Scientist: _____

Date: _____-_____-_____ HR: _____

Learning Targets for
Unit 5: Ecosystems

Throughout this unit, we will be assessing the progress of our understanding of the following concepts. You will be using the following symbols to illustrate where you are at regarding each of the learning targets. These learning targets include the material that will be covered on the unit test.

"Thumbs Down" means that you don't understand the idea at all.

"Thumbs Sideways" means that you kind of understand the idea. With a little bit more help you could probably figure it out.

"Thumbs Up" means that you completely understand the idea. You could probably even teach it to someone else because you understand it so well.

Unit 5: Ecosystems
Learning Targets

Learning Target 1: Matter and energy move through ecosystems. All energy within an ecosystem originates from the sun and flows through the ecosystem.

Success Criteria –			
a. Develop a model which demonstrates how matter (carbon) is transferred through producers, consumers and decomposers.			
b. Modify a model to demonstrate how energy flows through ecosystems starting with the sun.			
c. Modify the model in order to give examples of how organisms are dependent on their environmental interactions both living and nonliving things (biotic and abiotic).			
d. Use model to explain the interaction between organisms and between organisms and their available resources. (Use the terms producers, consumers, decomposers, abiotic, and biotic.)			
e. Use the model to describe the conservation of matter.			

Learning Target 2: Organisms and populations of organisms depend on interactions with other living things and with nonliving factors.

Success Criteria –			
a. Describe ways in which organisms interact with one another using the words predator/prey, symbiosis, competition, parasite/host, mutualism and commensalism.			
b. Construct an explanation that predicts how organisms will interact with the living and non-living parts of an ecosystem.			
c. Identify a limiting resource and explain how it affects a population of organisms.			
d. Analyze and interpret data to provide evidence for the effects of resource availability on organisms within an ecosystem.			

Learning Target 3: Changes to ecosystems can lead to shifts in populations of plants and animals.			
Success Criteria – a. Identify different factors or conditions that may lead to the change in population size within an ecosystem, including food supply, temperature, rainfall, disease, invasive species, human development, etc.			
b. Construct an argument based on evidence that changes to an ecosystem can lead to shifts in populations.			
Learning Target 4: Biodiversity affects humans and humans affect biodiversity.			
Success Criteria - a. Identify human activities that destroy ecosystems, like developing land, deforestations, filling wetlands, overhunting, etc.			
b. Identify ecosystem services that benefit humans, such as prevention of soil erosion, nutrient recycling and water purification.			
c. Identify how changes in biodiversity can affect humans' resources			
d. Evaluate design solutions for maintaining biodiversity and ecosystem services.			

Unit Vocabulary					
ecosystem	population	community	producer	consumer	decomposer
biotic	abiotic	competition	parasitism	symbiosis	predator
prey	mutualism	commensalism	biodiversity		