Green Eggs and Sand – Module Three: Next Generation Science Standards

Courtesy of Maryland Department of Natural Resources Aquatic Education Program

Share the Beach – Upper Elementary, Middle School, High School

Next Generation Science Standards:

- 3-LS1-1 – Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.
- 3-LS4-3 – Construct an argument with evidence that in a particular habitat some organisms survive well, some survive less well, and some cannot survive at all.
- 5-ESS3-1 – Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
- 3-5-ETS1-2 – Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- MS-LS.1-4 – Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors…affect the probability of successful reproduction.
- MS-LS1-5 – Construct a scientific explanation based on evidence for how environmental…factors influence the growth of organisms.
- MS-LS2-4 – Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
- MS-LS2-5 – Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
- MS-ETS1-2 – Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- HS-LS2-7 – Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

Wanted: Dead and Alive – Middle School, High School

Next Generation Science Standards:

- MS-LS1-5 – Construct a scientific explanation based on evidence for how environmental…factors influence the growth of organisms.
- MS-LS2-4 – Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

Horseshoe Crabs Around the World – Middle School, High School

Next Generation Science Standards:

- MS-LS1-5 – Construct a scientific explanation based on evidence for how environmental…factors influence the growth of organisms.
- MS-LS2-4 – Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

Paging Dr. Limulus – Middle School, High School

Next Generation Science Standards - None

Eyes on the Prize – Middle School, High School

Next Generation Science Standards:

- MS-LS1-8 – Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.

LAL Lab: Bacteria, Blood and Biomedical Testing – Middle School, High School
Next Generation Science Standards:

- MS and HS-Science and Engineering Practices
    - Conduct an investigation to produce data to serve as the basis for evidence that meet the goals of the investigation
    - Construct a scientific explanation based on valid and reliable evidence obtained from sources, including the students' own experiments.

Experiments with Chitosan – Middle School, High School
Next Generation Science Standards:

- MS and HS-Science and Engineering Practices
    - Conduct an investigation to produce data to serve as the basis for evidence that meet the goals of the investigation
    - Construct a scientific explanation based on valid and reliable evidence obtained from sources, including the students' own experiments.