## **Graphic Principles of Visualizing Scientific Data**



Name _			
Date			

### 1. Keep it simple.

#### A. Aim to impart one or two key messages.

- » Did you highlight key patterns that seem to have meaning in the real world?
- » Can your viewers summarize your message(s) in a single sentence?
- » Try to impart something your audience will be drawn to, remember, and share. Know your audience.

### B. Everything on your graphic should have a reason for being there.

- » Pretend ink is expensive, so use as little as possible to tell your story.
- » Use color to reinforce your message, not solely for design.
- » Use basic, intuitive representations.
- » Don't include unnecessary dimensions of data (time, space, feature, etc.).

# 2. Tell the truth.

### A. Keep it accurate.

- » Did you pull the numbers correctly?
- » Keep in mind where your data came from. How was it collected? Context is essential.
- » Did you cite your data sources?
- » Use labels to eliminate ambiguity.

#### B. Be fair.

- » Choose your statistics wisely. Mean/averages, medians, and percentages tell different stories.
- » Did you represent the numbers and scale accurately? Make things proportional and appropriate to the numbers.
- » Are you comparing like things (similar attribute, dimension, time scale, etc.)?
- » Dots, lines, area, and volume convey different messages. Consider carefully which you will use.
- » Be aware of ways your graphic could be misinterpreted. Do your graphs show what you think they show? (Challenge yourself to reinterpret your graphic.)

### 3. Blow them away.

- » Draw them in with interesting, innovative design.
- » Shake up traditional charts, graphs, maps, etc.
- » Draw viewers' attention to the substance of the graphic.
- » Show data variation, not design variation.