**Gibbon Conservation Center**

**Gibbon Connections**

4th Grade

On-Site Lesson

This lesson plan meets the NGSS in the areas indicated below if used as recommended. It is not however limited to these standards and can be modified as the instructor sees fit to include more or adjusted to meet the needs of other grade levels.

**Next Generation Science Standards (NGSS)**

*Structure, function, & Information Processing*

Performance Expectations

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

**Dimension #1 Scientific & Engineering Practices (SEP)**

*Asking Questions*

*Constructing Explanations*

**Dimension #2 Crosscutting Concepts (CC**)

*Structure & Function*

*Energy & Matter*

**Dimension #3 Disciplinary Core Ideas (DCI)**

Life Sciences

2. All organisms need energy and matter to live and grow. As a basis for understanding this concept: a. Students know plants are the primary source of matter and energy entering most food chains. b. Students know producers and consumers (herbivores, carnivores, omnivores, and decomposers) are related in food chains and food webs and may compete with each other for resources in an ecosystem. c. Students know decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.

3.Living organisms depend on one another and on their environment for survival. As a basis for understanding this concept: a. Students know ecosystems can be characterized by their living and nonliving components. b. Students know that in any particular environment, some kinds of plants and animals survive well, some survive less well, and some cannot survive at all. c. Students know many plants depend on animals for pollination and seed dispersal, and animals depend on plants for food and shelter~~.~~

**Questions to Ask During Tour**

*What is a carnivore?*

*What is an herbivore?*

*What is an omnivore?*

*What is a decomposer?*

*What is a producer?*

*What is a dinosaur? Extinct…*

*What are humans?*

*What are gibbons?*

*What is one of the main differences between a monkey and an ape?*

*Do gibbons have tails?*

*Are gibbons monkeys or apes?*

*What are some other apes?*

*What makes a gibbon an omnivore?*

*Where do gibbons live?*

*What is the rainforest?*

*Where can we find rainforest?*

*Why are gibbons an important part of the rainforest?*

*What would happen if there were no gibbons in the forest?*

*What would happen if there were no decomposers?*

*What would happen if there were no rainforest?*

*What are some other plants and animals we can find in the rainforest?*

*Do you remember why they sing?*

*What would happen if they didn’t sing?*

*Why do they have large canines?*

*Why do they have fur?*

*Why do you think gibbon fingers are slightly bent like a hook?*

*What is the benefit of walking upright?*

*Why do you think gibbon’s arms are longer than their legs?*

*What are some of the benefits of toes that grasp?*

*Why do you think they fight with or become territorial with their eldest offspring?*

*Why are babies the same color as their mothers?*

*What is a benefit of having ball and socket joints?*

*Why do gibbons change colors?*

*Why would a female gibbon older than 40 changes back to adolescent colors?*

*How many different types of gibbons do you see here today?*

There are 19 different species

In the past decades these numbers have changed *What do you think might cause these changes?*

There are only 25 Hainan gibbon left as of May 2015 these numbers were lower during the last study.

*What are potential reasons for the increase / decrease?*

*Do you thin this is a healthy population number? Why not?*

*What do you think can be done?*

*What do you think this means for the rest of the gibbon species?*

*What do you think this means for other animals living in the rainforest?*

*Do you think this affects humans?*

*What do you think can be done?*

*What do you think happens if we do nothing?*