

# Diagnostic Assessment #1 for Data, Detectives and Decisions



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# Diagnostic Assessment #1 Instructions

## Constructed Response

**Duration: 40-50 minutes**

**Standard(s) Assessed:** MA.E.3.2.1.5.1, MA.E.3.2.1.5.2, and LA.B.2.2.1.5.1

### **Description of Assessment Activity:**

Throughout the unit, students (a.k.a. detectives) make entries in their Detective Diaries about the clues they discover while collecting and analyzing different sets of data. At the onset of the unit, students are presented a problem situation (see prompt in the [Student Directions](#)) that requires the collection and analysis of information in order to solve. After reviewing the prompt, students will be asked to 1) generate a list of question(s) that should be included in the survey, and 2) write a paragraph to explain how to choose a sample representative of the entire school.

### **Teacher Directions:**

#1 Gather materials (construction paper, writing paper) or notebooks for students to use as “Detective Diaries” (a.k.a. journals) throughout the unit.

#2 Prepare an overhead transparency of the written prompt (see Student Directions).

#3 As you review the prompt with the students, you may explain what “a sample representative” means just do not provide the students with any hints or ideas on how to go about choosing the sample.

### **Student Directions:**

Prompt: Marie believes that students who do between 4 and 10 hours of homework per week make better grades than students who do not do homework or who do more than 10 hours of homework per week. To test her hypothesis, she is designing a survey that she will give the students at her school.

### **For your first entry:**

#1 List the **questions** Marie should include in her survey.

#2 Explain in a paragraph how Marie should choose a **sample representative** of the entire school.

### **Scoring Method & Criteria:**

The first entry should not be scored because its purpose is to diagnose student understanding prior to instruction. Use the Long-Answer Question Rubric to determine student’s prior knowledge and their ability to communicate in a paragraph. The section “Answering the Problem” will be used to assess students’ correct answers on choosing a sample representative. The section “Explaining and Interpreting your Answer” will be used to assess how completely and clearly students’ explained how the sample representative would be chosen.

**Note:** The two rubrics used within this unit, Short and Long Answer rubrics are only partially used. As the teacher becomes familiar with the rubric, the reason for this can be readily seen. The teacher is free to use the rubric in its entirety in other settings as deemed necessary.

### Long-Answer Question Rubric

	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Answering the Problem</b>	You arrive at a correct answer. Minor errors in your response do not take away from the understanding shown by your work.	You arrive at a correct answer, but minor errors in your response indicate that you have some misunderstanding of the concepts and procedures.	You may arrive at a correct answer, but the errors in your response reveal that there are essential parts of the concepts and procedures that you do not understand.	You arrive at an incomplete answer. The errors in your response reveal many flaws in your understanding of the concepts and procedures.	Your answer was incorrect or not given at all.
<b>Showing your Work</b>	You follow the given directions to show how the problem was solved. All steps are provided and they show correct math procedures.	You follow the given directions to show how the problem was solved. Steps are provided, but careless errors are shown in the math procedures.	You follow the given directions in an attempt to show how the problem was solved. Some of the steps provided show incorrect math procedures.	You attempt to show how the problem was solved. Some of the steps are addressed, but you fail to arrive at a complete answer.	You make no attempt to show how the problem was solved, or the procedures shown are all incorrect.
<b>Explaining &amp; Interpreting your Answer</b>	You explain how to solve the problem so clearly and completely that someone else can find the answer in a new situation. The interpretations you give can be inferred from the information.	You explain how to solve the problem so that someone else can find the answer. The interpretations you give can be supported by the information.	You may begin to explain how to solve the problem, but you do not clearly show how to find the answer. The interpretations you give are not always supported by the information.	Your explanation of how to solve the problem is incomplete or flawed. The interpretations you give can not be supported by the information.	Your explanations and interpretations are not correct, understood, or given.
<b>What each point value means...</b>	<i>Your work shows a <b>complete</b> understanding of the concepts &amp; procedures.</i>	<i>Your work shows an <b>essential</b> understanding of the concepts &amp; procedures.</i>	<i>Your work shows a <b>partial</b> understanding of the concepts &amp; procedures.</i>	<i>Your work shows a <b>limited</b> understanding of the concepts &amp; procedures.</i>	<i>Your work shows <b>no</b> understanding of the concepts &amp; procedures.</i>

## Diagnostic Assessment #1

Marie believes that students who do between 4 and 10 hours of homework per week make better grades than students who do not do homework or who do more than 10 hours of homework per week. To test her hypothesis, she is designing a survey that she will give the students at her school.

### Detective Diary Entry #1

- List the **questions** Marie should include in her survey.
- Explain in a paragraph how Marie should choose a **sample representative** of the entire school.

Adapted from open-response released items (1991-1990). Kentucky Instructional Results Information System. Kentucky Department of Education.