

Forest Ecology: Immersion/Exploration Focus

Class Overview

1. Introduction
 - a. Ask the students their names and their favorite animal that lives in the forest.
 - b. Ask the students to think about the places they feel most comfortable. Ask if the forest is a place they feel comfortable in. Why or why not?
 - c. Let the students know that the activities they will be doing will help them interact with the forest so that they might feel more comfortable in that environment than they do now.
2. Progression of Activities
 - a. Card Hub Activity
 - b. Meet a Tree
 - c. Camouflage
 - d. Fist Full of Sounds
 - e. Nature Art
 - f. Feet Up a Tree
3. Materials Needed (provided by Taft staff)
 - a. Card Hub cards
 - b. Bandanas (1/participant)
 - c. Pictures of Andy Goldsworthy's work
4. Learning Standards Addressed in this Lesson:
 - a. 5-PS3-1
 - b. 5-LS2-1
 - c. 5-ESS3-1
 - d. 3-5-ETS1-1
 - e. MS-LS2-1
 - f. MS-LS2-3
 - g. MS-LS2-5
 - h. MS-ESS2-1
 - i. MS-ESS3-3
5. Vocabulary/Background Information
 - a. Adaptation – an alteration in the structure or function of an organism to help it survive and multiply in its environment.
 - b. Camouflage – structures or coloration that helps an organism blend in with its surroundings.
 - c. Ephemeral – short-lived.
 - d. Lichen – a complex plant-like organism made up of an algae or cyanobacterium and a fungus growing in a symbiotic association on a solid surface, such as a rock or tree trunk.
 - e. Predator – an animal that eats other animals.
 - f. Prey – an animal that is eaten by predators.

Card Hub Activity

Objective: Students will become more comfortable in the forest by interacting with it while completing the activities on the cards.

Method: Using the Card Hub cards, students are asked to find things in the forest or do fun or silly activities – some are solo and some require a partner.

Location: The game can be played in many different places in the forest. When playing during warmer seasons, areas where there is an abundance of poison ivy or stinging nettle should be avoided.

Time: 8-10 minutes

Materials: Card Hub cards

Procedure:

1. Tell the students that they are going to get cards with tasks on them to be completed in the forest. Frontload directions such as those for safety (avoid areas with poison ivy or nettles), boundaries, and request that the students do not pick anything alive in order to complete their tasks. Also give the students a signal that the activity needs to be stopped and they must all come back.
2. Give each student a card from the Card Hub deck. They then must complete the card with a partner or on their own, then come back to get and complete another one.
3. When all the cards are done, give the kids the predetermined signal to stop the activity and have them all come back.

Wrap Up Questions: What was your favorite card? What card was your least favorite? What card helped you find something that you probably wouldn't have been able to find before?

Transition Question/Statement: Animals have different habitats. In the forest, where is a common place animals live? TREES!

Meet A Tree

Objective: Continue to get students to interact with the forest, in a tactile way in this instance.

Method: Have students hug a tree!

Location: An open space with lots of trees to choose from. In warmer seasons stay away from areas/ trees surrounded by poison ivy and stinging nettle.

Time: 25-35 minutes

Materials: A bandana for each participant

Procedure:

1. Tell the students that they are going to be blindfolded and taken (by you or another adult with the group or by another student, if needed) to a nearby tree to explore. Then they will be taken back to the group and will need to try to identify “their” tree. Frontload safety directions for moving about when wearing a blindfold.
2. Have the students sit in a circle and blind fold the students. Then take them to a tree. (It will help if you have another adult to help you. If not, then you can have the students partner up and they can take their partner to a tree and then switch. If you do partners, remember to go over safety rules such as: lead them rather than push them, do not drag them to something pokey, no goofing around, etc.).
3. They will need to feel around the tree and become familiar with it. Ask questions such as: How old do they think your tree is? What would you name it? What does it feel like? Is the bark rough or smooth? Get them to feel it with their hands and their cheeks. Are there other plants growing on the tree such as ferns, moss, or lichens? Can you put their arms around it? What does it smell like? Feel all the way around the roots of the tree.
4. When they are confident they could identify their tree if they were taken away, the students should sit at the base of the tree. This lets you know that they are ready to be brought back to the circle.
5. Bring each student back to the circle and let them take off their blindfolds. Let them go and find their trees.
6. Ask them to return to the circle.

Wrap Up Questions: Did you name your tree? If so, what? How were you able to find it again? How old did you think it was while they were blindfolded? How about after?

Transition Question/Statement: Animals use trees as more than their home, what else do they use trees for? CAMOUFLAGE!

Camouflage

Objective: Students will be able to discuss how and why animals use camouflage.

Method: Students will become prey and try to hide from the predator by using camouflage.

Location: The game can be played in many different places in the forest (somewhere with lots of places to hide, an open field). Make sure the area is safe because the students will run during this game. When playing during warmer seasons, areas where there is an abundance of poison ivy or stinging nettle should be avoided.

Time: 10-15 minutes per round

Materials: None

Background Info: One kind of adaptation that aids in some animal's survival is camouflage. Camouflage allows animals to blend into their environment so they aren't easily seen by predators or prey. For example, some insect species that live on trees closely resemble the leaves or bark of their host species: a very still walking stick blends in perfectly when resting on a shrub. Some animals even have the ability to change their color depending on the season. Snowshoe hares are white in the winter and brown in the summer. However, camouflage is not just for prey. Camouflage allows predators to be able to get as close to their prey as possible without being seen or heard.

