My Tree

Name  ________________________________
My question: “What is a tree?”

Today, I want to find out:

I think trees are:
What I observed about my tree.

How can I tell that this plant is a tree?
My Tree
A drawing of my tree from a distance.
A Mouse’s View
A drawing of my tree as seen from below.

A Bird’s View
A drawing of my tree as seen from above.
Measure your tree’s circumference

Circumference is the distance AROUND a circle.

1. Estimate the circumference around your tree’s trunk. Just guess! Remember to use correct units.

2. Use a tape measure to measure the circumference around your tree:

   1 foot from the ground
   2 feet from the ground
   4.5 feet from the ground

3. What did you notice about the width of the trunk as you measured the circumference at different heights?

4. Foresters always measure circumference at 4.5 feet from the ground. Why do you think they take measurements from this height only?
Measure your tree’s diameter

Diameter is the length of a straight line that passes through the middle of a circle.

Instructions: Calculate diameter by dividing the circumferences by 3.14. Use the circumferences you found on the previous page.

1. Use the circumference from the previous page to find the tree’s diameter at 4.5 feet from the ground.

\[
\text{Circumference} = \frac{\text{Diameter}}{3.14}
\]

\[
\frac{\text{___________}}{3.14} = \text{___________ inches}
\]

This is your tree’s “diameter at breast height” (DBH), which is always measured 4.5 feet from the ground. Foresters use DBH to estimate the amount of lumber the tree could provide.

5. Lots of things in nature have diameters. Can you think of any other objects that could be measured for diameter?
**Measure your tree’s height**

Materials needed: two students, ruler, paper, pencil

1. One student stands at base of tree.
2. Other student holds ruler at arm’s length. Walk backward, keeping arm stiff, until top and bottom of ruler appear to line up with top and bottom of tree.
3. Note where top of the first student’s head appears on ruler.

\[
x = \text{Length of ruler (12 in.)}
\]
\[
y = \text{Measurement at top of student’s head} = \underline{\text{____ in.}}
\]

4. Find the “proportional number.”
\[
\frac{x}{y} = b \quad b \text{ is the “proportional number”}
\]
\[
b = \underline{____}
\]

5. Note the student’s actual height. Then multiply it with the proportional number to find the actual height of the tree.

\[
a = \text{student’s actual height} = \underline{____ in.}
\]
\[
a * b = h
\]
\[
h = \text{tree’s actual height in inches}
\]
\[
h = \underline{____ in.}
\]

6. Divide by 12 inches to find the tree’s height in feet.
\[
\frac{h}{12\text{ in.}} = \underline{\text{_______ feet}}
\]
Measure your tree’s average crown spread

All the branches together make up a tree’s crown. The **average crown spread** is the average distance that branches reach away from the trunk.

**Instructions:**
1. Have a partner hold one end of the tape measure next to the tree’s trunk.
2. Pull the tape measure away from the trunk. Stop when you reach where the branches end above you. Record the distance in the table below.
3. Repeat steps 1 and 2 at least four times.

   My measurements:
   - Distance 1 ___________ inches
   - Distance 2 ___________ inches
   - Distance 3 ___________ inches
   - Distance 4 ___________ inches
   - Distance 5 ___________ inches

4. Add all the ___________ inches distances (total)

5. Divide the total by the number of measurements you took.

   \[
   \text{Total} \over \text{Number of measurements} = \text{__________ inches}
   \]

   This is your average crown spread.
**Poet-tree**
Sit beside your tree. Record observations of your tree and surroundings.

1. My observations:

2. On the next few pages, use your observations to write poems. Try some different poetic forms.
Haiku is a Japanese form of poem that has 3 lines.

Line one: 5 syllables  
The snow-covered tree

Line two: 7 syllables  
Sparkles in the moonlight.

Line three: 5 syllables  
The wind rushes by.

Windspark poems have 5 lines, starting with these prompts.

Line 1: I dreamed...  
I dreamed

Line 2: I was...  
I was a tree

Line 3: describe a place  
On a hillside

Line 4: describe an action  
Playing with the wind

Line 5: an adverb ending in -ly  
Joyfully
Cinquains have 5 lines; each line has a purpose and a specific number of syllables.

