

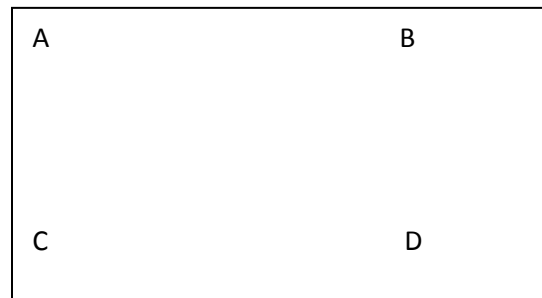
NAME OF THE ACTIVITY: Square Meal Tag

GRADE LEVEL: Grades 3-7

RUN TIME: Initially to explain background, rules and play will take 45 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 15 minute 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, consumers and producers, strategy, safety in large group running.



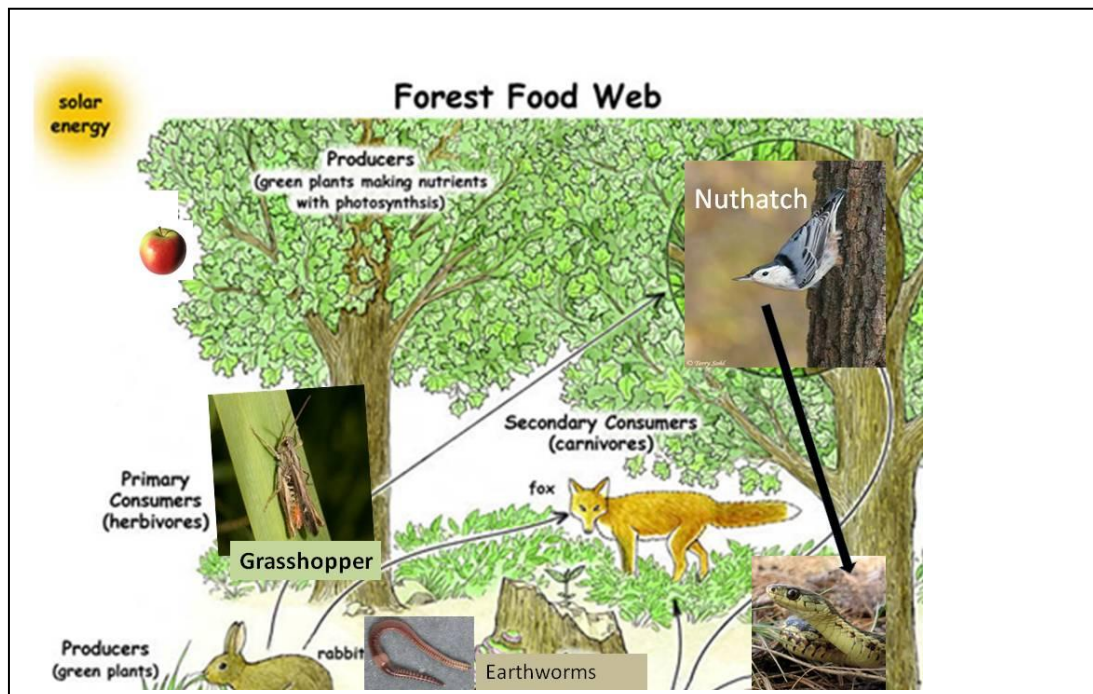
OBJECT OF THE GAME: Don't get caught (eaten)

VOCABULARY: Carnivore, omnivore, herbivore, consumer, producer, secondary, primary, prey, predator, niche, extinct

SET UP: Use cones, hoops, etc. to designate area in diagram above. AB and CD should be at least twice as long as AC and BD to give prey a chance to escape.

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.
- 2) Which arrows could be added to the diagram?
- 3) Which animals are prey for which animals? Which animal is only a predator? (fox).



INSTRUCTIONS: Class is randomly divided into four groups. Nuthatches and the Snake (only one snake) line up along the AB line; Grasshoppers along CD; Rabbits along AC and the Fox lines up along the BD line.

Designate who is which animal by either colored pinnies, flags or actions (birds must “fly” with arms, snake must “slither”, grasshoppers must hop, rabbits must hop with hands forming ears on the sides of their head, fox must skip.) Using actions does put prey animals at a disadvantage which you may or may not want.

Groups must cross to the line directly opposite them without being tagged by an animal that preys upon them. If the player gets tagged before he makes it to the opposite side, he “dies” and becomes a producer/tree. If a player makes it to the side without being tagged he continues to play. At the end of a specified time (1 -2 minutes), any animal who has not made it across is caught by a snowstorm and dies. Leader should give warnings of 30 seconds to, 15 seconds to and a 5 second countdown to winter to warn players.

Producers/trees are shelter for birds. Producers stand where they are tagged and hold arms out as branches. On subsequent turns, birds touching a producers hand or arm are safe. Birds cannot be safe indefinitely or the snowstorm will destroy them when winter comes.

Strategy must be developed to catch prey without becoming prey. Allow players to try different

organisms.

OPTIONAL PLAYING EXTENTIONS:

- A. If the snake does not tag another animal out, they did not eat and therefore “die” and become a producer.

Primary consumers must tag a producer as they cross to “eat”. If they do not – they “die”.

Nuthatch and fox must either tag an animal or producer to eat.

(leader may wish to move animals from a lower level on the food chain into those positions, and replace the animals moved into fox and snake positions with players who have become producers/trees).

- B. Allow grasshoppers and rabbits to find shelter and “hide” by producers (be safe) for a time period like the birds or an entire round.
- C. Designate one player as the earthworm – a decomposer. Each turn, the earthworm can decompose one organism that died into another organism. Prior to doing this, define and describe decomposers and their niche in a forest ecosystem. After several turns require the earthworm to physically tag a producer during the course of play. The nuthatch can “eat” tag the earthworm.
- D. Allow organisms making it across safely to have offspring (choose a producer to become what they are)
- E. Divide the players into 4 equal groups and make the rectangle into a square. This initially gives predators an advantage but in subsequent rounds, there will not be enough prey to sustain the carnivores and probably omnivores too.
- F. Using the organism cards, allow players to use any listed advantages that their adaptations give them (you have already done so with the birds)

DISCUSSION/EXTENTION:

What difficulties do predators have? Prey?

After B option: What two ways are producers needed? (food, shelter) What happens when we do not have any producers?

After using the C option discuss the niches decomposers fill. What would happen if there were no decomposers?

After D & E options: What happens if there are too many offspring? Not enough? What happens when an organism becomes extinct? If predators have an initial advantage?

After F option, discuss how adaptations help organisms.

Have students research other organisms in the forest biome and make an organism card. Make a new food web including them. 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, and then run several trials to see if their hypothesis was correct. Make a real life application of the scenario they created.