

NAME OF THE ACTIVITY: Fox, nuthatch, trees

GRADE LEVEL: Grades 3-7

RUN TIME: Initially to explain background, rules and play will take 30 minutes or more and background and rules do not have to be done together although correlating the rules with real life application to the background is advised. Subsequent games and options can be done in shorter increments.

EQUIPMENT NEEDED: Cones or something to designate play area, organism cards, copy of food web, optional pinnies or flags

HIGHLIGHTS: Food webs and chains, predator, prey, consumers and producers, strategy, safety in large group running,

OBJECT OF THE GAME: Don't get caught (eaten)

VOCABULARY: Carnivore, omnivore, herbivore, consumer, producer, secondary, primary, prey, predator, niche, extinction, human influence

SET UP: Use cones, hoops, etc to designate playing area. Option: Use pinnies or flags to indicate who is what organism.

PRIOR TO THE GAME EXPLAIN TO PLAYERS:

- 1) Explain the food chain and what organism eats what organism. Explain these terms with examples from the food chain: top consumer (Fox – an omnivore that eats plants and animals), secondary consumer (snake – carnivore that eats other animals like the rabbit, nuthatch and grasshopper) and the nuthatch – an omnivore that eats acorns, other plants and insects like the grasshopper) primary consumers (herbivores like the grasshopper and rabbit that eat only producers – plants). Producers produce or make their own food using energy from the sun.

INSTRUCTIONS: Designate players to be trees, players to be nuthatches (half of tree total plus a few) and 2-3 players to be the foxes. For a class size of 22, assign 12 players to be trees. Each of those players will pair up with another to be one tree, which will give you 6 trees. There will be 8 nuthatches. This is to create the problem of not enough trees for all the nuthatches. There are also 2 foxes to catch those loose nuthatches. For a group of 40, assign 22 players to be trees giving you 11 trees, 14 nuthatches and 3 foxes.

The trees go out into the play area first. Two people become a tree by standing face to face and holding hands with arms raised over their heads. Once the trees are into position you send out the nuthatches to find a home. A nuthatch must stand underneath the raised arms to be in a tree. If a nuthatch has no home he goes to another nuthatches home tap them on the shoulder. That

nuthatch must leave his home out the other side of the tree and find a new home. Give the nuthatches a few minutes of establishing a cycle of tree swapping. Once this has been done, send in the foxes to “eat” (tag) any loose nuthatches. Those nuthatches tagged are to sit out of the game.

OPTIONAL PLAYING EXTENTIONS:

- A. Add a rule that the foxes **MUST** tag at least one nuthatch every minute (or other time interval) or they “die” of starvation.
- B. Add a rule nuthatches **MUST** “eat” (be at a tree) once each time interval as the foxes are required to do or they “die”.
- C. After a couple rounds of play, designate an “out” player to be a human with a chainsaw. They “cut down” (start taking away one or two trees)
- D. Add an earthworm (a player who can recycle dead nuthatches into trees)

DISCUSSION EXTENTIONS:

What happens when foxes cannot get prey? What happens if nuthatches become extinct? What roles do producers have? (shelter and food) What affect do humans have on the populations of nuthatches and foxes and producers? What niche does the earthworm have? How is it an important role?

Allow students to add new rules or options to the game based on their research of animals. Allow them to form a hypothesis of how this rule/option will affect the play of the game, then run several trials to see if their hypothesis was correct. Make a real life application of the scenario they created.