

Plants Week 1 Booklet

- Living vs. Non-Living
- The 4 Characteristics of Living Organisms
- Foss Investigation 1 What is Life?
- Part 1: Living or Nonliving



Drawing to Learn (D2L's)

Vocabulary Word	Define	Draw a Picture Representation
dead		
dormant		
evidence		
habitat		
living		
nonliving		
organism		

Investigation 1: What is Life?

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1. What is life? _____
2. All organisms exhibit four (4) common characteristics, what are they?
#1 _____
#2 _____
#3 _____
#4 _____
3. Something can only be dead if it was once _____.
4. Some organisms can become _____ to survive an unsuitable environment.
5. How do you classify organisms based on the 5 Kingdoms of Life?

Quick Write Date: _____

How do you know if something is living?



4

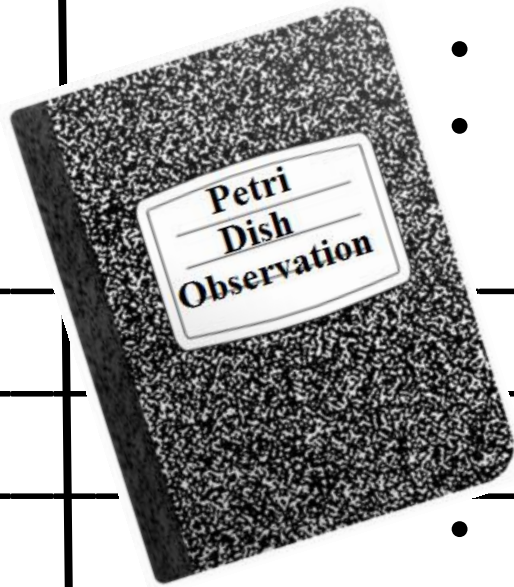
Draw your LINE OF LEARNING here. Date when your ideas have changed. Date: _____

Speak Like a Scientist with Sentence Frames

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- I think _____, because _____.
- I predict _____, because _____.
- I claim _____; my evidence is _____.
- I agree with that _____.
- My idea is similar/related to <name of classmate>'s idea.
- I learned/discovered/heard that _____.
- _____ explained to me that _____.
- _____ shared with me that _____.
- We decided/agreed that _____.
- Our group sees it differently, because _____.
- We have different observations/results. Some of us found that _____.
- One group member thinks that _____.
- We had a different approach/idea/solution/answer: _____.

Observation Date: _____



- Observe the petri dish for one (1) minute.
- Write down everything you observe happening.



- How can you explain what you have observed?

- Circle if you think the material is living or nonliving.
- What is the *Evidence of Life* to support your claim?

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Draw you LINE OF LEARNING here. Date when your ideas have changed. Date: _____

Ex. I used to think _____, but now I think _____.

Living/Nonliving Card Sort

Card name	L	NL	U
Amoeba			
Apple			
Baby			
Blue cheese			
Blue-green algae			
Bread mold			
Cactus			
Clouds			
Coral			
Corn			
Cotton boll			
E. coli			
Eggs			
Fire			
Horse			
Jellyfish			
Kelp			

Card name	L	NL	U
Mushrooms			
Onions			
Potatoes			
Rhinovirus			
Robot			
Rocking horse			
Spider and web			
Streptococcus			
Sulfolobus			
Sun			
Tornado			
Trees and leaves			
Yeast			
Yogurt			

LAB: Living/Nonliving Card Sort

MINIHABITAT SETUP

- a. Place one spoon of soil in the bottom of a half-liter container.
- b. Add dry leaves, dead grass, and twigs. The container should be no more than one-fourth full.
- c. Add water. The container should be no more than half full. Leave some material sticking out of the water.
- d. Put a lid on the container.
- e. Label the container with your period, group number, and date.

LAB: Mini-habitat Setup

Living vs. Non-Living

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Conceptual Understanding

6.L.4A. Conceptual Understanding: Life is the quality that differentiates living things (organisms) from nonliving objects or those that were once living. All organisms are made up of cells, need food and water, a way to dispose of waste, and an environment in which they can live. Because of the diversity of life on Earth, scientists have developed a way to organize groups of organisms according to their characteristic traits, making it easier to identify and study them.

Performance Indicator

6.L.4A.1 Obtain and communicate information to support claims that living organisms:

