



INVESTIGATE THE WORLD

What is the evidence that the student uses scientific procedures and disciplines to investigate natural and/or human global phenomena?

	Emerging	Developing	Proficient	Advanced
SCI3-5.INV1.QUSTN	Begins to understand how scientific questions are formulated.	Refines or expands a teacher-formulated global scientific question and hypothesis	Raises questions about a science issue.	Formulates questions about a significant global science issue.
SCI3-5.INV2.SOURC	Uses provided sources to answer scientific questions.	Uses a variety of provided sources to research the given hypothesis or research thesis.	Gathers background information from a limited number of sources and begins to analyze these sources.	Gathers background information from a variety of secondary sources and compares and analyzes it, with results beginning to support the hypothesis or research thesis.
SCI3-5.INV3.MODEL	Recalls and describes a given theory and/or model.	Explains and analyzes scientific questions using a given model or theory.	Identifies existing theories and/or models related to a scientific question.	Identifies an existing theory and/or model related to an experimental hypothesis or research thesis and begins to question the credibility and reliability of the theories and/or models, identifying limited evidence to support or refute them.
SCI3-5.INV4.XPRMT	Follows a guided experiment and collects data to answer a given scientific question.	Explains how data in an experiment relates to the scientific question and can suggest design changes.	Designs an experiment that is related to the stated question and bases conclusions on opinions as well as some observation, measurement, and data.	Designs an experiment that is related to the stated problem and bases conclusions on observations, measurements, and empirical data.

RECOGNIZE PERSPECTIVES

What is the evidence that the student interprets and discusses scientific data in the context of complex global systems?

	Emerging	Developing	Proficient	Advanced
SCI3-5.PERS1.CNTXT	Recalls a given perspective on a global science issue and makes a personal connection.	Uses a given context to explain a global science issue.	Identifies and uses a single context to explain a global science issue.	Identifies and uses two contexts to interpret a global science issue and discusses alternate viewpoints.
SCI3-5.PERS2.DATA	Provides data answering a given question.	Explains data based on given patterns and relationships.	Organizes and restates experimental data, begins to identify patterns, and refers back to the original question in the conclusion.	Identifies patterns or relationships in the data with limited mathematical or statistical analysis or minor errors, identifies and discusses experimental error, outliers, and/or inconsistencies in the data, and refers to the hypothesis or research thesis in the conclusion.
SCI3-5.PERS3.QUSTN	Selects a new question from a given list of related questions.	Explains how the chosen new question relates to the research findings.	Poses new questions with some relevance to the research findings.	Poses new questions with clear relevance to the research findings.

COMMUNICATE IDEAS

How clearly and accurately does the student communicate and defend his/her mathematical thinking, approaches, representations, solution, and decisions?

	Emerging	Developing	Proficient	Advanced
SCI3-5.COMM1.PRCDR	Restates given procedures.	Explains given procedures.	Describes experimental and/or research procedures generally, but cannot replicate them and bibliographic format for references or citations is inconsistent.	Explains experimental and/or research procedures in detail, some steps required to replicate the experimental design may be incomplete, and bibliographic format is consistent for each type of reference or citation.
SCI3-5.COMM2.VSULS	Uses given visual representations to present data.	Adds scientific conventions to given visual representations.	Presents data with visual representations, demonstrating a basic understanding of the science issue and experimental or research presentation partially follows the conventions of scientific communication.	Presents data with visual representations that mostly support explanation of the science issue and experimental or research presentation follows most conventions of scientific communication.
SCI3-5.COMM3.TECHL	Recalls given examples of technology and media being used for collaboration.	Uses some technology or media to share science information.	Uses technology and media to express ideas and collaborate within the classroom.	Uses technology and media to express and discuss scientific ideas and collaboration within the classroom, as well as beyond the classroom at a limited level.
SCI3-5.COMM4.FORMT	Begins to understand that different communication formats serve varying purposes.	Understands the need to choose a communication format that enhances the discussion of a science issue, including global implications and personal reflections.	Selects from limited communication choices, indicating a basic understanding of a science issue.	Selects communication format indicating a developing understanding of a science issue.

TAKE ACTION

What is the evidence that the students translates scientific inquiry or research results into actions that increase awareness and improve global conditions?

	Emerging	Developing	Proficient	Advanced
SCI3-5.ACT1.PLAN	Discusses a planned action to improve conditions.	Participates in collaboratively planning a class action to increase awareness of an issue based on experimental or research findings.	Develops a basic action plan that describes positive actions or policy.	Develops an action plan that describes positive actions or policy relevant to scientific inquiry or research findings.
SCI3-5.ACT2.IMPCT	Speaks in guided discussions about ways that technology and personal views impact choices and actions.	Explains the impact of technology or personal views in a given science issue.	Identifies available technology for selected actions.	Identifies available technology and personal views for selected actions and begins to think about their impact.
SCI3-5.ACT3.IMPLT	Participates in a planned action, collecting group data and discussing the results.	Identifies action steps for implementing a given plan and adds ideas for positive change.	Implements and discusses an action plan.	Implements an action plan, collects and discusses data, and begins to identify changes in a local or global science issue.
SCI3-5.ACT4.RFLCT	Shares feelings about given project.	Reflects on changes in feelings about a given project.	Mentions in a reflection how feelings and thinking about the issue was informed by the project.	Describes in a reflection how feelings and thinking about the issue was informed by the project.