Green Eggs and Sand - Module One

Horseshoes Alive – Upper Elementary, Middle School

Next Generation Science Standards:

- 3-LS1-1 – Use models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.
- 4-LS1-1 – Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.
- 4.LS1-2 – Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
- MS-LS1-4 – 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-LS1-8 – Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior…
- MS-LS4-Apply scientific ideas to construct an explanation for the anatomical similarities and differences…between modern and fossil organisms to infer evolutionary relationships.

Common Core State Standards:

- English Language Arts
  - Grades 3-5
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
  - Grades 6-8
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Environmental Literacy:

- 5.B.1 – Analyze, from local to global levels, the relationship between human activities and the earth's resources.

Getting to Know the Horseshoe Crab – Middle School

Next Generation Science Standards:

- MS-LS1-4 – 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-LS1-8 – Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior…
- MS-LS4-Apply scientific ideas to construct an explanation for the anatomical similarities and differences…between modern and fossil organisms to infer evolutionary relationships.

Common Core State Standards:

- English Language Arts
  - Grades 6-8
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Environmental Literacy:

- 2.B.2 – Use models and computer simulations to extend understanding of scientific concepts.

Learning With Limulus – Upper Elementary, Middle School
Next Generation Science Standards:

- 4-LS1-1 – Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

Common Core State Standards – None
Environmental Literacy:

- 2.B.2 – Use models and computer simulations to extend understanding of scientific concepts.

Time Tracking – Middle School, High School
Next Generation Science Standards - None
Common Core State Standards - None
Environmental Literacy:

- 5.B.1 – Analyze, from local to global levels, the relationship between human activities and the earth's resources.

Life Stages of the Horseshoe Crab – Elementary, Middle School
Next Generation Science Standards:

- 3-LS1-1 – Use models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.
- MS-LS1-4 – Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors…affect the probability of successful reproduction.

Common Core State Standards:

- English Language Arts
  - Grades K-2
    - RI.1 Ask and answer questions about key details in a text.
  - Grades 3-5
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
  - Grades 6-8
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Food/Energy Web – Middle School
Next Generation Science Standards:

- MS-LS2-3 – Develop a model to describe the cycling of matter and the flow of energy among living and nonliving parts of an ecosystem.

Common Core State Standards:

- English Language Arts
  - Grades 6-8
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Environmental Literacy:

- 4.A.1 – Explain how organisms are linked by the transfer and transformation of matter and energy at the ecosystem level.

Crab Moon – Upper Elementary, Middle School
Next Generation Science Standards:

- 4.LS1-2 – Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

- MS-LS1-4 – 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-LS1-8 – Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior…
- MS-ESS1-1 – Develop and use a model of the Earth-sun-moon system to describe the cyclic pattern of lunar phases…

Common Core Standards:

- English Language Arts
  - Grades 3-5
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
  - Grades 6-8
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Environmental Literacy: None

Horseshoe Crabs and the Lunar Cycle – Middle School, High School

Next Generation Science Standards:

- MS-LS1-4 – 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-LS1-8 – Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior…
- MS-ESS1-1 – Develop and use a model of the Earth-sun-moon system to describe the cyclic pattern of lunar phases…

Common Core State Standards:

- English Reading Arts
  - Grades 6-8
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
  - Grades 9-12
    - RI.1 - Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Environmental Literacy - None

Reach the Beach – Upper Elementary, Middle School

Next Generation Science Standards:

- 3-LS4-3 – Construct an argument with evidence that in a particular habitat some organism can survive well, some survive less well, and some cannot survive at all.
- MS-LS1-4 – Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors…affect the probability of successful reproduction.

Common Core Standards - None
Environmental Literacy - None

Horseshoe Crab Jeopardy – Middle School, High School

Next Generation Science Standards – None
Common Core Standards – None
Environmental Literacy – None

Field Studies with Horseshoe Crabs – Middle School, High School

Next Generation Science Standards:

- Middle School, High School – Performance evaluations include planning and conducting investigations, analyzing and interpreting data, using mathematical and computational thinking, and constructing explanations.

Common Core Standards - None

Environmental Literacy

- 1.A.4 – Design and conduct the research
- 1.A.5 – Use data and references to interpret findings to form conclusions