



Math for Science and Social Studies

COABE
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As you arrive...

10:00 pm
6:00 am

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





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






Activities

COMMUNICATING

+ Section Overview: Communicating with Numbers Sp
+ Memorable Messages Sp
+ Memorable Graphs Sp
+ Design a Fact Sheet

Statistics for Action



+ Memorable Messages Sp

Participants look at examples of how one fact can be presented in many different ways. They discuss which ones they find most powerful, and why.

When to Use It: When you have key facts or data that you want to communicate to officials or the general public, but the facts as they are don't make a powerful-sounding media message.

Download [Memorable Messages](#)

Download only the handout [Strategies for Making Memorable Messages](#)

Download only the resource [Benchmark Numbers](#)

Sp Download the [Spanish version of the Strategies handout](#) from this activity.

Statistics for Action



[Using SfA](#) [All Materials](#) [Data Resources](#) [About SfA](#)

The Change Agent



Fighting Contamination in a Chicago Neighborhood
Elna Sefilla

Playing in Contamination

When my children were little, they played in the alley behind our house. The alley was wet and muddy. When it rained, the dirty muddy water came into the garage and yard. Sometimes it came into the basement. The kids were playing as good knows what contamination.

The children got rashes. The rashes were so bad. Sometimes the children looked like they had cigarette burns on their legs. Other parents had the same problems with their children. But there was no where else to play. All the parents took their kids to the doctor. But the doctor didn't know where the rashes came from. We didn't know what to do, so we didn't do anything. (continued on p. 10)



STAYING SAFE IN A TOXIC WORLD

STRONG FROM THE HOME: How do you protect your family from environmental hazards like lead and mold? on p. 11. COLLECTIVE ACTION AND JUSTICE: How do you protect your family from environmental hazards like lead and mold? on p. 11. COLLECTIVE ACTION AND JUSTICE: How do you protect your family from environmental hazards like lead and mold? on p. 11.

Issue 22 www.changeagent.org March 2011

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



THANK YOU

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