect or visually misleading. Try to figure out which issue your graphic has and consider the suggestions here for improving it.

## Problem: It's hard to compare heights when the bottom is curved

Problem	A Solution
When the pictograph image is curved at the bottom, it's hard to compare the differences in height.	Add in the percent or change the image so that the bottom is flat making it's easier to compare the heights of the filled-in area. You can also use a bar graph to compare linear dimensions or a pie graph to compare parts of a whole.
<p><b>What time do high schoolers go to sleep?</b></p> <p>Before 10pm      Before 12am      Before 2am</p>  A pictograph showing three crescent moons. The first moon is mostly white with a tiny blue sliver at the bottom. The second moon is mostly white with a larger blue sliver at the bottom. The third moon is mostly white with a large blue sliver at the bottom. The moons are curved at the bottom, making it difficult to compare their heights accurately.	<p><b>What time do high schoolers go to sleep?</b></p> <p>Before 10pm      Before 12am      Before 2am</p>  A pictograph showing three crescent moons with flat bottoms. The first moon is mostly white with a tiny blue sliver at the bottom, labeled "5%". The second moon is mostly white with a larger blue sliver at the bottom, labeled "20%". The third moon is mostly white with a large blue sliver at the bottom, labeled "50%". The flat bottoms make it easier to compare the heights of the filled areas.

## Problem: Unclear how to compare a series of icons

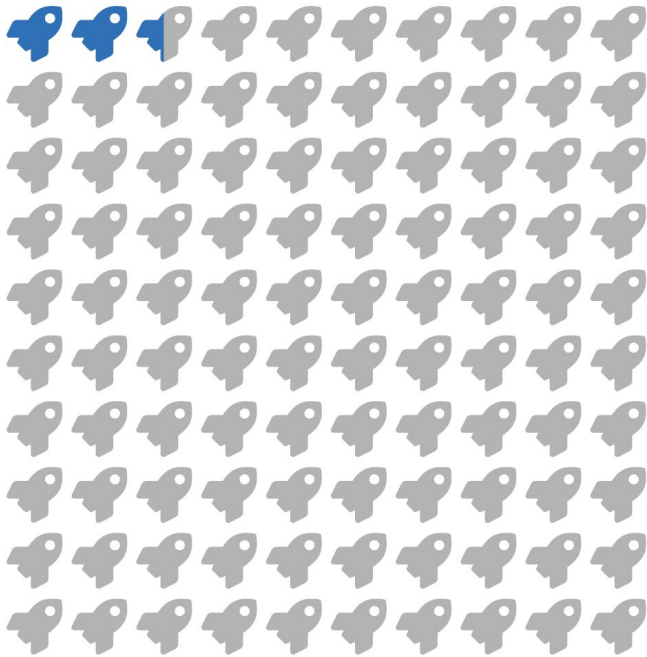
Problem	A Solution
Are you making a comparison based on area or a linear dimension such as height? Readers of your graph are likely to be confused; in general, people have trouble comparing areas.	Use a visualization that's easier to read - possibly a bar graph or, if you have all of the data, a pie chart.
<p><b>What time do high schoolers go to sleep?</b></p> <p>Before 10pm      Before 12am      Before 2am</p>  A pictograph showing three crescent moons of increasing size. The first moon is very small, the second is medium-sized, and the third is large. The size of the moons is not clearly defined, making it difficult to compare the areas or heights accurately.	<p><b>What time do high schoolers go to sleep?</b></p>  A bar graph showing the percentage of students who go to sleep at different times. The y-axis is labeled "Percent of Students" and ranges from 0% to 50% in 10% increments. The x-axis is labeled "Time to bed" and has four categories: "before 10pm", "10pm to 12am", "12am to 2am", and "after 2am". The bars are green and their heights correspond to the percentages: approximately 5% for "before 10pm", 20% for "10pm to 12am", 50% for "12am to 2am", and 25% for "after 2am".

## Problem: Too many icons to count

### Problem

Illustrating a percentage, especially a small one, with a pictograph requires the reader to count and compare a large number of images and may dilute the message.

#### Percent of graduates who are rocket scientists



### A Solution

Use the percentage itself. If you want to emphasize the smallness of the percentage, consider using a pie chart.

#### Graduates who are rocket scientists

**2.4%**

#### Graduating Class

