
Student Instruction Sheet – Structured Level

Student Name _____ Date _____

Title of Investigation: Woody Plant Structure: Who, What, Where, When and Why?

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).”

Today we will be observing and identifying woody plants. There are two types of woody plants deciduous and coniferous. Deciduous trees shed their leaves in the fall and often have broad leaves “unlike the thin needles of the conifers.” Deciduous, “trees also produce flowers. Sometimes the flowers are in the form of fruit or nuts, which we can often eat.” Oaks, beeches, maples, elms, and birches are deciduous. “Coniferous trees have narrow hard leaves called scales or needles. Most of them are evergreen, meaning that they stay green during the winter and don't have leaves that change colors and drop during autumn season. Conifers get their name from having cones that house their seeds. Some examples of coniferous trees include cypresses, pines, cedars, firs, and redwoods
Biology for Kids: Trees.”

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), their environment and their structure.

Guiding Question: How does a woody plant's structure help it survive? Do all woody plants have the same structure? Why or why not?

Procedure/Methodology:

- One person in the partner pair will choose a woody plant in the woods to observe.
- In the box on the left, draw the woody 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, 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 style="text-align: center;">Plant 1</p>	<p style="text-align: center;">Area 1</p>
<p style="text-align: center;">Plant 2</p>	<p style="text-align: center;">Area 2</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?	Broad leaves or needles	Color and shape of leaf	Cones, nuts, flowers and/or seeds	Distance to nearest woody plant.
Plant 1				

How many specimens of your plant are in the area?	Broad leaves or needles	Color and shape of leaf	Cones, nuts, flowers and/or seeds	Distance to nearest woody plant.
Plant 2				

Other Notes:

Analyzing and Interpreting Data:

How many specimens of plant 1 are in the area? _____

How many specimens of plant 2 are in the area? _____

Does woody plant 1 have broad leaves or needles? _____

Does woody plant 2 have broad leaves or needles? _____

What is the color and shape of woody plant 1's leaves? _____

What is the color and shape of woody plant 2's leaves? _____

Did woody plant 1 have cones, nuts, flowers and/or seeds? _____

Did woody plant 2 have cones, nuts, flowers and/or seeds? _____

How far away was woody plant 1 to the nearest woody plant? _____

How far away was woody plant 2 to the nearest woody plant? _____

Constructing Explanations:

Which of your woody plants was more common? _____

Why do you think that woody plant was more common than your other woody plant?

How does the shape of woody plant 1's leaves/needles help it survive? _____

How does the shape of woody plant 2's leaves/needles help it survive? _____

How does woody plant 1's cones, nuts, flowers and/or seeds help it survive? _____

How does woody plant 2's cones, nuts, flowers and/or seeds help it survive? _____

How does woody plant 1's distance from the next closest woody plant help it survive?

How does woody plant 2's distance from the next closest woody plant help it survive?

Argumentation from evidence: How does a woody plant's structure? Do all woody plants have the same structure? Why or why not? Use observation evidence to support your answer.

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 woody plants' environments and its structures.

Data	Woody Plant 1	Woody Plant 2	Partner Pair Plant 1	Partner Pair Plant 2
# of specimens in area				
Broad leaves or needles?				
Color/shape of leaf				
Cones, nuts, flowers and/or seeds				
Distance from other woody plant				

