

# Black Willow Tree Model

## Background:

You have studied the structures of typical plants. When you look at a plant, you can identify the roots, stems, leaves, and flowers. You can also describe the function of each plant part. You can also explain how a plant makes food through the process called photosynthesis.

## Challenge:

Using what you know about the structure of plants, design and build a model of one of the black willow tree stakes your class received.

## Criteria:

- Must be made using a paper towel tube
- Must be able to stand independently
- Be designed to resemble your black willow tree stake
- Must include all of the plant parts visible on your black willow tree stake

## Materials:

You may choose from the following materials:

1 paper towel tube	yarn	cardstock	brads
pipe cleaners	raffia	popsicle sticks	glue
construction paper	twine	toothpicks	tape ( <i>limited to</i>
tissue paper	1 plastic cup	rocks	<i>no more than 12"</i> )

## Tools:

scissors	hot glue gun
hole punch	magic markers
push pin drill	crayons

Think through the Engineering Design Process

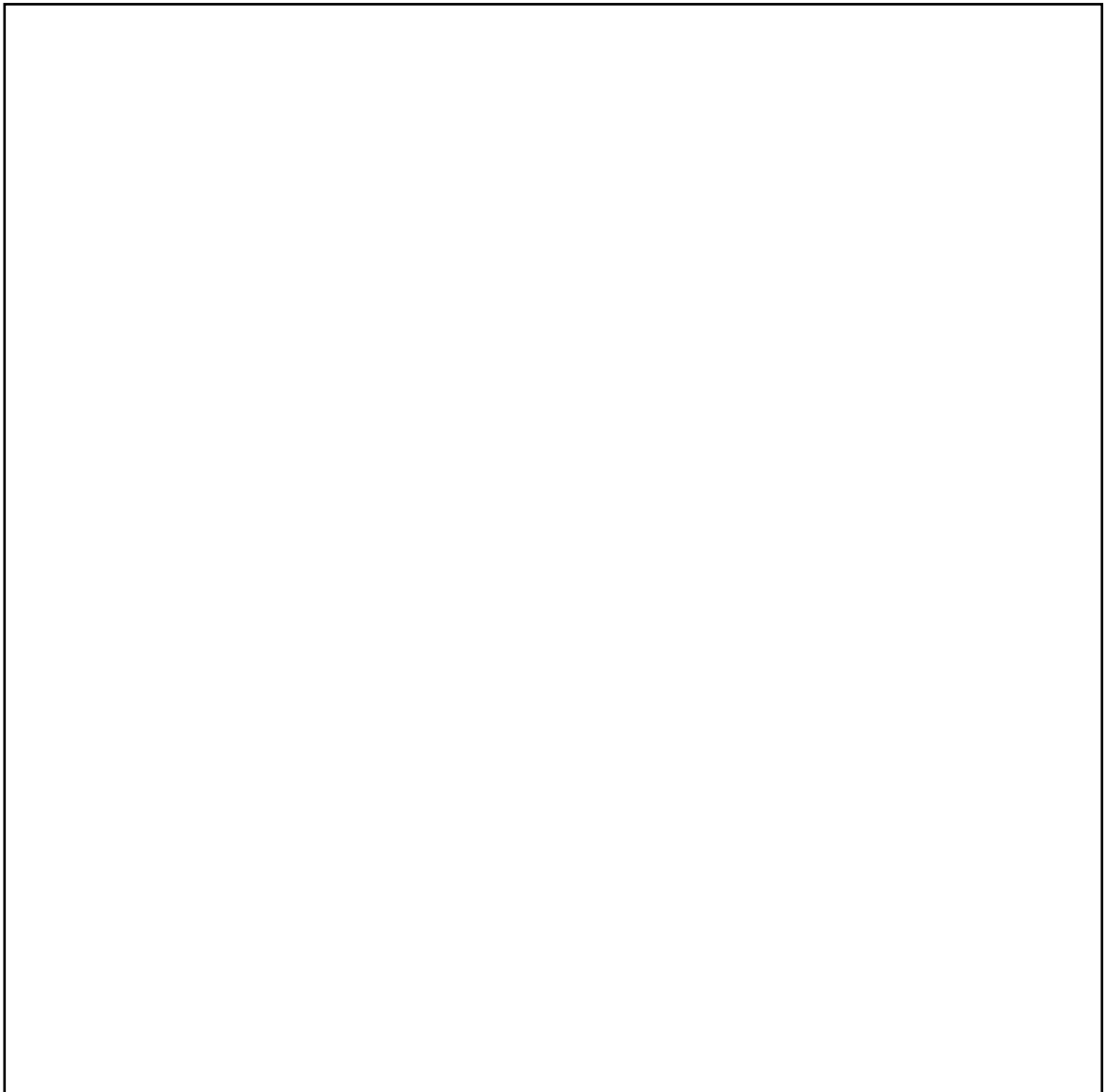
1. Ask yourself what the problem is and write it in your own words.

