

Ecosystem Tag



This lesson plan was produced by the Gulf Islands Centre for Ecological Learning in 2016 as part of the Nature Discover Project.

Funding was provided by:



Activity Name: Ecosystem Tag

Ages: 6-12 (also works for older students as well)

Activity Level: High

Length of time: 20 to 30 min

Number of Participants: 12-15

Concept: This fast paced activity is great for demonstrating ecosystem basics and what it takes to maintain the ecosystem.

Materials Required: Small balls (such as tennis balls). One ball for each participant.

Introduction: This activity involves the basic chain of abiotic (non-living) components to producers, consumers and decomposers and returning abiotic components back to the ecosystem.

Methods: Set up the boundary of the 'ecosystem' depending on numbers of participants. Can be a circle of about 50 meters diameter or more. You can do this in a meadow, forest or playfield.

Within the ecosystem, place the balls in two or more piles and mark a safety zone around each (about 3 m across).

Divide your players into three groups - decomposers, consumers (about twice the number of decomposers) and producers (about twice the number of producers) (for a group of 12 that would be 2 decomposers, 4 consumers and 6 producers). Use different coloured arm bands or name tags to identify the three different groups. Players must remain in the defined environment.

The balls represent the abiotic components of the ecosystem such as nutrients, water, sunlight, carbon dioxide.

Producers are the only players that can take the balls from the piles and while doing this in the safety zone they cannot be tagged. Their goal is to get as many of the balls as possible into the ecosystem and within the hands of other producers only.

The consumers' goal is to obtain and hold as many balls as possible which they can only get by making a gentle two-handed tag of a producer holding a ball. The decomposers goal is to get as many balls as possible back into the safety zones. The decomposers get the balls only by a gentle two-handed tag of a consumer holding a ball.

When players are tagged they must give up the ball and players can toss or pass the balls to members of their own group.

The play can go as long as you wish as the balls move from the piles through the different levels and back to the piles again. You can adjust the number of balls or members in the groups if the action is not progressing smoothly.

As the game progresses it becomes apparent how each group contributes to the continuous functioning of the ecosystem (i.e. abiotic components recycled and reused to sustain all the groups).

Tips for Teachers:

- When the activity is stopped have the group discuss what they observed or learned from the activity in terms of their interdependence on each other.
- To demonstrate this more dramatically, run the activity again without decomposers and see if the system can run smoothly.

Background facts and information:

The biosphere is the Earth's life support system. Smaller ecosystems are found in any environment and at any scale (ocean, lake, forest, pond or meadow) containing biotic (living) and abiotic (non-living) components. The interaction of biotic and abiotic components creates ecosystems. These interacting components are so interdependent that even if one relationship is damaged or broken, the entire ecosystem may be affected. The biotic components of an ecosystem can be further broken down into three general groups - producers (mostly green plants), consumers (eaters of plants and animals) and decomposers (break down dead plant and animal material into abiotic components).