Grade 2: Habitats (Ecosystems) Part 1. This unit will continue into Quarter 3

Duration: 5 Weeks

Scope and Sequence

Topic   Habitats (Ecosystems)

Duration: 4-5 Weeks

PA Standards

- 4.2.2.C: Identify and describe the basic needs of plants and animals in an aquatic ecosystem.
- 3.1.2.A9
  - Distinguish between scientific fact and opinion.
  - Ask questions about objects, organisms, and events.
  - Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known.
  - Plan and conduct a simple investigation and understand that different questions require different kinds of investigations.
  - Use simple equipment (tools and other technologies) to gather data and understand that this allows scientists to collect more information than relying only on their sense to gather information.
  - Use data/evidence to construct explanations and understand that scientists develop explanations based on their evidence and compare them with their current scientific knowledge.
  - Communicate procedures and explanations giving priority to evidence and understanding that scientists make their results public, describe their investigations so they can be reproduced, and review and ask questions about the work of other scientists.
- 3.2.2.B6. Recognize that light from the sun is an important source of energy for living and nonliving systems and some source of energy is needed for all organisms to stay alive and grow.

4.2.2.C: Identify and describe the basic needs of plants and animals in an aquatic ecosystem.

Next Generation Science Standards

Earth’s Systems: Processes that Shape the Earth

- 2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly.
- 2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.
- 2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.

Eligible Content

- S.K-2.B.3.2.1: Identify natural events (e.g., fire, flood, extreme weather) and human actions (e.g., road construction, pollution, urban development, dam building) that can impact an ecosystem.
- S.K-2.B.2.1.1: Identify and describe habitats (e.g., wetland, meadow, forest, lake, river, ocean, pond).
- S.K-2.D.1.2.1: Identify Earth’s natural resources.
- S.K-2.B.2.1.1. Understand that all living things are part of an ecosystem.
S.K-2.D.1.2. Earth features and processes that change the Earth and its resources.

Starting Points

Prior to quarter 2, students refreshed their skills of thinking like a scientist by using their five senses in order to observe and investigate different types of soil, physical properties of rocks, and the effects of erosion and deposition on land. In this part of quarter 2, students will focus on the different habitats/ ecosystems found around the world. Students will be introduced to the five main habitats: forest, desert, water, grassland, and tundra and will be able to identify specific types of each habitat, such as, the concept of forest includes rainforests, temperate forests, etc. Furthermore, another example is that the habitat of water includes the ocean, rivers, streams, lakes, etc. Students will be able to describe each habitat with varying characteristics by observing and collecting data on weather conditions such as average temperature and precipitation and types of precipitation. Students will also be able to identify landforms and water systems that are common to each habitat. Using maps, students will be able to identify and label habitats around the world. It is important that by the end of Quarter 2, students are able to describe each habitat because in quarter 3, students will begin investigating independent and dependent relationships in each habitat/ ecosystem.

Performance Objectives

SWBAT:
- use a venn diagram IOT compare and contrast different habitats.
- identify and describe characteristics of each habitats IOT match habitats to their description.
- research habitats IOT create a picture/ collage which includes distinct characteristics of each given habitat.
- practice their world map skills IOT identify the 5 habitats and where they are located.
- use graphic organizers IOT help classify and categorize different examples of each habitat.
- observe the environment around them IOT identify the habitat in which they live.
- identify and define the characteristics of the water habitat IOT classify oceans, streams, lakes and rivers as part of the water habitat.
- define the characteristics of a forest IOT classify rainforests and temperate forests as a type of forest habitat.
- examine different landforms IOT label each picture of a landform with the correct name.

Key Terms and Definitions

- ecosystem- plants and animals that are found in a particular location.
- habitat - a place where plants and animals can meet their needs
- forest- a habitat that gets rain and sunlight for trees to grow well. Types of forests are rainforest, temperate forest, and taiga.
- desert- a habitat that gets very little rain.
- grassland- a habitat that is a big open space of grass
- tundra- habitat which is located near the north pole. This habitat is frozen much of the year.
- aquatic- a habitat that is made of water (freshwater or saltwater)
- freshwater- some lakes, ponds, rivers, streams, springs, and wetlands, which do not contain salt
- saltwater- water that contains a high percentage of dissolved salt such as oceans, seas, and some lakes.
- precipitation- rain, hail, sleet, and snow that falls to the ground
- characteristic- a special quality or trait that makes a person, thing, or group different from others
- landform- a natural feature on the earth’s surface Example: mountain, plateau, lake etc.
- argument- statement for or against something
- evidence- something which shows that something else exists or is true
- design- to plan and make decisions about (something that is being built or created)
- construct- to build or make something physical (such as a road, bridge, or building)
- engineer- a person who designs and builds complex products, machines, systems, or structures

Essential Questions

What is a habitat/ ecosystem?
What are the different types of habitats/ ecosystems?
What is the climate of each ecosystem?
Why do different climates exist?
What is the largest habitat in the world?
What are the similarities and differences between two given habitats?
What are examples of landforms in various habitats?
Create a model or diorama of a given habitat.

