GREATER ONE-HORNED RHINO TALKING POINTS
COMMON CORE STANDARDS BASED

Rhinoceros Cart
(focusing on Greater One-Horned Rhino)

Note: The suggested questions and discussions covered in the first two grades can be used in all grades; more complex concepts are added in grades 3-5.
First tell students that these rhinos live in very wet areas with lots of tall, tough grass and other plants - older students can be told they now live mostly in northern India in protected parks because they are hunted and need protection.

First impression is of course the massive skull. It is an excellent biofact for teaching.

Grade 1 **Concepts**:
Adaptation: animals use their external parts to help them survive, grow and meet their needs.

Looking at the skull ask questions:
- How big do you think this animal is just looking at this skull? (weighs as much as 2 cars)
- Look at the teeth – are the ones in back bigger than yours? Why does the rhino need such big teeth? (discuss the diet of tough, fibrous grass, brush and branches they eat)
- Why does the rhino need the sharp, big teeth in front? (defending itself – they are sharp!!)
- A GOH rhino has a horn – why is the horn missing? (the skull is bone, but the horn is made of the same stuff as your hair and fingernails)
- Does the rhino fight with his horn? (no, he digs up plants to eat)
- Why does our rhino not have a horn (he rubs it off)
- Look at the funny curved part at the top of the mouth – what is that for? (prehensile lip used to grab grass – mimic with your hand)
- Show where the nose and eyes would be and tell students that rhinos cannot see very well, but can smell things much better than we can.

Looking at pictures in binder or at our rhino:
- Look at photo of rhino with horn and rhino standing in tall grass
- Looking at pictures and at our rhino, ask why rhino has skin that looks like armor with big wrinkles (helps him stay cool because water get under the folds)

Take out rhino and horse femurs and ask:
- Why does the rhino need such a big heavy leg bone?
- Do you think that the rhino can run faster than you? (as fast as a car in the city)
- Why is it important for a rhino to run fast (to escape danger maybe)
- Use horse femur bone to compare size and weight

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 photo of baby rhino in binder:
- What do you see that is different when you look at the baby rhino and what is the same?
- Why is it important for a baby rhino to stay with its mother until it is grown up? (stays with mother for at least a year and learns how to find food and has protection)

Grade 2 Concepts

Habitats: Animals reflect different types of habitats

- What other animals live where the rhino lives? (tigers, water buffalo, birds, elephants, etc.)
- Do these animals eat the same or different kinds of food?
- How can they all live together in the same area? (they eat either different food, eat at different times or use different parts of the area and are all suited to live there)
- What animals can you think of that live in different kinds of habitats? (polar bears, camels, zebras, lions, etc) They are adapted to live in different kinds of places.

Grade 3 Concepts
Animal traits are inherited from parents, but vary in the species and can be influenced by the environment

- We have two different kinds of rhinos at the zoo. How are they different and how are they the same? (different color, different habitats, similar diets, different number of horns and size, similar senses) Show pictures of black rhino in binder.

Animals form groups that help them to survive

- Rhinos do not live in groups – they live alone unless a mother and offspring
- Is it better for the rhinos to live alone? (they can find more food and do not need other rhinos to help protect them-no, they do get lonely!); animals live together if it is better for them in some way. What animals at the zoo live together in groups?

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.

- Ask the students to think of what it is like where they live and of places where it would be very difficult for them to live (temperature, food sources, land type, etc)
- Could the rhino survive at the north pole? Could it survive in the Sahara Desert or even on the savanna? Are there animals that do live near the North Pole and in the desert?
- If the grassy wet marshland where the rhino lives were to turn into a dry, bare place what would happen to the rhino?

Grade 4 Concepts
What internal and external structures help the animals survive, grow and reproduce?
(See information in Grades 1 and 2 above)

- If rhinos live alone, how do they communicate and know what other rhinos are in their territory? (they deposit big piles of poop, which has their smell; other rhinos come along and smell it and leave their own poop; pretty soon there is a very large pile with lots of rhino smells – rhinos have a very good sense of smell and that is one way that rhinos know who is in their territory.)
- How can rhinos eat lots of tough grass and not have a stomach ache? (they have a special part in their digestive system called a cecum where bacteria help digest the tough stuff)

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.

- Where do plants get their energy? (from the sun)
- Rhinos are plant eaters; that means that their food gets its energy from the sun.
- Some animals eat plant eaters (lions might eat a zebra), but their food still gets its energy from sun.
- Could we survive without the sun providing energy?