Name: _____ Date: _____

Ecosystems

Introduction

An **ecosystem** is an area where living things interact with each other and their environment. They include both **abiotic factors** (nonliving things) and **biotic factors** (living things). To sustain itself, an ecosystem needs energy to constantly enter and flow through it and nutrients to cycle throughout. In this activity, you will make a self-sustaining ecosystem.

Materials

- 24-oz Plastic Cup
- Dome Lid
- Coffee Filter
- Cilantro Seed
- Sugar Snap Pea Seed
- Soil
- Sand

Lab Procedure

1. Write your names on the side of your cup with a marker.
2. Add a small layer of sand, about 0.75in – 1in, to the bottom of your cup.
3. Use a spray bottle to moisten the sand. Be careful not to add too much. You don't want the sand to be fully saturated.
4. Cut a circle out of your coffee filter.
5. Add the circle on top of the sand.
6. Add a layer of soil, about 1.5 in, on top of the coffee filter.
7. Add a few sprays of water to moisten the soil. Don't add so much that you have water dripping into the sand.
8. Make a small indention in the soil, about 1in deep and about 1in from the side of the cup.
9. Place a pea seed in the indention and lightly cover it with soil.
10. Make another small indention in the soil, about 0.25in deep. This should be from 0.5in to 1in from the sides of the cup AND the pea seed.
11. Place a cilantro seed in the small indentation and lightly cover it with soil.
12. Before placing the lid on your cup, breathe gently into it, like you would when fogging up a window or mirror.
13. Place the lid on your cup and leave it in a well-lit area.

Reflection

1. How is energy entering your ecosystem? How is it being used?
2. What nutrients are there? How are they being used?
3. Identify the abiotic factors in your ecosystem.
4. Identify the biotic factors in your ecosystem.
5. Name one abiotic factor and one biotic factor that could be added to your ecosystem to make it more realistic. Be sure to defend your answer.
6. Draw and label a diagram of your ecosystem.

Ecosystems Visual Journal

Day #_____

In the box, draw and label your ecosystem. Then answer the reflection questions.

	1. Record 3 observations about what you see in your ecosystem.
	2. Identify any changes you notice from your last journal entry.
	3. Briefly describe how those changes are happening.

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