

Statistical Sleuths Unit Plan Overview

The Unit Plan Overview assists teachers in understanding which pieces of the Unit Plan will be used daily. It lists the Assessment Tools, Lesson Plans, and Student Web Lessons that the teacher will need for a particular day.

Day 1

Diagnostic Assessments

#1-First Detective Diary Entry

#2-Collecting Clues and Analyzing Answers

Days 2-3

Lesson Plan - Designing Detectives

Students explore the idea of formulating a hypothesis and designing an experiment to test the hypothesis. This is an introduction to the Unit Plan: Statistical Sleuths.

Days 4-5

Lesson Plan - Sampling Snoops

Students practice formulating a hypothesis and designing an experiment to test the hypothesis. Then they identify several sampling techniques they can use to test their hypotheses.

Days 6 –7

Lesson Plan - The Guise of a Graph Gumshoe

Students practice constructing bar, circle, and box-and-whisker graphs. Students also practice reading and interpreting data displays and explore how different displays of data can lead to different interpretations.

Days 8-10

Lesson Plan - Statistical Specimens

Students explore sampling techniques that are used to collect data. Students also practice finding mean, median, and mode of a set of data. Finally, students determine appropriate measures of central tendency for a situation.

Student Web Lesson - All That Data!

Review purposes only.

Students use range, mean, median, and mode.

Days 11-12

Summative Assessments

#1- Final Detective Diary Entry

#2-Collecting Clues and Analyzing Answers

OPTIONAL LESSON

Possible Language Arts Extensions:

These lessons correspond with Days 1-10 in the plan above. If Language Arts time is augmented with these lessons on developing oral communication skills, an Oral Presentation Rubric should be created and used for the students' presentation on Days 13 and 14.

Day 1: Oral Speaking Review: As a class, discuss what makes a good presentation. List specific skills that the speaker has that help to keep the audience engaged (interested) during the presentation.

Day 2: Oral Presentation Rubric: As a class, review the rubric and identify the criteria on the rubric that were also discussed on Day 1. Highlight/expound on any areas that are new or unclear to the students.

Day 3: Prepare a grab bag of topics (i.e., box-and-whisker graphs, double bar graphs, circle graphs, line graphs, range, mean, median, mode, measures of central tendency, systematic, random, and stratified sampling techniques, etc.). Have the students select a topic from the bag and then instruct them to use their textbooks to gather information about that topic (definitions, examples, explanations, etc.) Explain to the students that they will be practicing Volume and Rate in small groups today. Review with them the criteria of that section of the rubric, and provide model/teaching on proper phrasing and enunciation as needed. Then in small groups (3-4 students) have the students share what they learned about their topic with their group members. Encourage the students to keep the Volume and Rate section of the oral rubric in mind as they share their information, for the other group members will be using the rubric during their presentation to peer-assess their oral presentation skills. After small group activity, debrief as a class.

Day 4: Students present the information they learned about their topic on Day 3 to the whole class. Individual speakers are peer-assessed during the presentation by their group members from Day 3. (Group members use the Volume and Rate section of the rubric.) Debrief as a class.

Day 5: Students select another topic from the bag and prepare a presentation. The teacher reviews the criteria under the sections Comments and Observations and Visual Aids and provides modeling/teaching as necessary. Small groups are formed (these groups can be different from the groups on Day 3) and presentations made. Group members are peer-assessed using only these two sections of the rubric.

Day 6: Students present the information they learned about their topic on Day 5 to the whole class. Individual speakers are peer-assessed during the presentation by their group members from Day 5. (Group members use the Comments and Observations and Visual Aids sections of the rubric.) Debrief.

Day 7 and 8: Follow the same procedure for modeling, teaching, and practicing Nonverbal Strategies.

Day 9 and 10: Assign one topic (per group) and follow the same procedures for modeling, teaching, and practicing Discussion Strategies. However, the class presentation on Day 10 will involve the whole group (the other groups will peer-assess their Discussion Strategies using the Oral Presentation Rubric).