**Gibbon Conservation Center**

**Young Primatologist**

3rd 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)**

*Interdependent Relationships in Ecosystems*

Performance Expectations

Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change

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

*Asking Questions*

*Planning & Carrying out Investigations*

*Analyzing & Interpreting Data*

*Using Mathematics & Computational Thinking*

*Constructing Explanations*

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

*Patterns*

*Cause & Effect*

*Structure & Function*

*Stability & Change*

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

*Investigation and Experimentation*

5. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will: a. Repeat observations to improve accuracy and know that the results of similar scientific investigations seldom turn out exactly the same because of differences in the things being investigated, methods being used, or uncertainty in the observation. b. Differentiate evidence from opinion and know that scientists do not rely on claims or conclusions unless they are backed by observations that can be confirmed. c. Use numerical data in describing and comparing objects, events, and measurements. d. Predict the outcome of a simple investigation and compare the result with the prediction. e. Collect data in an investigation and analyze those data to develop a logical conclusion.

**Materials**

Observations Chart
Clip Board

Crayons

Stopwatch

**Questions to ask during the Tour**

One of the differences between apes and monkeys are that apes don’t have tails.

*Do gibbons have a tail?*

*Are gibbons monkeys or apes?*

*Gibbons arms are longer than their legs how do you think this helps them?*

*Gibbons are much lighter than the rest of the apes how do you think this helps them?*

*Where do gibbons live?*

*Where do we find the rainforest?*

*What do we get from the rainforest?*

(fruit/medicine/coffee/chocolate/nuts/oxygen/paper/ furniture)

We haven’t discovered all of the plants and animals in the rainforest yet.

There are 19 species of gibbons all of them are endangered. *Do you remember why?*

*How many different species do you see here?*

*What are some ways you think scientists tell one species apart from another?*

*Why do you think gibbons sing?*

*When babies are born both boys and girls are light why do you think that is?*

*Pepper is a girl why do you think she has the coloration of a boy?*

(Point out any coloration differences from expectations)

*All of these enclosures have either couples or families. Why don’t you think we have two families in an enclosure?*

*How many here live in a family?*

*Why do you think there are only about 4 offspring at most in each enclosure?*

*Do you think they take vitamins? Why not? (fruit)*

*Do you think they come down to drink water? Why not?*

*How else do you think they get enough water?*

*How do you think they stay clean?*

*Where do they go to the bathroom?*

Explain different species in different areas/countries separated by water

**Observe Behaviors**

During the Tour

*Why do they do these actions? Or where do they do them?*

*Have them act out behaviors between enclosures?*

Singing “Calling” – to defend their territory and to establish family bonds

Swinging “Brachiating” – to search for food

Eating – in a tree

Walking – in a tree arms outstretched

Grooming – self and others

Discuss what these movements are in front of the enclosures during the tour.

Have children act out the movements during the tour so that they know what to observe.

… additional

Playing – alone or with others

Open Mouth – aggression

Mooning – keeper or other gibbons

Soft sounds – happy eating, annoyed, inquisitive, whimpering, alarm

**Observations Worksheet**

Pass out Observation worksheets, clipboards, and crayons.

Have them write the date, time and their names.

*Why is it important to record these things also?*

Review Singing/Swinging/Eating/Walking/Grooming/Playing

Point out a gibbon doing this behavior.

Divide the class to 4 different enclosures.

Ask them to pick a gibbon as a larger group at the enclosure.

You can leave the students as singles, pair them together or group them together as three so that one can take time on a stopwatch, one can observe and the other can record. You can also choose to call out the time to the pairs & singles.

As a smaller group ask them to choose one behavior to observe.

Have them write the individuals name, species and enclosure number (coordinates).

Have them write down the individuals they live with in the enclosure.

Have them write down the adult female in the two closest enclosures.

*Why do you think it’s important to write this information?*

*What behavior do you think you will see the most? Why?*

*What behavior do you think you will see the least? Why?*

*Do think if we repeat at a different time of day we would get the same results? Why?*

Record Observations for 5 minutes

Have the students flip the page and circle what behavior they observed.

Have the students plot the observations on the bar graph minute by minute.

Discuss with them expectations vs. outcome.

*Do you think all of our charts look the same? Why?*

*Do you think if we repeated observations 100 times it would make a difference?*

*Why is it important to repeat experiments?*

*Of all the activity which do you think will be the highest on the bar graph?*

Graph all the behaviors for the group on a large board.

(or have a student representing the group come up to graph it walk them through it)

*Does this look like what you expected?*

*What behavior did you think you would see the most?*

*Which behavior is the highest on the graph?*

*Do you think this is right?*

*What potentially could have gone wrong?*

*Is there anyway we can work on this?*

*Do you think this was hard?*

*Do you think you would enjoy collecting this information in the rainforest (field)?*

*Do you think it is more difficult to collect this information in the field? Why?*

*What are some other challenges do you think scientists have?*

*How do you think scientists differentiate groups and individuals?*

*Why do you think it’s important to collect all this information?*

*Do you think it’s helpful having some individuals in captivity to observe?*

*Why do you think we have some individuals in captivity?*

*The most endangered gibbon is the Hainan gibbon with only 25 individuals?*

*How does this make you feel?*

*Do you think there is anything we can do to help?*