**Gibbon Conservation Center**

**Anthropologist gibbon expert explorer artist researcher**

1st Grade

Onsite Visit

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

Make observations to construct an evidence-based account that young plants and animals are alike, but not exactly like their parents (exp. Hercules looks different than both his parents but his fur is similar to Simpang and his attitude is like Perak)

Read text and use media to determine patterns in behavior of parents and offspring that help offspring to survive (Gibbons baby crying sound elicits moms response/ song to warn of danger)

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

 *Asking Questions*

 *Planning & Carrying out Investigations*

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

 *Patterns*

 *Structure Function*

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

*Life science*

2. Plants and animals meet their needs in different ways. As a basis for understanding this concept: a. Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places. b. Students know both plants and animals need water, animals need food, and plants need light**.**

*Investigation and Experimentation*

4. 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. Draw pictures that portray some features of the thing being described. b. Record observations and data with pictures, numbers, or written statements.

**- Materials -**

Clipboards

Scratch paper (blank side reduce/reuse)

Chalk board

**Questions to ask during Tour**

Leading questions

*Do you remember where gibbons live?*

*Why do you think they have long arms?*

*Why do you think they have short legs?*

*Why do you think they are small? What are some benefits?*

*Why don’t they need a tail?*

*Why do you think they have fur?*

*What is the benefit for having toes that can grasp?*

*How are the individuals in the next enclosure different?*

*Why do you think the baby blends with its mom?*

*Is the infant a boy or girl?*

*Do they look like mom or dad?*

*How many here live in a family?*

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

*What do you think they eat?*

*Do you think they take vitamins? Why not?*

*Do you think they come down to drink water?*

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

*Where do they go to the bathroom?*

*What different sounds do you hear the gibbons making?*

*Why do you think they are making that sound?*

*What other reasons do you think they would have to make sounds?*

Explain different species in different areas/countries separated by water

Explain that all gibbons are endangered.

*Do you know what endangered means?*

Explain why gibbons are endangered.

 Habitat loss/ logging/ plantations (palm oil) / pet trade

During the tour have them Observe Behaviors

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

Have them act out behaviors between enclosures

Singing – to defend their territory and to establish family bonds

Swinging (Brachiating) – to search for food

Walking – in a tree arms outstretched

Grooming – self and others

Eating – in a tree

**Making Observations**

Hand out clipboards/ paper/ writing utensil

Separate the students so that they can sit in front of different enclosures with a chaperone to answer questions. Have the students write down four words in the four corners of the paper.

Top Left – Singing

Top Right – Swinging

Bottom Left – Walking

Bottom Right – Grooming

**Singing**

Discuss why gibbons sing.

*Do you remember why gibbons sing?*

Talk about other ways they communicate.

Gibbons sing first thing in the morning to mark their territory.

They sing periodically throughout the day to mark the area.

Males and females sing different parts of a song.

Most gibbons sing as a family. Males and females coordinate their calls to make a duet (sing together taking turns). Any offspring they have join in song.

The family can also locate other family members while singing.

Sometimes males and females sing at different times.

Young males and females sing the female song. When the males get older they start singing the male part of the song but they must practice first.

Gibbons also sing to find a mate or partner to make a new family. Males are calling for females, while females are calling for males.

Gibbons have more than one song. Gibbons make a warning call so that there family and other gibbons in the area can look out for signs of predators in the area. Some gibbons make unique calls depending on the animal they see.

Each species has a unique territorial call. While they are born to sing they must practice. They must also practice singing with their family.

*Which was your favorite song?*

Have them start to draw (record their observations) in the 1st square

*Can you draw one of the gibbons you observed singing today?*

*Was it moving around a lot while it was singing?*

*What color was it?*

*Was it a boy or girl?*

*Was it an adult?*

**Swinging – Brachiating**

Discuss why gibbons swing.

*Do you remember what brachiating means?*

*Do you remember why they brachiate?*

Gibbons leap from tree to tree using their long arms to propel themselves from one branch to the next.

Gibbons have long arms so they don’t need a tail.

Gibbons can swing to speeds of up to 35 miles an hour this helps them clear distances of up to 50 feet.

Since they live in the rainforest canopy over 200 feet above the ground it is much easier and safer to leap from tree to tree than it would be to climb down to the forest floor where there are large predators.

Because gibbons need to visit a many different trees to eat different fruit, leaves and insects they need to be able to travel quickly.

Have them start to draw (record their observations) in the 2nd square

*Can you draw one of the gibbons you observed swinging (brachiating) today?*

*Was it doing anything else while it was swinging?*

*What color was it?*

*Was it a boy or girl?*

*Was it an adult?*

**Walking**

Discuss why gibbons walk.

*What is another way gibbons move around?*

*Do you remember how gibbons walk?*

*Do you remember why they walk with their arms outstretched?*

Gibbons long arms help them keep balance when they are walk along a branch.

Humans also hold out their arms for balance. (exp. walking along a curb/ tight rope walkers/ gymnasts on the balance beam)

Gibbons are light so they can walk along the tops of the branches.

Gibbons like humans can walk completely upright.

Their feet can grasp the branch because of their large toe.

Gibbons don’t use their legs as much as their arms.

Gibbons legs are shorter than their arms and dangle as they swing from tree to tree.

Other apes like gorillas, chimpanzees, & orangutans generally use there hands (knuckles) while they are walking.

Have them start to draw (record their observations) in the 3rd square

*Can you draw one of the gibbons you observed walking today?*

*Was it doing anything else while it was walking?*

*What color was it?*

*Was it a boy or girl?*

*Was it an adult?*

**Grooming**

Discuss why gibbons groom.

What is grooming?

Can gibbons groom themselves?

What are some benefits of social grooming?

Grooming is when gibbons sift through their fur looking for dried up dirt and oil.

It helps them remove any fur they are shedding.

Gibbons will groom one another in places they can’t reach alone.

Gibbons will groom themselves too however grooming one another plays a more important role than just keeping clean.

Grooming can help gibbons bond.

Grooming can also prevent conflicts over territory and food.

Have them start to draw (record their observations) in the 4th square

*Can you draw one of the gibbons you observed grooming today?*

*Who was it grooming?*

*What color was it?*

*Was it a boy or girl?*

Recall

All gibbons are endangered.

The Hainan gibbon has only about 25 individuals left in the world.

The biggest reason gibbons are endangered is because of humans.

*How does this make you feel?*

Each of us can do something different everyday to protect gibbons.

*Do you know of any ways you can help?*

Reduce, Reuse, Recycle

Look at box labels avoid palm oil.