

Observations of a Living Organism: *Characteristics of Life***Introduction and Problem:**

There are many characteristics that all living organisms have in common. Through this investigation you will discover the patterns that all living things share by observing an exemplar organism, and using your background knowledge to answer the question: "What characteristics do all living organisms have in common?"

Procedures:

1. Obtain a living snail.
2. It will take a while for the snail to react when you expose it to a new situation. Be sure to give the snail time to rest between the following procedures.
3. When working with living organisms be sure to not to cause direct harm to the organism and ensure your safety by washing you hands at the end of the investigation.

DATA:

To record data as you observation the snail you may either write a description of the snail as if you were describing the snail to someone who had never seen one – **OR** – make several sketches with annotations of the snail as viewed from different angles for each set of observations.

PART I – Snail on a Plate

1. Place a clean glass plate on the lab table and place your snail on the plate.
2. Watch the snail for several minutes. Do not touch or jostle the snail as you watch.
3. Record your observations on the data sheet.

PART II – View of Snail's Foot

1. The part of the body on which the snail moves is called the foot. Pick up the plate and hold it horizontally above your eyes.
2. Look at the foot of the snail and record what you see on your data sheet.

PART III – Snail on a Vertical Plate

1. Turn the plate on the edge (vertically). Watch the snail for several minutes and then describe its actions and direction of travel on your data sheet.

PART IV – Turning Plate 180 Degrees

1. Rotate the plate 180 degrees so the opposite edge is up. Give the snail time to react. What does the snail do?
2. Repeat this step several times and write your observations on the data sheet.

PART V – Snail and Food Source

1. Put a small piece of food directly in front of the snail. If the snail starts to eat, use a hand lens to help you see what is happening.
2. Record the snail's response on your data sheet. Locate and describe the movement of the radula, a dark object in the snail's upper lip.

PART VI – Snail with Salt Crystals

1. On a clean, dry glass plate place **ONE** large salt crystal in the path of your snail. Describe the snail's response on your data sheet. If the snail gets in the salt, rinse thoroughly in the sink before continuing.

PART VII – Snails' Respiratory Pore

1. Carefully pick up the snail by the shell. Hold it upside down to locate the respiratory pore. The pore is next to the mantle (living tissue that lines the inside of the shell). The mantle secretes the chemicals that form the shell. Describe your observation of the respiratory pore on the data sheet.

Observations of a Living Organism Data Sheet

	Drawing / Observations
PART I – Snail on a Plate	
PART II – View of Snail's Foot	
PART III – Snail on a Vertical Plate	
PART IV – Turning Plate 180 Degrees	
PART V – Snail with Food Source	
PART VI – Snail with Salt Crystals	
PART VII – Snails' Respiratory Pore	

Observation Questions:

1. Individually create a list of up to ten different characteristics a living thing must possess in order to be a living. You can base this list on previous knowledge or observations from today's activity.
2. Discuss your observations and compare your list of characteristics with your group. Decide as a group the five most important characteristics all living organisms must have, then as an individual support each characteristic with evidence. Frame your evidence such that if an organism didn't have this characteristic it could not be alive.