

# All About Leaves

Leaves come in all shapes, sizes and even colors!

Using the activities included in this packet as a guide, you will soon discover some of the many interesting characteristics of leaves.

## LEAF HUNT!

Use your senses as you try to find leaves that fit these characteristics.

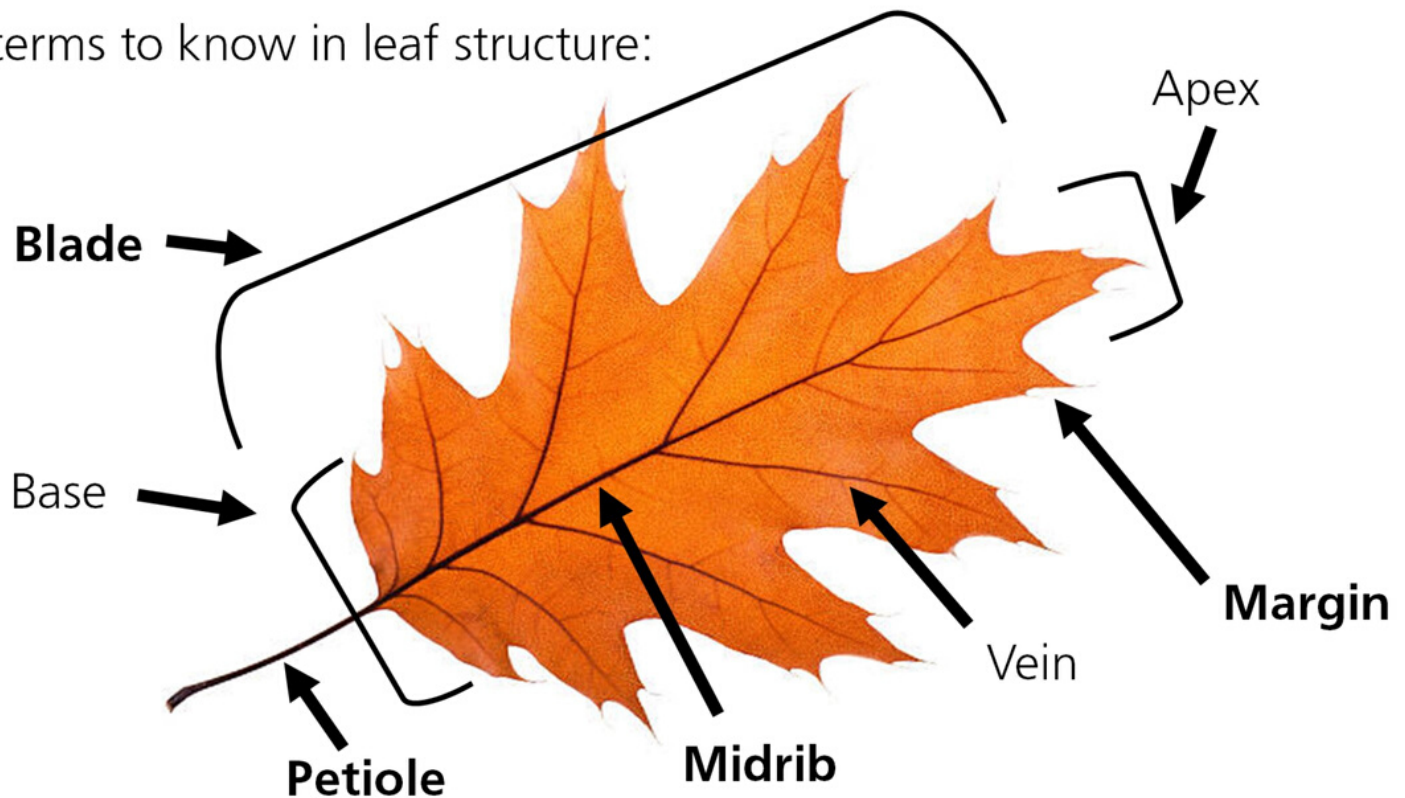


<input type="checkbox"/>	Find a leaf that is yellow
<input type="checkbox"/>	Find a leaf that is brown
<input type="checkbox"/>	Find a leaf that has pointy edges
<input type="checkbox"/>	Find a leaf that is long and skinny
<input type="checkbox"/>	Find a leaf that has stripes on it
<input type="checkbox"/>	Find a leaf that is smaller than a quarter
<input type="checkbox"/>	Find a leaf that smells good
<input type="checkbox"/>	Find a leaf that is decaying
<input type="checkbox"/>	Find a leaf that is fuzzy or soft



# Leaf Parts

Key terms to know in leaf structure:



## **Blade**—

flat part of the leaf where photosynthesis occurs.

## **Petiole**—

connects the leaf to the rest of the plant and is flexible to protect it from strong winds.

