

Mammal Adaptation Game

Objective: Students will show in game activities how Ice Age mammals were adapted to their environment until the climate changed, and as this change was occurring, the animals had to move or adapt to survive. Students will analyze environments in terms of the animals' adaptations to determine whether the animals could adapt or would die out.

Grades: 2-6

Time Required: one to two class periods

Materials:

Cards of mammals (see below), cut out.
Blank cards of the same size

Motivation: Why did some animals go extinct but other animals survive the Late Pleistocene? Adaptation is a key to survival. What is an adaptation? It is a physical characteristic, trait, or behavior that allows an animal to survive and reproduce. What happens to animals when their environment changes? How can we understand what happens to them? We can pretend we are the animals, act as the animals did, and then try to maintain the same behaviors in a new climate or environment. Will it work? This game is an adaptation of some activities on the Berkeley Web site about fossils and adaptations.

Procedure: Students will talk about and act out the physical adaptations of the animals that they choose to represent in a whole class discussion as they read the ISM Web site on Ice Age Mammals and study a unit on the subject.

- The teacher will show poster or other visual representation of two environments and images of the some mammals. As an example, a mammal's image will be attached to its environment. Students will point out what physical characteristics or behaviors adapt the animal to its environment (size, fur, strength, teeth, legs, speed, diet).
- Then the teacher will physically move the image to attach it to the new environment and ask students how the animal would fare there (unable to find food, become too hot or cold, could not traverse the terrain).
- The teacher will ask the students if the animals can do anything to adapt (change diet, move to another area) or has other characteristics (adaptations) that could help it adapt. The ultimate answers are found in the fossil record. Some animals did not adapt, became extinct, and exist only in fossil remains. Other animals were able to adapt and are living today.

Environment Images: calendar pictures, or other large images of environments such as rain forests, tundras, prairies, swamps, and temperate deciduous forests.

Cards: Images of mammals: mammoth, mastodon, jaguar, saber-tooth cat, flat-headed peccary, snowshoe hare, beautiful armadillo, ground sloth, dire wolf, wolf, etc. The

students attach the cards they are given to the mammals' original environment seen on the poster or large picture of an environment.

Blank Adaptation cards: students will write down each chosen animals' adaptations. This will clarify for students exactly what their animal can do, eat, how it can move, tolerate temperatures, etc. Use 4x6 inch card stock.

Climate Change Switch: At a signal, students will move their animal to another environmental image and attach it there. By reading their Adaptation card again as they analyze visually the new environment, students will decide whether or not their animal can adapt. Students will finally move their animal images to a picture of an environment in which they think the animal would survive. Is it the original environment that no longer exists, or did the animal find a new environment? Help the students remember that extinct animals never found the environment they needed or did not adapt to changes.

Extension: Play this game with modern day counterparts or endangered species of your state. Explain that adaptation plays a part today in the survival of species during global and local climate change and human-caused environmental changes.

Animal Cards: see below



