



INVESTIGATE THE WORLD

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

- **SCI9-10.INV1.QUSTN.** Formulates questions about a significant global science issue and develops a hypothesis or research thesis.
- **SCI9-10.INV2.SOURC.** Gathers relevant background information from a combination of primary and secondary global sources and compares and analyzes it, providing support for most issues raised by the hypothesis or research thesis.
- **SCI9-10.INV3.MODEL.** Identifies an existing theory and/or model related to an experimental hypothesis or research thesis and questions and analyzes the credibility and reliability of the theories and/or models, identifying evidence to support or refute them.
- **SCI9-10.INV4.XPRMT.** Designs an experiment that is relevant to the stated problem and partially tests the hypothesis or research thesis, bases conclusions on empirical evidence, and the data are discussed in support of the hypothesis or research thesis.

RECOGNIZE PERSPECTIVES

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

- **SCI9-10.PERS1.CNTXT.** Identifies and compares two or more contexts to analyze a global science issue, with discussion of the interrelationships and contrasts one or more alternate views.
- **SCI9-10.PERS2.DATA.** Analyzes patterns and relationships in the data by mostly correct application of mathematical or statistical techniques, identifies and interprets experimental error, outliers, and/or inconsistencies in the data, and concludes by evaluating the hypothesis or research thesis based on evidence from the data.
- **SCI9-10.PERS3.QUSTN.** Poses relevant new questions that extend the original research question.

COMMUNICATE IDEAS

What is the evidence that the student advances and defends arguments that foster collaboration among diverse audiences?

- **SCI9-10.COMM1.PRCDR.** Demonstrates experimental and/or research procedures in sufficient detail to replicate and bibliographic format is consistent for each type of reference and includes multiple sources and citations.
- **SCI9-10.COMM2.VSULS.** Presents data with visual representations that support explanation of the science issue and experimental or research presentation follows most conventions of scientific communication.
- **SCI9-10.COMM3.TECH.** Uses technology and media to express and discuss scientific ideas and collaboration beyond the classroom.
- **SCI9-10.COMM4.FORMT.** Selects communication formats to support discussion of scientific ideas and personal reflection.

TAKE ACTION

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

- **SCI9-10.ACT1.PLAN.** Develops an action plan that details collaborative actions or policy based on experimental or research findings that have the potential to improve conditions locally.
- **SCI9-10.ACT2.IMPCT.** Evaluates available technology and personal views for their impact on the choices made and actions selected.
- **SCI9-10.ACT3.IMPLT.** Implements an action plan and collects and discusses data to identify and analyze changes in the local or global science issue.
- **SCI9-10.ACT4.RFLCT.** Describes in a reflection specific ways feelings and thinking about the issue and future choices were influenced by the project.