Formative Assessment Worksheet  
Specification #3

Teacher ID:   
School ID:

|  |  |  |
| --- | --- | --- |
| **Target competency:**  special arrow.wmf Student can organize data by creating a table, chart, or other representation to facilitate interpretation.  Student can make inferences and predictions and use the data to defend or refute conclusions.  NOTE: **Specification #3 combines two competencies. You should treat these two as one for the purpose of formative assessment; there is no need to complete separate worksheets.** | | |
| Anticipated student misconceptions relevant to this target competency: | | |
|  | **Learning Progression Leading to the Target Competency** (List Building Blocks in Reverse Chronological Order) | **Type of Knowledge** |
| 5. |  |  |
| 4. |  |  |
| 3. |  |  |
| 2. |  |  |
| 1. |  |  |

Copy/paste **Building Block 1** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 2** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 3** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 4** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

Copy/paste **Building Block 5** into this box:

In two to four sentences, describe what you will do with your students to help them achieve this building block.

→

State how you will assess this building block. In other words, what will you ask your students to do to establish whether they have achieved this building block? Identify the assessment format you will use.

→

**Target Competency:**

Student can organize data by creating a table, chart, or other representation to facilitate interpretation.

Student can make inferences and predictions and use the data to defend or refute conclusions.

In two to four sentences, describe what you will do with your students to help them achieve this target competency, assuming they have achieved the above building blocks.

→

NOTE: **Do not state how you will assess this target competency in this box.** The design of the assessment is established by the specification. Use the following pages of the worksheet to describe what you will do to assess this target competency. Refer to the guidelines in the “**Procedure for Creating Parallel Tasks**” section in Specification #3 when developing this formative assessment.

**Student Instructions**

In this exercise, you will use data already collected by a researcher to help **evaluate this research question**:

*[Type the research question here.]*

This research involves one independent variable and one dependent variable:

* Independent variable: *[Type the independent variable here.]*
* Dependent variable: *[Type the dependent variable here.]*

**Experimental Procedure:**

*[Insert the explanation of the experimental procedure.]*

*[Insert a graphic (if necessary) to supplement the explanation of the experimental procedure.]*

*[Insert any additional explanation of the experimental procedure or how data were collected.]*

The data for all three trials are provided in the following table:

*[Insert the raw data that students must reorganize in their table, graph, or chart.* ***Note:*** *Data may be presented in the form of a table, but do not organize the data by the level of the independent variable.]*

**Student Answer Sheet Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

In the space below, **create a table, graph, or chart** that makes the data easier to understand.

**Answer the research question**: *[Insert the research question here.]*

Here are some things you should write about:

* Describe in detail any relationships between the *[type the independent variable here]* and the *[type the dependent variable here]*.
* Describe how the data support your conclusions. Refer to specific data.
* Explain why the researcher repeated the procedure three times. What does this additional information tell us?

Student Formative Assessment Checklist

This checklist can be used by students for self-assessment or by you to provide feedback. The checklist is based on the specification and reworded to suit seventh-grade reading level. Please feel free to reword for your students.

**Directions:** Use this checklist to evaluate your work. Read each section below and put a check in the box (🗹) next to each statement that accurately describes your work.

**Data Representation**

|  |  |
| --- | --- |
| I created a table, graph, or chart that made the data easier to understand. | 🞎 |
| I put all of the data in a single table, graph, or chart. | 🞎 |
| I grouped the data by the level of *[type the independent variable here].* | 🞎 |
| I accurately recorded all of the data in my table, graph, or chart. That is,   * I did not leave any data out. * I did not accidentally change the values of any measurements. * If I averaged the data for each level of *[type the independent variable here]*, I did not make any calculation errors. | 🞎 |

**Measurement Error Observations**

|  |  |
| --- | --- |
| For each level of *[type the independent variable here]*, I either   * reported all three measurements, or * calculated the average of the three measurements. | 🞎 |
| I said that the three measurements for each level of *[type the independent variable here]* were slightly different from one another. | 🞎 |
| I said that even though the three measurements were slightly different, the level of *[type the independent variable here]* produced larger differences in the measurements. | 🞎 |

**Major Findings**

|  |  |
| --- | --- |
| I explained the overall effect of the *[type the independent variable here]* on the *[type the dependent variable here]*. | 🞎 |
| I supported my explanation of the overall effect by using actual data. That is, I included actual values of the *[type the independent variable here]* and the *[type the dependent variable here].* | 🞎 |
| Better yet, I explained how the *[type the dependent variable here]* is affected at each level of the *[type the independent variable here]*. | 🞎 |
| I supported this more specific explanation by using actual data. That is, I used actual values of the *[type the independent variable here]* and the *[type the dependent variable here]*. | 🞎 |