## **Midrib**—

thick vein that runs from the **base** to the tip of the leaf, also called the **apex**. Small **veins** shoot off from the midrib to transport nutrients to the rest of the blade.

## **Margin**—

the outer edge of the leaf. Margins come in many different types and are important for plant identification.



# Zoom in on Leaves

Leaves are the plant's food factories! **Photosynthesis** is the process by which plants make their own food. To do this, the plant must have:

- **Carbon dioxide:** enters the leaves through small pores (holes) called
- **Water:** soaked up by the roots and moved to the leaves through the stem and veins.
- **Sunlight:** absorbed by chlorophyll, which is the chemical that makes leaves green.

The plant combines these to create its food, **glucose**.

## EXPERIMENT:

**You will need a live, freshly picked leaf, clear bowl, water and a small rock.**

1. Fill clear bowl with room temperature water.
  2. Place leaf in the bowl with small rock on top to fully submerge the leaf.
  3. Place bowl in a sunny spot. Wait a few hours, then observe! You should see small bubbles forming on leaf edges.
- Experiment with sunny and shaded areas or the amount of time you let the bowl sit. Which produces the most bubbles and why?
  - What did you just observe? A leaf releasing oxygen during photosynthesis!



# Leaf Shapes

Triangle, heart and round are just a few of the many different leaf shapes.



