

NOVA EVOLUTION LAB STANDARDS ALIGNMENT

Next Generation Science Standards

The following performance standards* are addressed by the Evolution Lab games and videos:

Middle School

MS-LS4 Biological Evolution: Unity and Diversity

- ✓ **MS-LS4-1.** Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.
- ✓ **MS-LS4-2.** Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.
- ✓ **MS-LS4-4.** Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.

High School

HS-LS4 Biological Evolution: Unity and Diversity

- ✓ **HS-LS4-1.** Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.
- ✓ **HS-LS4-2.** Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.
- ✓ **HS-LS4-4.** Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
- ✓ **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.

*Please note standards are referenced from the Next Generation Science Standards.
Find the full standards here: www.nextgenscience.org

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Next Generation Science Standards

Evolution Lab

Three Dimensions

Build A Tree

Deep Tree

Science & Engineering Practices

1. Asking questions and defining problems		
2. Developing and using models		
3. Planning and carrying out investigations		√
4. Analyzing and interpreting data		
5. Using mathematics and computational thinking		
6. Constructing explanations and designing solutions	√	√
7. Engaging in argument from evidence	√	√
8. Obtaining, evaluating, and communicating information	√	√

Crosscutting Concepts

1. Patterns	√	
2. Cause and effect	√	
3. Scale, proportion, and quantity		√
4. Systems and system models	√	√
5. Energy and matter		
6. Structure and function	√	
7. Stability and change		

Disciplinary Core Ideas

Life Sciences

—LS4 Biological Evolution: Unity and Diversity	√	√
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