

# U-Pick Projects: Ecology Basics

Name \_\_\_\_\_

**Directions:** Pick projects that will earn you a minimum of 12 points. Shade in the boxes to show the projects you complete. You may create electronic versions that can be shared with your teacher or complete them with materials you have available at home. You may choose up to 2 more to earn extra credit equal to the number of points the boxes are worth.

Pts	HABITATS	SYMBIOSIS	INVASIVE SPECIES	VOCABULARY
1	Draw a picture of a local habitat and label the biotic and abiotic factors. Use a marker to show at least three food chains that exist in the habitat.	Create a display of 9 “symbiotic” buddies with three examples for the three types of symbiosis.	Make a list of 5 invasive species threatening our local habitats. You will need to include the names of the organisms and a description of the problems they create.	Create a set of flashcards for 10 vocabulary terms from the Ecology unit. Each flashcard should have the term listed on the front along with a picture clue and a definition on the back.
2	Find a recent article in the news about habitat destruction. Explain how this article is related to your everyday world. Answer must be at least 100 words.	Create a comic strip or cartoon to teach younger students about symbiotic relationships. You must have at least one example for each of the three types of symbiosis.	Create a tweet for three invasive species threatening local habitats. Your tweets must be between 120-140 characters long.	Make a “word web” or display using 10 vocab words from the Ecology unit that shows how the terms are connected. You need to include a brief definition for each and draw arrows to show the connections
3	Make a diorama of a local habitat that includes at least 4 native plants and 10 native animals. Label the biotic and abiotic factors.	Create a “dating” classified ad for organisms that are connected through symbiosis. You must have at least one example for each of the three types of symbiosis.	Write a poem or song about an invasive species threatening local habitats. You will need to include the name of the species and explain how it is affecting the plants and animals in its habitat.	Create a crossword puzzle using at least 15 terms from the Ecology unit vocabulary. You must provide the clues and an answer key.
4	Create a game to teach younger students about food webs for a habitat. You may choose from pond or river, woodland, or prairie. The food web must include 10 organisms.	Develop a matching game using at least 10 pairs of organisms connected through symbiosis. Each card should include the organism’s name and a description of how it is affected.	Develop a “Wanted” poster to teach people about an invasive species threatening our local habitats.	Create 10 questions using the Ecology unit vocabulary that your teacher could add to a GimKit. Each question must have 4 answer choices with the correct one identified.

Total Points Earned = \_\_\_\_\_

## **Ecology Unit Vocabulary – Also available at [Quizlet](#)**

- 10% - The amount of energy that passes to the next trophic level in an energy pyramid
- Abiotic - Nonliving factors in a habitat; i.e. soil, water, air
- Adaptations - A behavior or physical characteristic that allows an organism to live successfully in its environment.
- Aquatic - Refers to an ecosystem consisting mostly of water (ocean or freshwater)
- Arrows - Shows the direction energy flows in a food chain or web
- Atmosphere - The envelope of gases surrounding the earth
- Autotroph - An organism, such as plants, that makes its own food; also called producers
- Bacteria - Single-celled organisms that do not have a nucleus; often classified as decomposers in a food chain or web
- Biodiversity - The variety of living things in an area
- Biomagnification - The increase in chemical concentration of toxins in animal tissues as the chemical moves up the food chain
- Biosphere - System on earth that includes all the living things
- Biotic - Living factors in a habitat
- Birth Rate - The number of births during a specific set of time
- Carnivore - A consumer that eats other animals
- Carrying Capacity - Largest number of individuals of a population that a environment can support
- Commensalism - A relationship between two organisms of different species where one benefits and the other is neither harmed nor benefited
- Community - All the living things in an ecosystem
- Competition - The struggle between organisms to survive in a habitat with limited resources, such as walleye and sturgeon competing for food
- Consumer - Organism that cannot make its own food; also called heterotrophs
- Death Rate - The number of deaths during a specific set of time
- Decomposer - An organism that breaks down wastes and dead organisms
- Ecological - Type of biodiversity that is based on the variety of forests, deserts, grasslands, streams, lakes, oceans, coral reefs wetlands & other biological communities
- Ecology - Scientific study of interactions among organisms and between organisms and their environment
- Ecosystem - Consists of all the living and nonliving things in an area
- Emigration - Occurs when organisms move out of a population
- Energy - Animals obtain this from the foods they eat
- Food chain - A series of steps in which organisms transfer energy by eating and being eaten
- Food Web - A collection of all the food chains in an area; shows are organisms are connected through feeding relationships
- Fungi - A one-celled or many-celled organism such as a mushroom, yeast, or mold; often classified as decomposers in a food chain or web
- Genetic - Type of biodiversity that is based on the variety of inherited traits present in a population
- Geosphere - The mostly solid, rocky part of the Earth; extends from the center of the core to the surface of the crust.
- Habitat - Place where an organism lives; provides food, water, shelter, and space
- Herbivore - A consumer that eats plants
- Heterotroph - Organism that obtains energy from the foods it consumes; also called a consumer
- Hydrosphere - All the water on earth

- Immigration - Occurs when organisms move into a population
- Invasive - Plants and animals that have moved or been relocated to places where they are not native
- Keystone species - A species that influences the survival of many other species in an ecosystem
- Limiting - Factors that help to control the size of a population
- Mutualism - A relationship between two species in which both species benefit
- Niche - An organism's particular role in an ecosystem, or how it makes its living.
- Omnivore - A consumer that eats animals and plants
- Organism - Any living thing
- Parasitism - A relationship between two organisms of different species where one benefits and the other is harmed
- Phytoplankton - Microscopic plant life
- Pioneer - The first species to populate an area
- Pioneer species - First species to populate an area during primary succession
- Population - Group of organisms of the same species living in the same area
- Population Density - Number of individuals per unit area; calculated by dividing the # of individuals by the area
- Predation - An interaction in which one organism kills another for food.
- Predator - Organisms that hunts and kills its food
- Prey - Organism that is hunted and killed for food
- Primary - Type of succession in which a series of changes occur in an area where no soil or organisms exist; starts from bare rock.
- Producer - Organism that is able to make its own food; makes up the first level of any food chain or web; also called autotrophs
- Reproduction - The production of offspring by a sexual or asexual process.
- Resources - Would include food, water, and other things organisms need to survive
- Scavenger - A consumer that eats carrion (dead animals)
- Secondary - Type of succession in which a series of changes occurs in an area where the ecosystem has been disturbed, but where soil and organisms still exist
- Species - Type of biodiversity that is based on the variety of organisms in a community
- Sun - Source of all the energy in an ecosystem; plants convert this to chemical energy using photosynthesis
- Symbiosis - A close relationship between two species that benefits at least one of the species.
- Temperature - Abiotic factor that determines what types of plants and animals can live in a specific habitat; i.e. hot or cold
- Terrestrial - Refers to ecosystems consisting mostly of land
- Trophic - Also known as the feeding level; where an organism is located in a food chain or web
- Water - Abiotic factor that provides oxygen for some organisms; H<sub>2</sub>O
- Zooplankton - Microscopic animal life