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2. Brainstorm what your model is going to look like and the parts it should include. Use your black willow tree stake as a guide.



3. As you are planning, make a list of the materials and tools you will need.

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4. Create your model of your black willow tree stake. If you have any problems, write down how you were able to solve them.

Problem I Had	How I Solved It

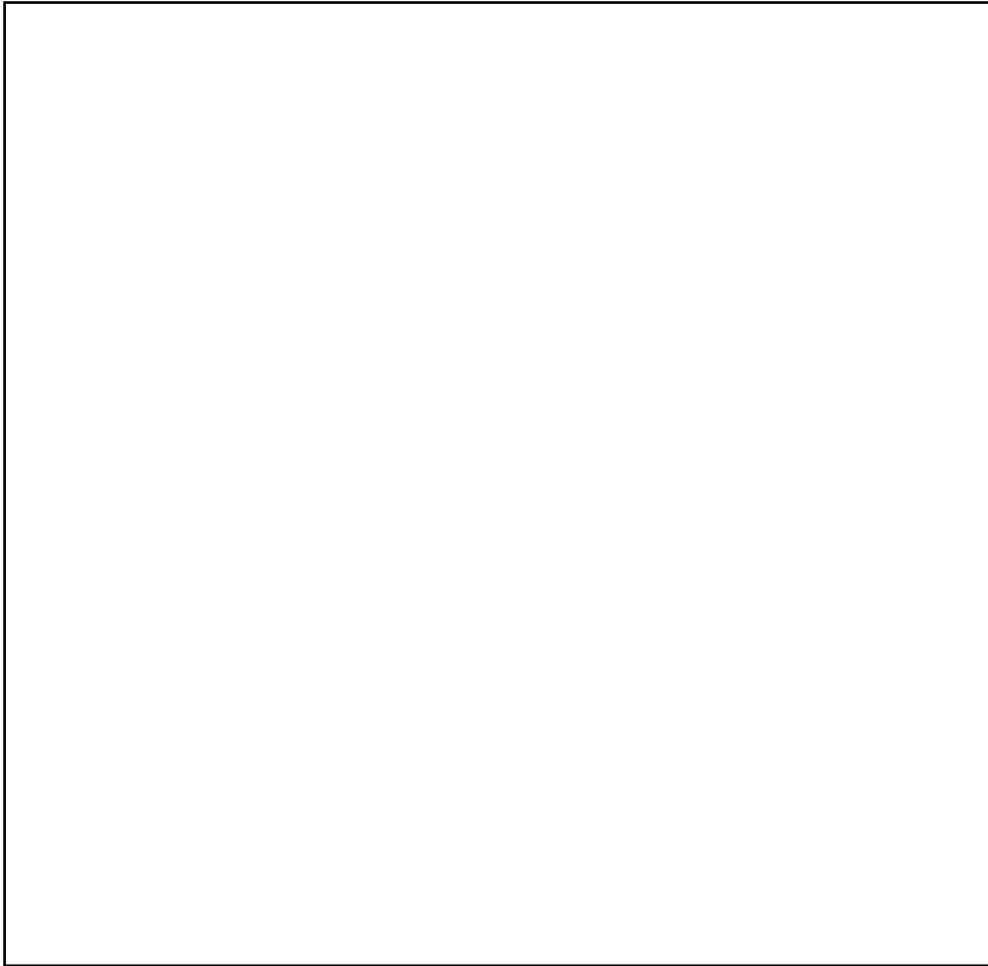
5. If you have extra time, think about how you can improve your design.

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Take a picture of your model and your black willow tree stake and glue below.



Give your packet to another student and have them evaluate your model.

Student Evaluator \_\_\_\_\_

Plant Part	Black Willow Tree Stake		Model of Black Willow Tree Stake	
Leaves	Yes	No	Yes	No
Flowers	Yes	No	Yes	No
Branches	Yes	No	Yes	No
Trunk	Yes	No	Yes	No
Roots	Yes	No	Yes	No

Student Self Evaluation

Name:	Student	Teacher
I followed the Engineering Design Process for my model.	Yes No	Yes No
I only used the allowed materials.	Yes No	Yes No
My model includes one paper towel tube.	Yes No	Yes No
My model will stand independently.	Yes No	Yes No
My model looks like my black willow tree stake.	Yes No	Yes No
My model has all of the plant parts visible on my black willow tree stake.	Yes No	Yes No

Comments:

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