



INVESTIGATE THE WORLD

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

SCI11-12.INV1.QUSTN

- I can identify a global science issue. This means that I can locate and record a science issue that affects the world.
- I can formulate a question about a global science issue. This means that I can create a question about a global issue for which I do not know the answer, but which I think can be tested or researched.
- I can refine my question about a global science issue. This means that I can make changes to my question based on further research or experiments.
- I can develop a specific, clear, and focused hypothesis or research thesis. This means that I can think of a possible answer to my question that can be researched or tested scientifically to determine if my is supported by data.

SCI11-12.INV2.SOURC

- I can gather information to support a hypothesis or research thesis. This means that I can locate at least four sources to support my hypothesis or thesis. It also means that at least two of these sources provide secondary data. It also means that at least two of these data sources take a global point of view.
- I can compare sources. This means that I can describe the similarities and differences in my sources. It also means that I can explain the differences that may eliminate a source as support for my hypothesis or thesis due to opposing conclusions.
- I can analyze the information provided by each source. This means that I can examine and describe the important elements of ideas presented in the sources in detail.
- I can use sources to support my hypothesis or thesis. This means that I can clearly support all the contentions of my hypothesis or thesis.

SCI11-12.INV3.MODEL

- I can identify multiple existing theories and/or models related to my hypothesis. This means that I can locate two or more existing theories and/or scientific models that relate to my idea.
- I can evaluate the credibility of existing theories and/or models related to my hypothesis. This means that I can describe existing theories and/or models and how they relate to my idea.
- I can identify evidence to support or refute my hypothesis or thesis. This means that I can find evidence in existing models that either supports or opposes my idea.

SCI11-12.INV4.XPRMT

- I can design an experiment to partially test a hypothesis. This means that I can describe an experiment that tests my hypothesis as fully as possible. It also means that the experiment is designed to focus on the variable(s) being tested or researched.
- I can use appropriate technology in an experiment. This means that I know how to use the appropriate technology responsibly, effectively, and skillfully. It also means that I can find help if I need help using the technology.
- I can analyze data from the experiment. This means that I can describe the data from my experiment and what it means in relation to my hypothesis or research thesis.
- I can come to logical conclusions supported by evidence. This means that I can write a conclusion for my hypothesis or research thesis that follows logically from my experimental data and supports my hypothesis or thesis.

RECOGNIZE PERSPECTIVES

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

SCI11-12.PERS1.CNTXT

- I can identify more than two contexts to explain a global science issue. This means that I can list at least three different situations affecting a local or global science issue and describe how they each influence the issue.
- I can present at least two differing points of view (one in support and one in opposition) to explain a local or global science issue. This means that I can describe the points of view and explain how and why they interpret the issue differently.

SCI11-12.PERS2.DATA

- I can find data related to my hypothesis or research thesis. This means that I can locate or produce data that relates to my hypothesis or thesis.
- I can analyze data patterns and relationships in data. This means that I can apply advanced mathematical or statistical techniques to the data to identify and interpret possible sources of error or other data inconsistencies.
- I can draw conclusions based on data. This means that I can describe conclusions about my hypothesis or research thesis and my conclusions are supported by my interpretation of the data.
- I can evaluate the hypothesis or thesis based on data. This means that I can determine the value of the data I located as it relates to supporting my hypothesis or thesis.

SCI11-12.PERS3.QUESTN

- I can form new questions in response to implications from my research results. This means that I can write at least two relevant questions on local or global science issues that are in direct response to my experiment or research. It also means that I do not know the answer to the questions, and the questions focus on a different perspective or aspect of the issue that I investigated in my experiment or research.
- I can discuss these questions. This means that I can describe and debate the value of these questions and where they might lead.

COMMUNICATE IDEAS

What is the evidence that the student understands and discusses global implications of scientific ideas, research, or inquiry results, and offers personal reflections?

- SCI11-12.COMM1.PRCDR**
- I can describe experimental and/or research procedures. This means that I can describe the process I used in my experiment or research. It also means that my description is precise enough that someone else would be able to replicate the experiment or research.
 - I can use a bibliographic format that is consistent. This means that I write the information for each type of reference in the same way. It also means that someone else would be able to locate the original source of the citations I used in my experiment or research.
- SCI11-12.COMM2.VSULS**
- I can present data with visual representations. This means that I can present data using visual representations that enhance my explanation of the issue.
 - I can create a presentation that applies the conventions of scientific communication to my ideas. This means that I can present numerical and observational data following standard scientific conventions. It also means that my presentation will be appropriate for audiences with different levels of scientific understanding.
- SCI11-12.COMM3.TECH**
- I can select and use technology and media to express and discuss scientific ideas. This means that I can select and use the most appropriate technology and media to communicate and discuss scientific ideas.
 - I can select and use appropriate technology and media to collaborate on scientific ideas beyond the classroom. This means that I can select and use the most appropriate technology to work extensively with other individuals on scientific issues.
- SCI11-12.COMM4.FORMT**
- I can effectively choose a communication format for a science issue. This means that I can choose a type of communication strategy and format that will support discussion of the science issue in the best way. It also means that the communication strategy and format allows for the inclusion of personal reflections and global implications.

TAKE ACTION

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

SCI11-12.ACT1.PLAN

- I can develop an action plan based on experimental or research findings. This means that I can work with others or on my own to develop an action plan that proposes an action or policy. It also means that the action or policy has the potential to increase awareness and improve some aspect of a local or global science issue.

SCI11-12.ACT2.IMPCT

- I can evaluate available technology to determine its impact on actions. This means that I can describe the positive and/or negative impact technology might have on my plan for positive change. It also means that I can consider what technology needs to be available in order to accomplish my plan.
- I can determine how possible actions for positive change can be influenced by various viewpoints. This means that I can describe how various points of view, including alternative points of view, can influence my plan for positive change.
- I can consider ways to address alternate viewpoints or solutions. This means that I can describe how my action for positive change might be modified to address other points of view or possible solutions for to the science issue.

SCI11-12.ACT3.IMPLT

- I can implement a creative or innovative action plan. This means that I can take new action, following and revising a plan as needed, to bring about positive change.
- I can collect data related to impacts in the local or global science issue. This means that I can collect appropriate data about positive, negative, or null impacts related to the issue and resulting from actions taken.
- I can identify unintended consequences of my action plan. This means that I can identify when my plan has different results than originally planed.

SCI11-12.ACT4.RFLCT

- I can reflect on how the project has affected my views on the issue. This means that I can think about and describe how completing the project has developed my views about the issue.
- I can reflect on future actions and alternative thoughts connected to this issue. This means that I can think about and describe how I will approach issues in the future as I develop action plans. This also means that I am more aware of different ways of thinking about scientific issues.