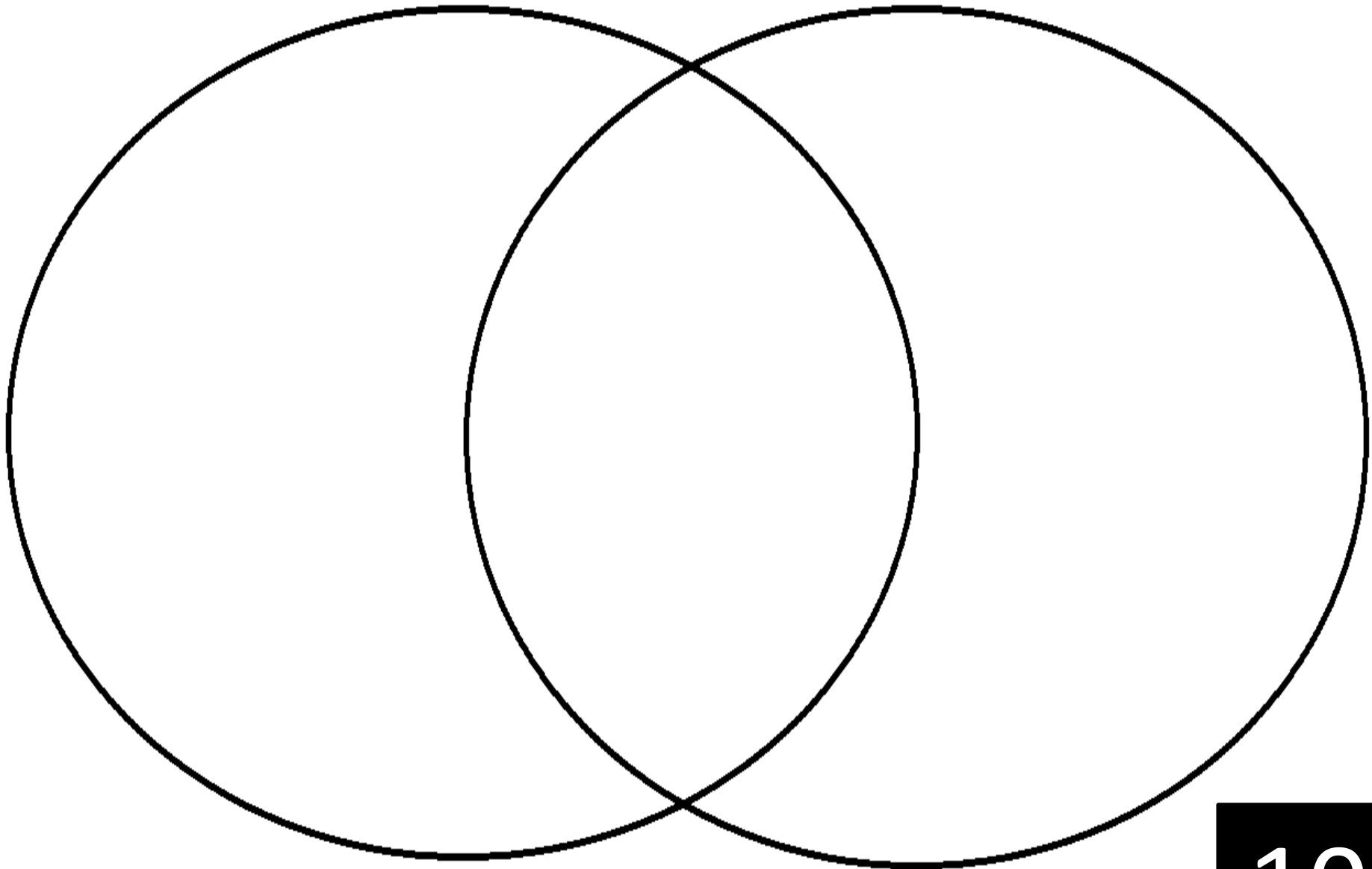
- (1) obtain and use resources for energy
- (2) respond to stimuli
- (3) reproduce
- (4) grow and develop

All Organisms are:	
M	_____ up of c_____.
N	_____ food & w_____.
A way to d	_____ of w_____.
L	_____ in an e_____.

Living

vs.

Non-Living



Essential Knowledge

It is essential for students to know the characteristics that separate living organisms from nonliving things. All living organisms share the following characteristics:

1. They obtain and use resources for energy

- All organisms must obtain resources, such as food, oxygen, and water, which provide required energy to perform the basic processes of life, such as growing and developing, or repairing injured parts.
- **Autotrophs** (for example plants) provide their own food for energy through the process of photosynthesis, while **heterotrophs** (for example animals) must find an external source for food.
- Energy is released from food in most organisms through the process of respiration.

2. They respond to stimuli

- A stimulus is any change in an organism's surroundings that will cause the organism to react.
- Examples of environmental stimuli may be changes in the following: amount of light, temperature, sound, amount of water, space, amounts or types of food, or other organisms present.
- The reaction to the stimulus is called a response. It can be an action or behavior performed by the organism.

3. They reproduce







- Organisms have the ability to reproduce, or produce offspring that have similar characteristics as the parent(s). There are two basic types of reproduction:
 - Asexual reproduction - a process that involves only one parent and produces offspring that is identical to the parent.
 - Sexual reproduction - a process that involves two parents. The egg (female reproductive cell) and sperm (male reproductive cell) from these two parents combine to make an offspring that has characteristics of both parents.

4. They grow and develop

- Growth is the process whereby the organism becomes larger (has an increase in height, mass, and/or overall size).
- Development is the process that occurs in the life of the organism that results in the organism becoming more complex structurally.
- Organisms require energy to grow and develop.

Scientific Argument: Claim, Evidence, Reasoning

6.E.2A.2

Is it Living?					
	Does it move all by itself?	Does it grow and change?	Does it breathe?	Does it need food and water to survive?	Does it reproduce?
 Worm	yes	yes	yes	yes	yes
 Car	NO	NO	NO	gas? oil? water	NO
 Soccer ball	NO	NO	NO <small>pump it with air?</small>	NO	NO
 Calvin	yes	yes	yes	yes	yes
 Sunflower	yes	yes	yes	yes	yes
 Chicken Nuggets	NO	NO	NO	NO	NO

Find a fact: Which three organisms/things reproduce according to this graph?

Answer: _____

Using the chart, use your scientific argument skills to make a claim, find evidence and reasoning about the concept of living, nonliving, dead, and or dormant.

Claim: _____

Evidence:

Reasoning:



Characteristics of All Living Things

A. dead

B. dormant

C. evidence

D. habitat

E. living

F. nonliving

G. organism

Use the vocabulary on the right to match with the definitions below.

- _____ 1. Referring to something that has never been alive.
- _____ 2. Information gathered by observation or experimentation.
- _____ 3. No longer alive.
- _____ 4. An individual living thing, such as a plant, animal, fungus, bacterium, archaeon, or protist.
- _____ 5. A state of suspended activity. Alive, but inactive.
- _____ 6. A specific place where an organism lives.
- _____ 7. The condition of being alive.