SCILLSS Classroom Science Assessment Workshop

# High School Life Science Sample Task Ideas

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| **NGSS PE: 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. |

# Example Task Ideas

1. The peppered moth has two variations of its species; one is very light gray in color, and the other is black. All of the moths live on trees with white bark. What is most likely the reason for more black moths and fewer light gray moths?
2. The Arctic cod and the Antarctic toothfish are two different species of fish separated by a great distance. Both species of fish produce a similar protein that prevents them from freezing in cold water. Is this similar protein enough evidence to claim these two fish are genetically related? Support your claim with evidence and reasoning.
3. Students will synthesize, communicate, and evaluate claims that changes in environmental conditions will affect the survival strategies of populations.
4. Students will construct an explanation based on evidence for how an adaptation leads to differential survival and reproduction of organisms.
5. Students will analyze evidence to predict how changes in gene frequency within a population can alter its survival and reproduction.
6. Students will evaluate evidence to predict how changes in environmental conditions will affect the fitness of a species.
7. Students will synthesize, evaluate, and communicate how selection pressures and adaptations can affect biodiversity on Earth.
8. Students will evaluate evidence to analyze the role of group behaviors in the ability of a species to survive and reproduce.

The High School Life Science Sample Task Ideas were developed with funding from the US Department of Education under Enhanced Assessment Grants Program CFDA 84.368A. The contents do not necessarily represent the policy of the US Department of Education, and no assumption of endorsement by the Federal government should be made.   
  
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