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**Student Instruction Sheet – Structured Level**

**Student Name** \_\_\_\_\_

**Date** \_\_\_\_\_

**Title of Investigation: Herbaceous Plant Structure: The Same or Not the Same... You Decide**

**Background Information:** There are many different plants that grow near The Center School.

Some plants are herbaceous which means they, “have non-woody stems. Their above-ground growth largely or totally dies back in winter in the temperate zone, but they may have underground plant parts (roots, bulbs, etc.) that survive.”

Other plants are woody plants which means they, “have hard stems (thus the term, “woody”) and that have buds that survive above ground in winter. The best-known examples are [trees](#) and shrubs (bushes).”

During our last lesson, we looked at woody plants. During today’s lesson, we will look at the plant structure of herbaceous plants.

Over the next few weeks, we will look at plant structure. Don’t get hung up on the phrase “plant structure.” It just means plant part. Do all plants have the same structure? How does a plant’s structure help it survive? In our study, we will observe different plant specimens (samples), note the environment around the plant and observe each plant’s structure.

**Guiding Question:** Does a herbaceous plant’s structure differ from a woody plant’s structure? Do all herbaceous plants have the same structure? Why or why not?

**Procedure/Methodology:**

- One person in the partner pair will choose a herbaceous plant in the woods to observe.
- In the box on the left, draw the herbaceous plant.
- In the box on the right, draw the area in which you found your plant. Be sure to sketch any markers which will help you find the area again: fences, trees, boulders, bridges or any other helpful visual clue.
- After you take your data, take a photo of the plant.
- Repeat the above steps. This time the other partner chooses the plant to observe.

**Observations:**

<p><b>Plant 1</b></p>	<p><b>Area 1</b></p>
<p><b>Plant 2</b></p>	<p><b>Area 2</b></p>

**Data:** Observe your plants in their natural habitats for ten minutes. Please note the following: Is your plant growing in the sun or shade? Is the soil around your plant dry or wet? Are there any insects on your plant? If you find insects, please draw them in the box. Please note other observations in the **“Other Notes”** section.

How many specimens of your plant are in the area?	Sun or shade?	Dry or wet soil?	# of insects and location on plant	Distance from your woody plant.
Plant 1				

How many specimens of your plant are in the area?	Sun or shade?	Dry or wet soil?	# of insects and location on plant	Distance from your woody plant.
Plant 2				

**Other Notes:**

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**Analyzing and Interpreting Data:**

How many specimens of plant 1 are in the area? \_\_\_\_\_

How many specimens of plant 2 are in the area? \_\_\_\_\_

Is herbaceous plant 1 growing in the sun or the shade? \_\_\_\_\_

Is herbaceous plant 2 growing in the sun or the shade? \_\_\_\_\_

Is herbaceous plant 1 growing in dry or wet soil? \_\_\_\_\_

Is herbaceous plant 2 growing in dry or wet soil? \_\_\_\_\_

What insects were on herbaceous plant 1? \_\_\_\_\_

What insects were on herbaceous plant 2? \_\_\_\_\_

Where were the insects on herbaceous plant 1? \_\_\_\_\_

Where were the insects on herbaceous plant 2? \_\_\_\_\_

**Constructing Explanations:**

Is plant 1 common (more than 20 specimens) or uncommon? \_\_\_\_\_

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Is plant 2 common (more than 20 specimens) or uncommon? \_\_\_\_\_

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How does the sun or shade help herbaceous plant 1 survive? \_\_\_\_\_

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How does the sun or shade help herbaceous plant 2 survive? \_\_\_\_\_

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How does the dry or wet soil help herbaceous plant 1 survive? \_\_\_\_\_

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How does the dry or wet soil help herbaceous plant 2 survive? \_\_\_\_\_

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How do the insects help plant 1 survive? \_\_\_\_\_

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How do the insects help plant 2 survive? \_\_\_\_\_

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Why were the insects on that part of herbaceous plant 1? \_\_\_\_\_

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Why were the insects on that part of herbaceous plant 2? \_\_\_\_\_

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**Argumentation from evidence:** Does a herbaceous plant's structure differ from a woody plant's structure? Do all herbaceous plants have the same structure? Why or why not?

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**Communication to other students:**

- Pair up with another set of partners.
- Share you and your partner’s argument with the other partner pair. You may use feedback from the other partner pair to strengthen your argument.
- Use the table below to compare/contrast your plants’ environments and its structures.

Data	Plant 1	Plant 2	Partner Pair Plant 1	Partner Pair Plant 2
# of specimens in area				
Sun or shade?				
Dry or wet soil?				
# of insects				
Distance from woody plant				

