

Acclimatization Trail

Environmental Education Lesson
EDWARDS CAMP AND CONFERENCE CENTER

SUMMARY

Students participate in role play activities on a course where they explore basic ecological principals and experience what life is like for certain animals.

USAGE

Grade levels: 4th-12th grade

OBJECTIVES

Upon completion of this lesson students will...

- Learn the four basic needs of all living things: food, water, shelter, and space.
- Be able to define adaptations and give two examples of animal adaptations.
- Be able to explain why habitat is important for survival.

MATERIALS

- Enough blindfolds for everyone in the group
- Students should be dressed to crawl on the ground and get dirty

INTRODUCTION

Explain to the students that they will be participating in games or activities where they will be mimicking different types of animals. During or after the activity, they will be discussing various aspects of those animals lives based on the students experience during the activities. Each activity will have its own introductory concepts and concluding questions.

ACTIVITIES

Rope of Life

The students are organisms trying to live out life to the fullest. To do so, they must walk the tightrope without falling off. Once they fall, (or touch someone standing on the ground) they are dead. Allow two or three students to try before stopping the activity. Obviously, there is very little chance that anyone will make it more than two or three steps. Ask the students what is needed. (Some kind of resource) What (type of resources) do all living things need to survive? (food, water, shelter, and space) If animals have resources, how long will they survive? (There is no real answer because other variables such as disease, weather, predators, etc. come into play, but don't give them an answer yet. Just let them give opinions.) Test the theory. Have the students try walking to rope of life again. This time let them hold the chains (hanging from the nearby tree) as their resource. Warn the students watching to keep their hands up so the chain doesn't hit them should the student holding it start to fall. Also warn the student holding it to **LET IT GO** should s/he to fall. This is really important, other wise the student will be pulled along the ground and may get injured.

The life rope represents life itself; being alive. It is tricky to get the other side even when resources are available. Some of the students will make it but many still will not. Ask

the students which part was the hardest. Easiest? For most it is difficult when just starting out and when nearing the end. This is true for organisms also. Young organisms have a tough start in life. Humans and many mammals are born virtually helpless. Many will die before they reach adulthood. This is why animals have so many babies. Have the students give examples of animal with large litter of young. (waterfowl, rabbits, squirrels, etc.) The rope is easiest in the center, just as survival is greater for adults. As the animals grow into old age, they become weaker. They begin to die and very few live to be really old. Do any of the children know a person over 100? How many of them make it to the very end with out falling or being helped by another person?

If time permits, discuss what happens without resources. Put a student on the liferope and shake the “resource” chain or take it away. What happens? Put two people on the cable and have them share the chain. (Do so in the center and have them walk to the edge since it is more stable and safer that way.) What happens when organisms must share resources with many others? What if ten students shared the chain at one? (Don’t try it!). Resources are limited. Overpopulation will deplete the food, water, shelter, and space until the organisms can no longer survive. This would also be a good time to bring in the concept of other limiting factors such as disease and climate.

Spider Web

Students imagine themselves as insects as they travel across the spider’s web. The “spider” is the blindfolded and holds the end of the rope attached to the center of the web. The “insects” cross the web by stepping through or crawling under the holes of the web. When the spider feels the web vibrate, s/he can either call out “gotcha!” or actually crawl around trying to catch the insects as they continue to make their way. Students can take turns being spider and insects.

After the game is over ask the spider how they were able to detect their prey. How is this like a real spider? (Spiders legs feel the web vibrating. They follow the vibrations to the struggling insets which they wrap in a silken cocoon to eat at their leisure.) The spider’s legs are specially adapted to help it catch its prey. An adaptation is a specific structure on an organism’s body or a special behavior that an organism has that helps it survive. Have the students pick out other adaptations the spider has. The process of making a cocoon is a behavioral adaptation which allows the spider to save food longer. The opening in the spider’s body where the web fibers come from is a structural adaptation. Have them give examples of adaptations that insects have that help them survive-that help them escape a spiders web? (Body size perhaps.) Have them thinking about other animal’s adaptations while they move to the next station.

Thinking Like a Mole

For this activity the students are going to be moles. Ask them what they know about the lives of moles. Can they give examples of mole adaptations? Moles spend almost all of their lives underground digging tunnels. They have tiny eyes yielding very poor vision. They have very special noses which not only smell very well but also work like hands to feel things. Moles front legs are specially adapted for digging. They extend out to the sides rather than directly underneath their bodies. They are insectivores so they have

special teeth to crush the hard exoskeletons of beetles and other insects. Because moles cannot see well, they rely on their other senses, especially their sense of smell. Stress this to the students as they begin the activity. Ask them to think about which sense they use the most during the activity.

Tell the students that they are going to be moles and will have to rely on their other sense since they will be blindfolded. One by one, lead the blindfolded students to the beginning of the rope. Have them crawl along the ground following the rope until they reach the end. When they are finished, ask them about their experience. What senses did they use the most? Least? Could they tell when they were going up or down hill? When they were on the grass or on the dirt? What would it be like to do this all the time? Moles spend their whole lives this way.

Bat and Moth

In this activity, the blindfolded “bat” must seek out its prey, a “moth” in order to eat and survive. The bat’s “SONAR” (echolocation) consists of calling out a bat noise (squeak) and the moth answering each time by making fluttering noises such as clapping hands or slapping legs. The rest of the group forms a circle around the bat and moth to make sure neither escapes. Try having two or three moths at once. If time allows, give each student the opportunity to be the bat and moth.

WRAP-UP

Habitat Lap Sit

Have the students review the components of habitat that are necessary for organisms to survive. (food, water, shelter, and space) Also have them name some adaptations that help organisms get these things. Make sure they understand the difference; food, water, shelter, and space are what animals NEED to survive. Adaptations are what animals HAVE (features or behaviors) that help them survive.

Have each student choose a living or nonliving member of an ecosystem. Encourage them to pick habitat components as well as plants and animals. Have them stand in a tight circle with their right shoulder facing the center. Then have them get as close as possible without breaking or changing the shape of the circle. On the count of three have them slowly sit back into the lap of the person behind them. If everyone in the group participates, they will be sitting in a circle no one will fall over. (It may take two or three tries to achieve this). In order to support living organisms, a habitat must contain the proper arrangement of components. What would happen if one was removed? Or if an organism didn’t fill its niche? This is illustrated quite well by removing one student from the circle while they are sitting on each other, or if a student is not willing to let someone sit on his/her lap.