

RED PANDA TALKING POINTS COMMON CORE STANDARDS BASED

Red Panda Biofact Bag

Note: The suggested questions and discussions covered in the first three grades can also be used for grades 4 and 5 in addition to the some additional more complex concepts.

Start the interaction with the group by discussing where the red panda lives in the wild (fairly high altitudes of the Himalayas in Burma, Nepal, India and China) and that they spend most of their time in trees.

Grade 1 **Concepts**

Adaptation: animals use their external parts to help them survive, grow and meet their needs.

If one or more of the red pandas are visible, ask the students to observe and describe them both physically and in terms of what they are doing.

Using the skull from the bag ask questions:

- What is the favorite food of a red panda? (bamboo leaves)
- Look at the teeth – why does the panda need sharp teeth in front and flat teeth in the back of his mouth? (snipping off and shredding leaves and then chewing them)
- Look at the jaw – do you need a strong jaw if you eat leaves?
- Where are the eyes on the red panda's head and how does the location help the panda survive? (forward facing eyes important for arboreal, tree climbing life style and finding food)
- If your eyes were on the sides of your head, would it be easy to climb through a tree and find good leaves to eat?

Either observing the red panda or looking at picture, look at feet.

- What do you see on the feet that would help the panda live in a tree?
(sharp claws help them climb and move around trees and are used for defense)

Looking at a photo of a red panda paw ask some questions:

- What is missing? Do you see a thumb?
- How does the red panda hold onto bamboo stalks without a thumb? Could you hold and grab things without a thumb?
(Discuss the special bone – called false thumb that is an adaptation that helps them climb and hold onto food) With a small group, use the glove prop

Heredity and patterns of behavior: Patterns in behavior of parents and offspring help offspring survive; young animals are like their parents, but may also be different.

Show picture of baby red panda

- Does the baby look like the mother panda? (tiny, blind and covered in grey fur)

- Does the baby need its mother to take care of him, feed and protect him?
- How does the baby learn to find food and climb trees?

Grade 2 **Concepts**

Habitats: Animals reflect different types of habitats

Looking at the red panda or the photo of a red panda:

- What kind of habitat do you think the red panda lives in?
- Look at their fur – what does that tell you? And the tail – why a long, furry tail? Why do they have fur on the bottoms of their feet?
- What other animal that lives in the same area as the red panda also eats bamboo leaves? (giant panda)
- Are they both bears? (common misconception)
- Why doesn't the giant panda eat all of the bamboo? (they eat the entire stalk from the low part of the tree; red pandas eat leaves higher up in the tree)
- What animals could not live in the cold and eat bamboo leaves?

Grade 3 **Concepts**

Animal traits are inherited from parents, but vary in the species and can be influenced by the environment

Have them look at our red pandas and describe any differences they see (they are different in size, color and have differently shaped heads)

Pandas live where the winters are very cold and in the winter all they have to eat are bamboo leaves; when it is warmer in the summer they can also find fruit, other leaves, insects and bird eggs to eat.

- When do you think that pandas would have more energy and move around more?
- If you only ate lettuce, would you have very much energy?

Animals form groups that help them survive

- Red pandas do not live in groups, but by themselves unless a mother has a baby. Other red pandas may live in the same area, but they live in different trees
- Why would it be better for red pandas to live alone? (they need to find lots of bamboo and if there were a group, they could not find enough food)

In a particular habitat some animals survive well, some survive less well and some cannot survive at all and when an environment changes, the types of animals that live there may change.

- Other animals that live where the red pandas live include snow leopards, deer, giant pandas, birds, etc. All of these animals are adapted to live in the cold temperatures and can find the food they need to survive there.
- What other zoo animals live where it is cold?
- Red pandas are having a problem because their forest habitat is being cut down in many areas for farming.
- What can be done to save the red pandas?

Grade 4 **Concepts**

What internal and external structures help the animals survive, grow and reproduce?
(see information in grades 1-3 above)

- Since red pandas live by themselves, how do they communicate with other red pandas?
- They have special parts on their bodies that contain smelly liquid (red panda smelly stuff) and they use this to mark trees and the ground in their territory so other pandas will know that they have claimed the territory.
- If other red pandas come near they will make different noises to say “I am here”
- Look at the color of the red pandas and think about the trees they live in. How would the colors help camouflage them? (dark colors blend in with thick tree canopies and bark)
- Red pandas can move fast if they need to escape a predator and they will use their sharp claws to help them climb a tree to escape.
- Their big, bushy tails not only help them balance in the trees, but also help keep them warm.

Grade 5 **Concepts**

Food is needed to carry on all the functions of life. All food sources can be traced back to plants and plants get their energy from the sun.

- Red pandas mainly eat plants. Where does the energy in plants come from? What do most plants need to grow?
- Does the red panda rely on energy from the sun for its food? Do we rely on the energy from the sun for our food?
- If a predator eats another animal, does it still get its energy from the sun?
- Could we live without the sun?