Underground Habitats

FRAMEWORK
I. Scientific and Engineering Practices 3,8
II. Cross-Cutting Concepts 6
III. Physical Sciences LS2, ESS2

SKILLS/OBJECTIVES
o The kids are going to explore an underground habitat outside their school o The objective is to explore nature by looking at animals and soil outside

MATERIALS
o Shovels o Paper Plates o Magnifying Glasses o Clear jars with tight lids

NOTES
Any concerns re: length of lesson or things to make sure are prepped in advance to streamline the lesson, time constraints, younger/older disparities, an indication if this is outside only or only for calm groups or whatever other specifications may come up.

BACKGROUND

- Has anyone heard the word "habitat" before? What is a habitat?
- A habitat is an animal's home – the non-living materials that they live in and around. For example: A fish's habitat is the ocean; a monkey's habitat is the jungle; your habitat is everything in and around where you live.
- Habitats are the physical components that exist around an organism or organisms that aren't actually the organisms themselves.
- Today we're going to explore a much smaller habitat – an underground habitat!

Activity #	**Habitat Observations**
Materials	-Shovels -Paper Plate -Magnifying Glass
Worksheet	Y

- First, make a hypothesis – what do you think lives in an underground habitat? What non-living things might you find in an underground habitat? (See worksheet)
- Divide the kids into small groups each led by one Wesleyan student and bring them outside.
- Find a patch of dirt. Using a shovel, take one scoop of dirt and place it on a paper plate.
- Break up any clumps of dirt and explore what you find in the dirt. (See worksheet)
- Use a magnifying glass to see even more!

Activity #	**Soil Observations**
Materials	-Jars with lids -
Worksheet	N

- Underground habitats are made up of soil. Pick the animals and big clumps of non-living things out of your soil, and place the remaining soil in a jar.
- Add twice as much water as soil to the jar. Close the lid tight, and shake the jar.
- Let the soil settle in the water. See how the soil components separate. The big grains on the bottom are **sand**, the middle layer is **silt**, and the tiny particles on the top are **clay**.
    - Sand has no nutrients but is good at letting water pass through.
    - Clay holds lots of nutrients but gets sticky when wet, so it doesn't allow water to pass through.

CONCLUSION

- Organisms live in different habitats based on what they need to survive. What other kind of organisms survive and live in underground habitats? Some examples of these are prairie dogs and ferrets that live in tunnels underground! They do not use the soil in the same way worms and other insects might, but they use tunnels for shelter and protection.

Name: _____

Underground Habitats!

Today, we're going to explore an underground habitat.

Hypothesis:

1. What living things do you think you will find in an underground habitat?

_____
_____

2. What non-living things do you think you will find in an underground habitat?

_____
_____

Observations:

1. What living things did you find in your underground habitat?

_____
_____

2. What non-living things did you find in your underground habitat?

_____
_____

3. Draw some of what you found on the back of this worksheet.

4. Challenge question – why is it important to have sand, silt, and clay in the underground habitat?

_____
_____
_____