Core Content

Cluster Title: Develop understanding of statistical variability.

Standard: 1. Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.

MASTERY Patterns of Reasoning:

Conceptual:
- Understand that data generated from statistical questions will vary.
- Recognize that responses to statistical questions have variations that can be used to draw conclusions about the data set.

Procedural:
- Identify the difference between a statistical and non-statistical question.
- Write simple statistical questions.

Representational:
- Create models that represent the anticipated data from statistical questions such as charts and tables.

Supports for Teachers

Critical Background Knowledge

Conceptual:
- Know the difference between a statement and a question.

Procedural:
- Be able to formulate a question.

Representational:
- Know how to set up and use charts and tables for representing data.

Academic Vocabulary and Notation

data, expectation, statistics, variability

Code: 6.SP
## Instructional Strategies Used

Provide examples and non-examples of statistical questions such as:

- **Example:** Over the course of the month, what time did Billy eat breakfast each day?
- **Non-example:** What time did Billy eat breakfast today?

Direct students to generate questions, and then as a class decide whether they are statistical questions or not.

## Resources Used

http://www.math.wichita.edu/history/topics/stat.html

## Assessment Tasks Used

### Skill-based Task

Given a list of questions, students will categorize them as statistical or non-statistical. For example, what color is my pencil? (non-statistical) What are the colors of the pencils in this class and how many of each are there? (statistical)

### Problem Task

Students will create their own statistical and non-statistical questions and address how the data might vary in response to that question. Encourage students to create story contexts for the questions given.