How do animals use the features of their habitat to survive/thrive?
What are the living and nonliving things in a given habitat?
What is the relationship between the (living thing) and (nonliving thing) in a given habitat?
Describe the dependency of a given animal on its habitat.

Scientific Question: How do human actions affect habitats (i.e., forests are being burned or cut down, lakes and rivers are polluted, polar ice caps are melting)?

Make Your Claim:
Write a complete sentence that answers the scientific question.

Give Your Evidence:
Look at your data (books, texts, science notebooks) and find two pieces of evidence that help to answer the scientific question.
1. 
2. 

Instructional Resources

Teacher Resources
http://www.neok12.com/Ecosystems.htm
http://ccteachfirst.blogspot.com/search/label/Habitats

Extensions
Learn about what it takes to be a wildlife biologist and how to protect wildlife animals.

Videos
Temperate Forest Biome Video
https://www.youtube.com/watch?v=qFy9eZ1plEQ

Virtual Zoo Visit
http://nationalzoo.si.edu/Animals/WebCams/default.cfm

Worksheets
Freshwater
W.2.8 Recall information from experiences or gather information from provided sources to answer a question.

Freshwater vs. Saltwater
W.2.8 Recall information from experiences or gather information from provided sources to answer a question.


**Forests**

**Rainforest**

W.2.8 Recall information from experiences or gather information from provided sources to answer a question.

MP.2 Reason abstractly and quantitatively


http://www.d118.org/crown/Webquests/habitats_for_second_grade.htm#Woodland Forest (Temperate Forest) Habitat

**Desert Information**

W.2.8 Recall information from experiences or gather information from provided sources to answer a question.

MP.2 Reason abstractly and quantitatively


http://www.education.com/files/219201_219300/219274/desert-coloring.pdf


**Oceans/Sea**

W.2.8 Recall information from experiences or gather information from provided sources to answer a question.

MP.2 Reason abstractly and quantitatively

http://www.education.com/worksheet/article/sketch-habitat-sea/

http://www.education.com/slideshow/outstanding-ocean-worksheets/
Standards Covered

Next Generation Science Standards

SCI.1.1-PS4: Waves and their Applications in Technologies for Information Transfer

SCI.1.1-PS4-1: Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.

SCI.1.1-PS4-2: Make observations to construct an evidence-based account that objects can be seen only when illuminated. Examples of observations could include those made in a completely dark room, a pinhole box, and a video of a cave explorer with a flashlight. Illumination could be from an external light source or by an object giving off its own light.

SCI.1.1-PS4-3: Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light. Examples of materials could include those that are transparent (such as clear plastic), translucent (such as wax paper), opaque (such as cardboard), and reflective (such as a mirror). Assessment does not include the speed of light.

SCI.2.2-ESS1: Earth's Place in the Universe

SCI.2.2-ESS1-1: Use information from several sources to provide evidence that Earth events can occur quickly or slowly. Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly. Assessment does not include quantitative measurements of timescales.

SCI.2.2-ESS2: Earth's Systems

SCI.2.2-ESS2-2: Develop a model to represent the shapes and kinds of land and bodies of water in an area. Assessment does not include quantitative scaling in models.

SCI.2.2-ESS2-3: Obtain information to identify where water is found on Earth and that it can be solid or liquid.

PA Science and Technology and Engineering

1: Distinguish between scientific fact and opinion.

2: Ask questions about objects, organisms, and events.

3: Understand that all scientific investigations involve asking and answering questions and comparing the answer with what is already known.

4: Plan and conduct a simple investigation and understand that different questions require different kinds of investigations.

5: Use simple equipment (tools and other technologies) to gather data and understand that this allows scientists to collect more information than relying only on their senses to gather information.

6: Use data/evidence to construct explanations and understand that scientists develop explanations based on their evidence and compare them with their current scientific knowledge.

7: Communicate procedures and explanations giving priority to evidence and understanding that scientists make their results public, describe their investigations so they can be reproduced, and review and ask questions about the work of other scientists.

Additional Properties

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Cost/Fee: No
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Created by: DON, PAULA (9/11/2015 10:37 AM)
Last modified by: Curriculum, Specialist3 (9/29/2016 9:26 AM)