Procedure:

1. Have one student be a fox and everyone else will be squirrels.
2. Explain that the squirrels are going to be using camouflage to try to hide and avoid being seen by the fox.
3. Give safety instructions (avoid poison ivy and nettles, no climbing trees) and boundaries.
4. Draw a box on the ground; the fox will have to stand in the "fox box, and turn away from the area where the students can hide and/or close his/her eyes. While the fox counts to 30, the squirrels find a place to hide.
5. The fox turns around and opens his/her eyes. While remaining in the "fox box," he/she tries to find as many squirrels as possible. The fox has to be specific while identifying students – either calling out a name and the location or a color that he/she sees. If needed go out into the woods to see what the fox is calling out.
6. Once the fox can't see any more students, he/she will hold up a number (1-5) above his/her head. The squirrels have to try and see the number, but still avoid being seen by the fox.
7. The fox closes his/her eyes and counts to 20. While the fox is counting, the squirrels need to find a hiding spot that is closer to the fox.
8. The fox repeats steps 5 and 6 (opens his/her eyes, tries to find as many squirrels as possible and then holds a number above his/her head). Again, the squirrels try to avoid being seen, but must look at the fox when he/she holds up a number.
9. When he/she can see no more squirrels, the fox closes his/her eyes and counts to 10, while the squirrels move closer
10. Steps 5 & 6 are repeated.
11. When the fox cannot find anymore squirrels, he/she yells, "CAMOUFLAGE!" as loud as possible.
12. The squirrels run towards the fox. The first squirrel that gives the fox a high five and tells him/her the numbers that were held up in the correct order, gets to be the next fox.

Wrap Up Questions: What is camouflage? Why do animals have camouflage? How did you use camouflage like animals in the forest? If you are a predator, why is it important to blend in with your surroundings? How about if you are the prey? What were some strategies both the predator/prey used to succeed in this game? What strategies did not work so well? Do animals use any of these strategies in real life?

Transition Question/Comment: As we walk, listen for some of the sounds you hear.

Walk and then stop in an area that you think would be good for listening to the forest.

Fist Full Of Sounds

Objective: To get students to use their other senses, besides sight, to observe the forest.

Method: Students will close their eyes and listen.

Location: An area where there is not a lot of disturbance.

Time: 5 Minutes

Materials: None

Procedure:

1. Have the students find a place to sit, perhaps with a little bit of space from their neighbors.
2. Instruct the students that they will need to be silent during the activity, so that they can hear the sounds around them.
3. Have the students close their eyes and keep them closed until they are told to open them. Have them hold up five fingers, and ask them to put down one finger for each sound they hear, until they have five fingers closed.
4. Ask them to open their eyes.

Wrap Up Questions: What did you hear?

Transition Question/Statement: Some of you mentioned human made sounds. What are some ways that ways that humans can interact with nature? One positive way is Nature Art (NART)!

Nature Art

Objective: To have the students create something completely from nature.

Method: Students will use materials found in nature to create a piece of art.

Location: An open area that has leaf litter, sticks, cones and seeds around for the students to use.

Time: 30-45 minutes

Materials: Photos of Andy Goldsworthy's art

Procedure:

1. Instruct the students that they are going to find something in nature that catches their eye. If they can, they should bring it back to the circle. If it is too big to bring back OR living, have the students leave it and describe it to the class.
2. Before they go out to look for something, give the students safety information (avoid poison ivy or nettles), boundaries, and a vocal signal to return to the group. (i.e. "Heffalump!")
3. When the students return, have them show or describe what attracted their eye and why.
4. Show pictures of Andy Goldsworthy's work for inspiration, and ask the students what they notice about his work.
5. After reminding them of safety, boundaries, and not using live materials, let them make their own nature art pieces. They can work individually, or in small groups.
6. When they are finished, or when time is up, do a nature art "tour" and visit each artist's piece. If desired, add a component like having the students give a price for their art or having the other students bid on it, like an auction.

Wrap Up Questions: How did you come up with the concept for your piece? How did you select materials? What does ephemeral mean? How do you feel about your creation being ephemeral? How do you think nature inspires artists (and not just visual artists)?

Transition Question/Statement: Think about how you felt in the forest and about the forest when we started. Let's wrap up our class with a little reflection.

Feet Up A Tree

Objective: The students will take a little time to reflect on the activities and their relationship with the forest.

Method: The students will lie down, with their feet resting on a tree trunk, to have a final closing.

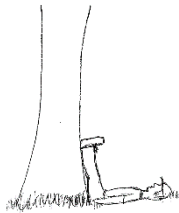
Location: Anywhere with enough trees that is void of poison ivy and stinging nettle.

Time: 5-15 minutes

Materials: None

Procedure:

1. Have students select a partner, or assign partners. The partners should find a nearby tree and lie down on their backs at the base of the tree with their feet resting on the tree trunk, so that their bodies are at a 90 degree angle. (See picture at below.)



2. Give them the following closing questions to discuss with their partner:
 - a. What has been their favorite part of their trip?
 - b. What was something unexpected that happened to them today?
 - c. What was something that they learned today?
 - d. If they could live anywhere in the forest where would they live and why?