Title, 2 syllables  
Forests

Description of title, 4 syllables  
Graceful, growing

Action, 6 syllables  
Reaching to touch the clouds

A feeling, 8 syllables  
Calmly awaiting the sunrise

Another title, 2 syllables  
Alive.

Acrostic poems are like acronyms. The first letter in each line, read vertically, spells something.

Example

Tower
Reaching
Extending
Embracing the sky
**Diamante** poems are diamond-shaped and have 7 lines.

- **noun**
- adjective adjective
- participle participle participle
- noun noun noun noun
- participle participle participle
- adjective adjective
- noun

**Seed**

- Small, buried
- Growing, breathing, living
- Life, oxygen, shade, habitat
- Waiting, reaching, moving
- Hopeful, excited
- Seedling
Picture poems form a picture of what is happening in the poem.

- Branches
- Shade, happiness, habitat
- Paper, wind-break, fuel, oxygen
- Furniture, tree houses, maple syrup
- Parks, nuts, fruit, seeds
- Stick forts
- Nests
- Wood
- Home
- Roots
Trees as Habitats

Which animals use your tree?
*Look for holes in bark or leaves, nests, chewed bark, scat, and other animal signs.*
*Listen*
*Smell*

List the animals you think may be using your tree.
**LEAVES**

1. Does your tree have **broad leaves** or **needles**?

2. Deciduous trees *drop* their leaves in the fall. Evergreen trees *keep* their leaves or needles all year. Is your tree **deciduous** or **evergreen**?

---

**secondary or lateral vein**
Veins support the leaf and move water, minerals, & food energy through the leaf and on to the rest of the plant.

**primary vein**

**apex** (leaf tip)

**leaf margin** (edges of leaf)

**leaf base**

**petiole** (stem)
Draw a picture of a leaf from your tree. Then label parts of your leaf, using the drawing on the left.
Answer some questions about your leaf.

1. Is your leaf all by itself (simple) or grouped with leaflets (compound)?


3. What does your leaf smell like?

4. What color is your leaf?

5. Are the colors the same on both sides? Describe.

6. How long is your leaf? _________________ inches

7. How wide is your leaf? _________________ inches
**SEEDS**
Tree seeds come in a variety of packages. What does your tree have? (circle one):

- **fruit**
- **nuts**
- **acorns**
- **pods**
- “**helicopter**” seeds
- **cones** *(your tree is “coniferous”)*

**Draw a picture of one of your tree’s seeds, fruits, nuts, or cones.*
TWIGS

Draw a picture of a twig from your tree, including any spots, holes, or patterns you see.

Label parts of your twig like the twig on the right.
Look at your twig. Are leaves, leaf scars, or side shoots arranged in an opposite, alternate, or whorled pattern?

**Circle your answer on the right.** alternate opposite whorled
TREE HEALTH
Look for clues about your tree’s health.

Circle any trouble signs you see on your tree.

- **Trunk damaged**
  Hit by car or lawn mower

- **Branch stubs**
  Should be trimmed so tree can heal

- **Tree leaning**

- **Vandalized**
  Carved into or branches twisted

- **Insect feeding**
  Many leaves missing or full of holes

- **Leaf deformities**
  Rolled, crinkled, or funny shaped
Cracked trunk
From lightning or frost

Split trunk

Tree broken off

Problems with staking
Stakes bent, wires loose, tree not secured

Rotten spots

Dead tree

Broken branches attached

Broken branches hanging

Broken branches on ground
SPECIES
Identify your tree’s species
Now that you’ve closely observed your tree’s leaves, twigs, and seeds, use tree identification book or website to identify your tree.

Tree species name

After learning about your tree, what surprised you?
This journal was designed to accompany Project Learning Tree (PLT) activities: #21 “Adopt a Tree,” #5 “Poet-Tree,” #22 “Trees as Habitats,” #67 “How Big Is Your Tree?” #68 “Name That Tree,” and #77 “Trees in Trouble.”