

Name: _____ Period: _____ Lab Team: _____ Date: _____

LAB: Biome Investigation

Objective: Evaluate the factors that contribute to stable conditions of common terrestrial biomes and how they influence the organisms that inhabit them. (AP Environmental Science Academic Standards, II-A & C.)

Background & Procedures:

Please refer the “Biome Investigation Manual”. Follow along in the manual rotating from station to station to view the specimens provided and use your observations to complete the Investigative Analysis Below.

Materials:

Biome Investigation Manual
Boreal Forest Specimens

Temperate Deciduous Forest Specimens
Desert Specimens

Investigative Analysis of Desert Biome:

1. Classify the following organisms from the Deserts based on their
 - a. biological kingdom (animal, plant, fungi, protist, moneran/bacteria)
 - b. habitat (canopy, shrub, ground, underground)
 - c. IF IT IS A VERTEBRATE, what type (homeothermic or poikilothermic)
 - d. ecological role that they play (producer, decomposer, consumer, omnivore, predator, parasite, scavenger). NOTE: More than one classification may be used.

Organism	Kingdom	Habitat	Type of Organism	Ecological Role
Prickly Pear				
Sage				
Ant				
Scorpion				
Pygmy Cedar				
Termite				
Millipede				
Balloon Plant				
Tarantula				
Bat				
Pronuba Moth				
Tarantula Hawk				
Desert Ground Beetle				
Palo Verde				
Desert Lizard				
Lichen				
Tumble Weed				
Ichneumon Wasp				
Creosote Bush				
Snail				
Black Widow				
Pocket Mouse				
Mesquite Bush				
Snake				
Praying Mantis				
Saltbush				
Butterfly				
Locust				
Cricket				
Bee				

2. Describe the climate of the Desert Biome.

3. What strategies do both plant and animals of the Desert use to deal with the low water supply?

4. In the desert, what are the advantages of being homeothermic versus poikilothermic?

Investigative Analysis of Temperate Deciduous Forests Biome:

1. Classify the following organisms from the Temperate Deciduous Forest based on their
 - a. biological kingdom (animal, plant, fungi, protist, moneran/bacteria)
 - b. habitat (canopy, shrub, ground, underground)
 - c. IF IT IS A PLANT, what type (evergreen and/or deciduous and/or coniferous)
 - d. ecological role that they play (producer, decomposer, consumer, omnivore, predator, parasite, scavenger). NOTE: More than one classification may be used.

Organism	Kingdom	Habitat	Type of Organism	Ecological Role
Maple				
Beech				
Hemlock				
Oak				
Squirrel				
Lichen				
White-Face Hornet				
Skunk				
Toad				
Trillium				
Dog-Toothed Violet				
Jack-in-the-Pulpit				
Beech Drops				
Indiana Rope				
Squaw Root				
Polipody Fern				
Marginal Shield Fern				
Conocephalus				
Sowbug				
Millipede				
Deer Mouse				
Snail				
Raccoon				
Centipede				
Daddy Long Legs				
Bacteria				
Earthworm				
June Beetle				
Cicada				
Mushroom				

2. Describe the climate of the Temperate Deciduous Forest Biome.

3. What strategies do small forest plants have for leading with low light supply?

4. Predict what would happen to the animals and plants of the forest if all of the leaves and twigs were “cleaned up” and removed each year and why. Which organisms would notice the first impact?

Investigative Analysis of Boreal Coniferous Forest Biome:

1. Classify the following organisms from the Deserts based on their
 - a. biological kingdom (animal, plant, fungi, protist, moneran/bacteria)
 - b. habitat (canopy, shrub, ground, underground)
 - c. IF IT IS A PLANT, what type (evergreen and/or deciduous and/or coniferous)
 - d. ecological role that they play (producer, decomposer, consumer, omnivore, predator, parasite, scavenger). NOTE: More than one classification may be used.

Organism	Kingdom	Habitat	Type of Organism	Ecological Role
Spruce				
Poplar				
Jack Pine				
Birch				
Birch Miner				
Porcupine				
Grey Owl				
Raven				
Horsefly				
Beaver				
Mosquito				
Newt				
Sphagnum				
Sun Dew				
Pitcher Plant				
Blackfly				
Wintergreen				
Polytrichum				
Blueberry				
Bracken				
Redcap				
Puffball				
Marchantia				
Lycopodium				
Bacteria				
Black Bear				
Larch				
Locust				
Cricket				
Bee				

2. Describe the climate of the Boreal Coniferous Forest Biome.
3. Why is decomposition especially important in Boreal Coniferous Forests and why does it occur so slowly.
4. What role does fire play in the biome? What species benefit from fire, and what adaptations do they possess to take advantage of fire?