

Math for Science and Social Studies

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As you arrive...

- Write your usual bedtime and wake up time on one dot sticker.
- Post your sticker to the Sleepy Time Scatter Plot





10:00 pm



Using SfA

All Materials

Data Resources

About SfA

Statistics for Action (SfA) is a collaboration between TERC and environmental advocacy organizations to help people in communities affected by environmental contamination. SfA can help people:

- Understand terms, units, and concepts in environmental data.
- · Analyze data to help communities strategize
- · Assess risks to health from environmental contamination
- · Communicate key data to decision-makers and the community

You can make the numbers come alive. Once the people understand, they are more likely to get engaged and active. -- Environmental organizer

Objectives:

- Help your students see data as a useful form of communication
- Experience activities that will help build:
 - understanding of non-textual information
 - the ability to reason from data
- Leave with meaningful activity experiences and additional, standards-aligned resources





Agenda

- Sleepy Time Scatterplot
- Stations: *Inside Averages
 - *Mapping Data
 - *Memorable Graphs
- Video Memorable Graphs
- "Cups of Coffee"
- Stations
- Video "Average" Truck Trips
- Debrief





Sleepy Time Scatterplot

- What is the most common bedtime for our group of participants?
- If you were to go to bed an hour earlier, how would your dot move?
- If you were to get up an hour earlier, how would your dot move?
- Which dots represent participants who get the most sleep? The least sleep?
- In general, how much sleep do participants get?



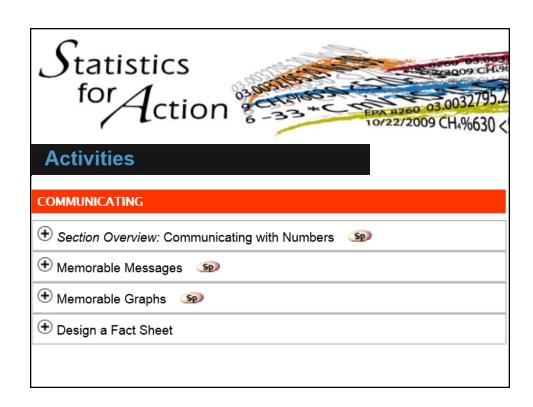


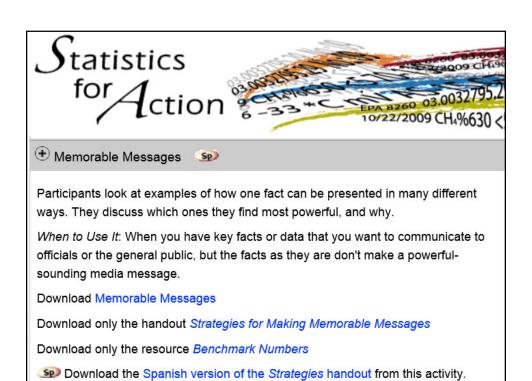
Statistics for Action Stations:

- Inside Averages:
 - Challenge a set of representations of average
 - Create your own graph of average
- Mapping Data
 - Compare arsenic levels to the standard
 - Map the data and look for trends or hot spots
- Memorable Graphs
 - Rank effective messages and discuss what makes a good visual representation
 - Make a case for more funding using a visual representation



Statistics
for Action
http://sfa.terc.edu







Coffee Cup Frequency Graph

- Find the mean cups of coffee I drink per day.
- What is the mode?





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Debrief:

 How can you raise/lower the level of the material you use?





Resources:

- SfA.TERC.edu
- ChangeAgent.NELRC.org
- NCTM's Figure This! Challenge #70
- TED Talk "ice cream causes drownings"
- USA Today Snapshots





