Kentucky Alternate Assessment

Grade 11th - Science (2023)

Earth Science

1 **Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.** SCI 11.1

Alternate Assessment Target: Use evidence from an investigation to explain the interaction between the properties of water (e.g. expansion when freezes, high specific heat, capacity to absorb or release heat, water as a solvent, ability to transport materials) and its effects on Earth's materials and surface processes.

Life Science

1 **Evaluate the evidence supporting claims that changes in environmental conditions may result in:** SCI HS11.2

1 increases in the number of individuals and some species, SCI HS11.2.1

2 the emergence of new species over time, and SCI HS11.2.2

3 extinction of other species. SCI HS11.2.3

Alternate Assessment Target: Evaluate evidence that supports the claim that changes to the environment (e.g. deforestation, fishing, drought, and flood) affect the distribution or disappearance of traits in species which may result in:

1 increases in the number of individuals of some species,

2 the emergence of new species over time and

3 extinction of other species.

4 **Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.** SCI HS11.4

Alternate Assessment Target: Evaluate evidence that interactions in ecosystems remain relatively consistent over time in stable conditions(in terms of numbers and types of organisms), but ecosystems can change as a result of disruptions (e.g. farming, hunting, flooding, fire, or volcanic eruption) that are moderate to extreme.

Physical Science

3 **Apply scientific and engineering ideas to design, evaluate, and refine a device that minimizes the force on a macroscopic object during a collision.** SCI HS11.3

Alternate Assessment Target: Evaluate the design of a device that minimizes the force on an object during a collision and make suggestions for improvement.

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Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. SCI HS11.6

Alternate Assessment Target: Construct an explanation for the outcome of a simple chemical reaction (specific to elements in families 1, 2, and 13-18) based on the outermost electron states of atoms and trends in the periodic table.

Engineering and Technology

5 **Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural and environmental impacts. HS-ETS1-3** `SCI HS11.5`

Alternate Assessment Target: Evaluate a solution to a real-world problem based on criteria and trade-offs that account for a range of constraints including cost, safety, reliability, as well as social and environmental impacts.