**Oak**

Lobed  
Deeply indented



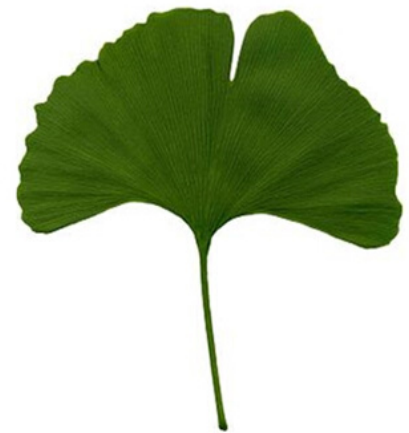
**Maple**

Palmately lobed  
Star shaped



**Pine**

Acicular  
Needle shaped



**Ginkgo**

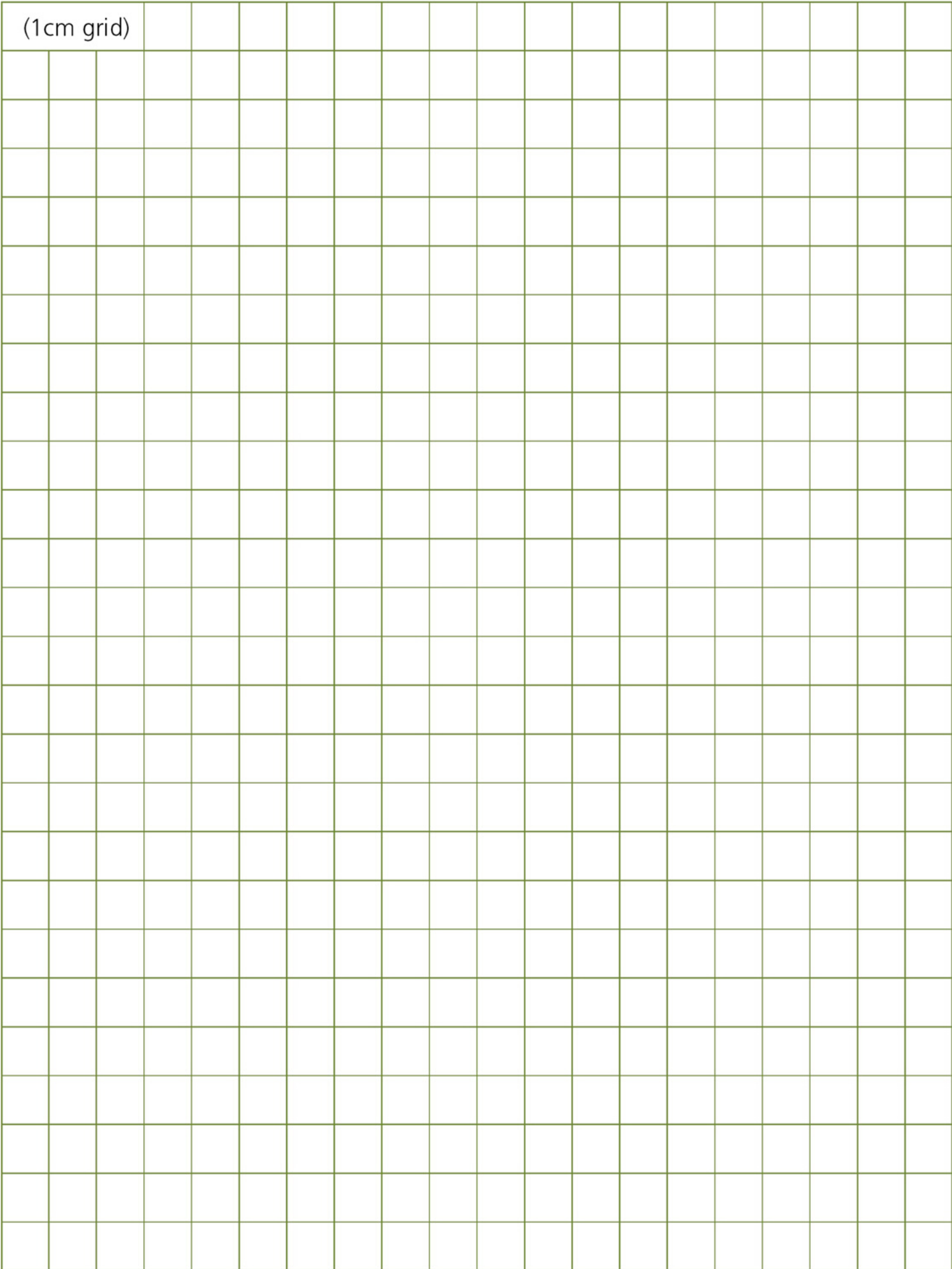
Flabellate  
Fan shaped

## JOURNAL:

Go on adventure to your backyard or local park. Collect different leaves that have fallen to the ground and draw the shape outline in your journal. Try to identify what type of tree it came from. How many different shapes can you find?



(1cm grid)

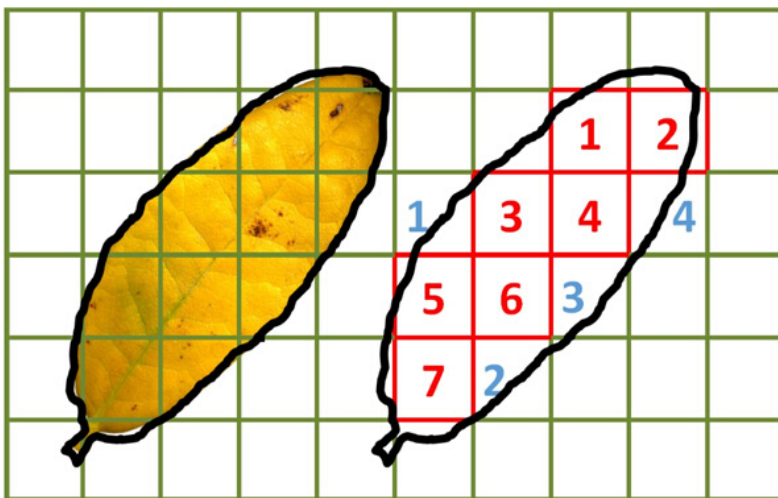


# Leaf Sizes

Leaves vary greatly in size, from large banana plants to tiny clovers.

## Estimating leaf surface area:

1. Collect two leaves of different sizes.
2. Place the leaves on the grid and trace their outlines.
3. Count the number of full squares. Estimate the number of partial squares. Do not include the petiole.
  - Count a partial square if it is at least half covered; do not count the square if



(1cm grid)	Example
Total number of full	7
HALF the total number	2
<b>Total (cm<sup>2</sup>)</b>	9 cm <sup>2</sup>

## CRITICAL THINKING

Plants in the rainforest catch more sunlight with large broad leaves, while desert plants catch less light with their smaller leaves.

- Why might small leaves in the desert help the plant conserve?
- How can leaf size influence food production and water loss?

(1cm grid)	Leaf #1	Leaf #2
Total number of full squares		
HALF the total number of		
<b>Total (cm<sup>2</sup>)</b>		



# Leaves We Eat

Have you ever eaten a leaf of a plant?

## Try this with a guardian:

- Conduct a leaf taste test! Gather and try different edible leaves (fresh or dried), then compare and contrast how they taste. Here are few leaves we eat!

**Spinach**



**Parsley**



**Cabbage**



**Basil**



## GROW YOUR OWN:

**You will need herb seeds of your choice, soil and a container.**

1. Fill container with soil. Note: If your container does not have a drainage hole, put a thin layer of small rocks in the bottom.
2. Push seeds into the soil using your index finger to the recommended depth on the seed packet. Cover with soil and place near a window.
3. Create plant tags using craft sticks and markers to label what you have planted.
4. Watch your plants grow then enjoy eating your freshly harvested herbs!



# Mirror Leaf Drawing

Most leaves have a line of symmetry. This means that when split the leaf down the middle, the right and left sides are mirror images of each other.

Draw and color the missing mirror image of the leaf





# Leaf Art



Gather leaves and other natural materials from outside or print and cut out the leaves on the pages provided. Then use your imagination to create unique pictures as shown here.

**TRY IT!**







