**Scientific Investigation**

Students apply science knowledge, tools, procedures, and design of scientific experiments.

**Simple Data Presentations, Experiments, and Theoretical Models**

A student performing at the Needs Support level:
- selects one piece of data from a moderately complex data presentation.
- identifies similarities and differences between moderately complex experimental scenarios.
- distinguishes hypothesizes, predictions, or conclusions that are, or are not, consistent with moderately complex theoretical models.
- identifies the strengths and weaknesses of moderately complex theoretical models.

A student performing at the Close level:
- understands the methods, tools, and functions of tools used in a moderately complex experiment.
- understands the term “model” and its relation to complex theoretical models.
- identifies inferences that are, or are not, consistent with moderately complex theoretical models.
- identifies the strengths and weaknesses of moderately complex theoretical models.

A student performing at the Ready level:
- understands the complex experimental design.
- understands that inferences are, or are not, consistent with moderately complex theoretical models.
- understands that evidence is, or is not, consistent with moderately complex theoretical models supported or weakened by new information.

A student performing at the Exceeding level:
- understands that complex experimental designs are complex and can be challenging to high school students.
- understands that complex data presentations can include text and graphics, such as tables and graphs with color differents of data points, bar graphs with error bars, line graphs with data points and lines with trends, highly complex#

**Moderately Complex Data Presentations, Experiments, and Theoretical Models**

A student performing at the Needs Support level:
- selects two or more pieces of data from a complex data presentation.
- distinguishes hypothesizes, predictions, or conclusions that are, or are not, consistent with moderately complex theoretical models.
- distinguishes the strengths and weaknesses of moderately complex theoretical models.
- identifies the strengths and weaknesses of moderately complex theoretical models.

A student performing at the Close level:
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.
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A student performing at the Ready level:
- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.
- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.
- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.
- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.

A student performing at the Exceeding level:
- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.
- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.
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- translates moderately complex data into a table, graph, or diagram to find the highest/lowest value.

**Evaluation of Models, Inferences, and Experimental Results**

Students apply science knowledge, skills, and practices to evaluate the validity of scientific information and formulate conclusions and predictions based on that information.

A student performing at the Needs Support level:
- selects one piece of data from a moderately complex data presentation.
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram.

A student performing at the Close level:
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram.

A student performing at the Ready level:
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram.

A student performing at the Exceeding level:
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram.
- translates moderately complex data into a table, graph, or diagram.

**Interpretation of Data**

Students apply science knowledge, skills, and practices to describe, analyze, and evaluate data and scientific information.

A student performing at the Needs Support level:
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.

A student performing at the Close level:
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.

A student performing at the Ready level:
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.

A student performing at the Exceeding level:
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.
- identifies features of a simple table, graph, or diagram.