

Self-rating: _____

1. ASK QUESTIONS, DEFINE PROBLEMS[Save and Hide Additional Details »](#)

Program's explanation for this rating:

Documents that support the program's rating for this principle:

Accomplished

Asking questions and defining problems builds across K-8 and progresses to formulating, refining, and evaluating empirically testable questions and design problems using models and simulations. Questions arise from examining models or a theory to clarify relationships.

Developing

Poses questions that are based on models and theories but are not empirically testable.

Undeveloped

Questions are not asked or those that are posed do not result from examining models or theories.

N/A

Review Notes:

Self-rating: _____

2. DEVELOP AND USE MODELS[Save and Hide Additional Details »](#)

Program's explanation for this rating:

Documents that support the program's rating for this principle:

Accomplished

Developing models that are used to predict and show relationships among variables between systems and their components in the natural and designed world. Models that are developed are based on evidence and are used to illustrate the relationships between systems or between components of a system.

Developing

Developing models that are not used to illustrate relationships between systems or components of systems.

Undeveloped

Students do not have the opportunity to develop models.

N/A

Review Notes:

Self-rating: _____

3. ENGAGE IN ARGUMENT FROM EVIDENCE : "MAKE AND DEFEND A CLAIM"[Save and Hide Additional Details »](#)

Program's explanation for this rating:

Documents that support the program's rating for this principle:

Accomplished

- Defending and critiquing claims and explanations about the natural and designed world(s) by using appropriate and sufficient evidence and scientific reasoning and/or from current scientific or historical episodes in science. Evaluating claims, evidence, and reasoning behind currently accepted explanations or solutions to determine the merits of arguments. Making and defending a claim based on evidence about the natural world that reflects scientific knowledge, and student-generated evidence.

Developing

- Making claims and explanations about the natural and designed world(s). Students not always required to use evidence properly to defend claims and explanations.

Undeveloped

- Students do not have sufficient opportunities to collect evidence and use that evidence to defend claims.

N/A

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Review Notes:

Self-rating: _____

4. CONSTRUCT EXPLANATION AND DESIGN SOLUTIONS: "CONSTRUCT AN EXPLANATION BASED ON EVIDENCE"[Save and Hide Additional Details »](#)

Program's explanation for this rating:

Documents that support the program's rating for this principle:

Accomplished

- Constructing explanations and designing solutions supported by multiple and independent student-generated sources of evidence consistent with scientific ideas, principles, and theories. Constructing explanations based on valid and reliable evidence obtained from a variety of sources (including students' own investigations, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.

Developing

- Constructing explanations and designing solutions supported by student-generated sources of evidence that may or may not be consistent with scientific ideas, principles and theories.

Undeveloped

- Students are not constructing explanations or designing solutions.

N/A

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Review Notes:

Self-rating: _____

5. OBTAIN, EVALUATE, AND COMMUNICATE INFORMATION

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Program's explanation for this rating:

Documents that support the program's rating for this principle:

Accomplished

Regularly communicating scientific information (e.g., about phenomena and/or the process of development and the design and performance of a proposed process or system) in multiple formats (including orally, graphically, textually, and mathematically).

Developing

Regularly communicating scientific information in limited formats and with single representations (only textually or graphically, for example)

Undeveloped

Students do not regularly communicate scientific information in any format.

N/A

Review Notes:

Self-rating: _____

6. USE MATH AND COMPUTATIONAL THINKING TO ANALYZE AND INTERPRET DATA

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Program's explanation for this rating:

Documents that support the program's rating for this principle:

Accomplished

Using mathematics and computational thinking to analyze, represent, and model data. Simple computational simulations are created and used based on mathematical models of basic assumptions. Using mathematical representations of phenomena or designing solutions to support claims. Creating or revising a simulation of a phenomenon, designed device, process, or system

Developing

Using simple computational tools for analysis to analyze, represent and model data. Mathematical models are not used to support claims.

Undeveloped

Students do not have the opportunity to use mathematical models to represent data or to support claims.

N/A

Review Notes:

7. PLAN AND CARRY OUT INVESTIGATIONS

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Program's explanation for this rating:

Documents that support the program's rating for this principle:

Accomplished

Planning and carrying out investigations that provide evidence for and test conceptual models. Planning and conducting an investigation individually and collaboratively to produce data to serve as the basis for evidence, and in the design: decide on types, how much, and accuracy of data needed to produce reliable measurements and consider limitations on the precision of the data (e.g., number of trials, cost, risk, time), and refine the design accordingly.

Developing

Planning and carrying out investigations either individually or collaboratively to produce data, but students not clearly required to use data as the basis for evidence or consider how the types, amount, or accuracy of data might support or undermine validity of conclusions

Undeveloped

Students do not have the opportunity to plan or carry out investigations individually, but may participate in full-class demonstrations or investigations.

N/A

Review Notes: