SCILLSS Classroom Science Assessment Workshop

# HS-LS4-5 Task Specifications Tool

| Element | Description |
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| Performance Expectation   * Indicate the PE from the instructional sequence to be assessed. | **HS-LS4-5.** Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. |
| Knowledge, Skills, & Abilities (KSAs)   * Develop statements which specify what is expected of students to demonstrate (i.e., knowledge, skills, and abilities) to provide evidence that they have learned one or more aspects of a PE. | * **KSA1:** Evaluate evidence from cause and effect relationships to make and/or support a claim that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and/or (3) the extinction of other species. * **KSA2:** Evaluate evidence to make and/or support a claim that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and/or (3) the extinction of other species. * **KSA3:** Use cause and effect relationships to make and/or support claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and/or (3) the extinction of other species. |
| Student Demonstration of Learning   * List what students should be able to do to demonstrate that they have met the KSA(s).   Define qualities of student performance that constitute student evidence. | * Construct logical arguments. * Assess the ability of the given evidence to be used to determine causal or correlational effects. * Identify and describe additional evidence (in the form of data, information, models, or other appropriate forms) that was not provided but is relevant to the claims and to evaluating the given evidence. * Analyze and interpret the data, and if necessary, modify the protocol and run the investigation again. |
| Work Product   * Determine the “vehicles” (i.e., work products) that are intended to contain observable evidence (e.g., a model, an argument, a description, a graph, a chart). | * Constructed-response * Argument |
| Task Features   * List the task features from which the task writer selects to develop an assessment task. * Reference the “Clarification Statement” in the NGSS for the PE as appropriate. * Note: A single question/task may not represent all the features listed. | * All tasks must prompt students to describe relationships between observed phenomenon or evidence and reasoning underlying the observation/evidence. * Students use scientific reasoning and process skills. * All tasks must elicit core ideas as defined in the PE. * All tasks must include elements from at least two dimensions of the Nebraska College and Career Ready Standards for Science. |
| Aspects of an assessment task that can be varied to shift complexity or focus   * Allows for a range of tasks to be developed of varying complexity. * Allows for development of tasks that focus on various skills related to the PE. * Allows the task developer to match features of the task with the characteristics of students such as their interests, familiarity, and provided instruction. | * Evaluation of evidence may include, but is not limited to:   + describing criteria used to critique claims;   + using evidence to compare and/or evaluate competing arguments and/or solutions;   + using evidence to determine the merit of an argument and/or an explanation;   + using evidence to construct and/or support an argument and/or a claim; and   + evaluating competing design solutions to real-world problems using scientific ideas and/or evidence and/or relevant economic, societal, and/or environmental considerations. * Cause and effect relationships may include, but are not limited to:   + increase and/or decrease in the number of individuals of a species due to a change (e.g., loss of habitat, introduction of a disease);   + extinction of a species due to a changing environment over time (e.g., pollution, habitat destruction, volcanic eruption); and   + emergence of a new species due to geographic isolation. |
| Assessment Boundaries   * List information that is NOT assessed (i.e., related above grade-level ideas and skills). * Reference the “Assessment Boundary” in the NGSS for the PE as appropriate. | * Tasks should provide students with a claim and initial evidence for evaluation. * Tasks should not require students to use group behavior as a source of support. |

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