

Data, Detectives and Decisions 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 pieces, Lesson Plans, and Student Web Lessons that the teacher will need for a particular day.

Day 1

Diagnostic Assessments

Diagnostic Assessment #1- Collecting Clues and Analyzing Answers

Diagnostic Assessment #2- Detective Diary First Entry

Student Web Lesson

If needed, use for review purposes only.

Kinds of Graphs

Students learn about various types of graphs.

Days 2-3

Lesson Plan

Opening the Case

This is an introduction to the unit Data, Detectives, and Decisions. Students are taught how to design an experiment and use graphs and statistics to help solve a problem.

Student Web Lessons

If needed, use for review purposes only.

1. Arrange a Party

Students use problem-solving steps to find and use the range of a set of data to plan a party.

2. The Party Mode

Students find and use the mode of a set of data.

3. The Party Comedian

Students find and use the median of a set of data.

4. A Party in Review

Students explore how to use pictographs to find the average for sets of data.

5. The Mean Green Machine

Students use a calculator to find and use the average, or mean, of a set of data.

Days 4-5

Lesson Plan

Observing the Evidence

Students discuss ways to choose a representative sample of a large group in order to answer a class question and learn how to collect the data.

Student Web Lesson

If needed, use for review purposes.

All That Data!

Students use range, mean, median, and mode.

Days 6-7

Lesson Plan

Looking for More Clues

Students review how to display collected data on bar and circle graphs.

Student Web Lesson

If needed, use for review purposes.

All That Data!

Students use range, mean, median, and mode.

Days 8-9

Lesson Plan

Using Statistics to Uncover More Evidence

Students use statistics to interpret data collected from a representative sample.

Student Web Lesson

All That Data, Too!

Students describe graphs in terms of range, measures of central tendency, and distribution.

Day 10

Lesson Plan

Closing the Case

Students review the steps for data collection and how to prepare data displays using statistical information from a survey.

Days 11-12

Summative Assessments

Summative Assessment #1 Collecting Clues and Analyzing Answers

Summative Assessment #2 Final Detective Diary Entry

Possible Technical Extensions: (to address MA.E.1.2.3)

Students are introduced to Microsoft Excel (or other applicable spreadsheet programs) and are shown how to a) organize their data within the program and b) access the program's menu to generate various graphs.

OPTIONAL LESSON

Possible Language Arts Extensions: (to address LA.C.3.2.1, LA.C.3.2.1, LA.C.3.2.3, and to *introduce* LA.C.3.2.4 and LA.C.3.2.5)

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., stem-and-leaf plots, bar graphs, circle graphs, line graphs, range, mean, median, mode, representative samples, measures of central tendency, distribution, 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 2 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).