

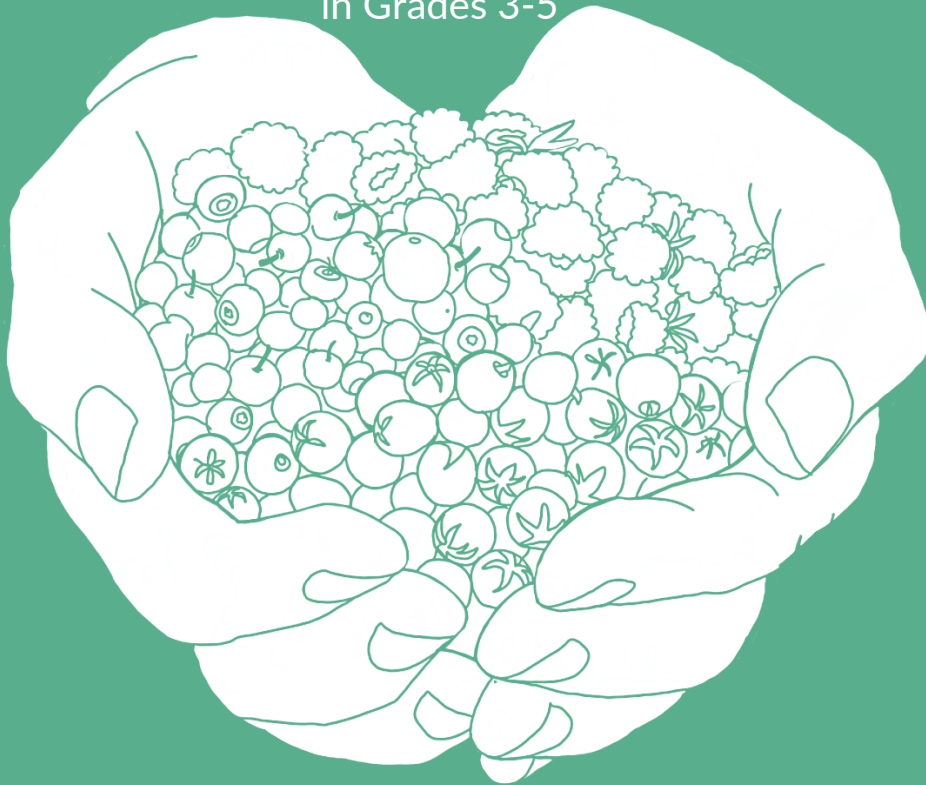


SIERRA  
CLUB BC

# PEOPLE AND PLANTS

## Part 1

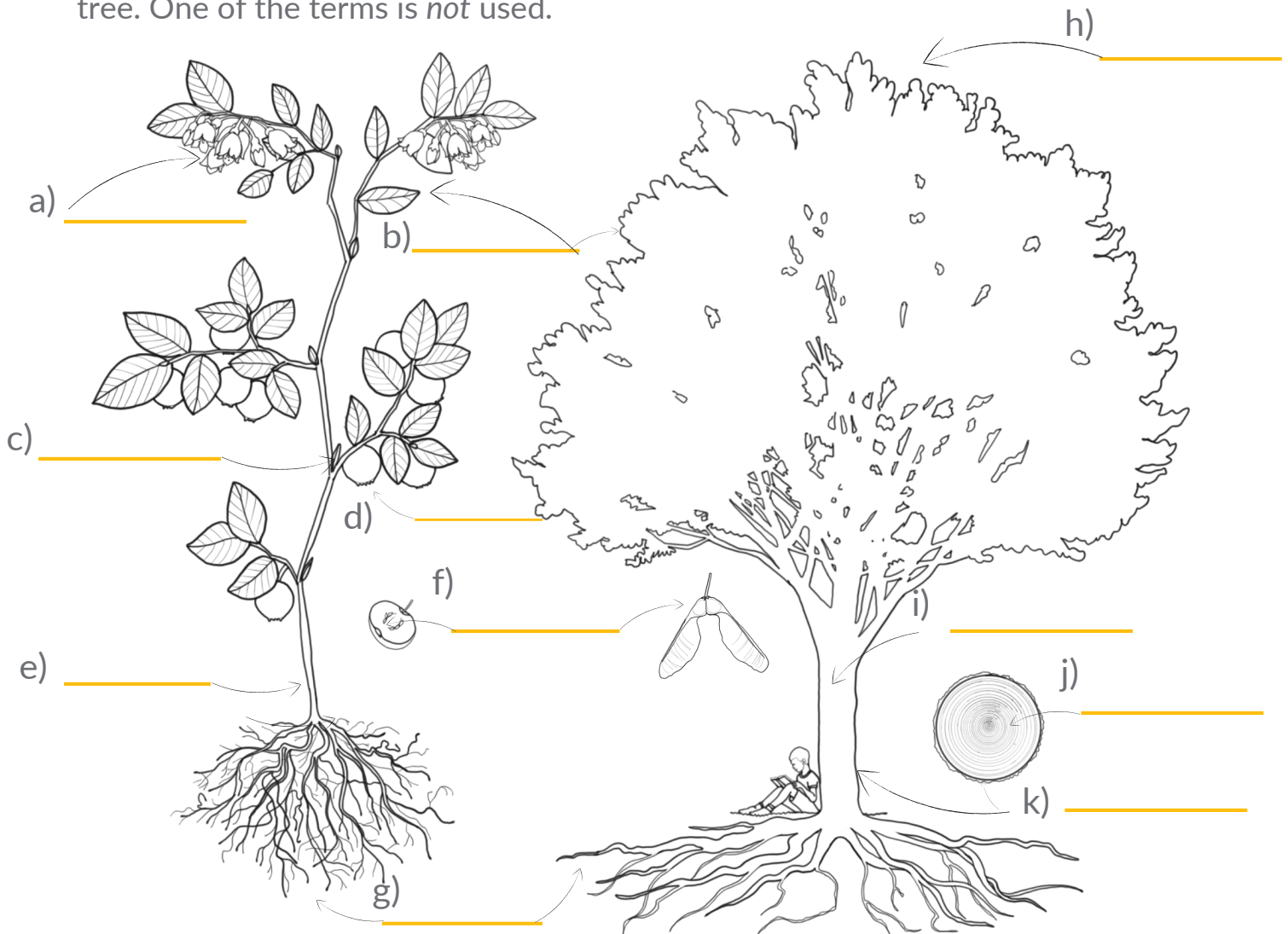
Suitable for learners  
in Grades 3-5



Illustrations by Amira Maddison

# WHAT IS A PLANT?

A plant is a multi-celled organism that creates energy from the sun. Plants can look very different – from the smallest flowers to the biggest trees! Fill in the blanks using the list of terms and definitions to label a huckleberry bush and a tree. One of the terms is *not* used.



**Trunk:** the main woody stem of a tree

**Leaf:** produce food for the plant through a process called photosynthesis.

**Crown:** the highest part of a tree

**Branch:** a natural division of a plant stem

**Seed:** the grains of plants capable of producing a new plant

**Bark:** the tough covering of a woody root or stem

**Annual growth rings:** inside the trunk; shows a ring for every year the tree has been alive

**Roots:** underground part of a plant that absorbs water and minerals, stores food, and holds the plant in place

**Flower:** an often colourful, specialized plant part that is involved in the development of seeds and fruit

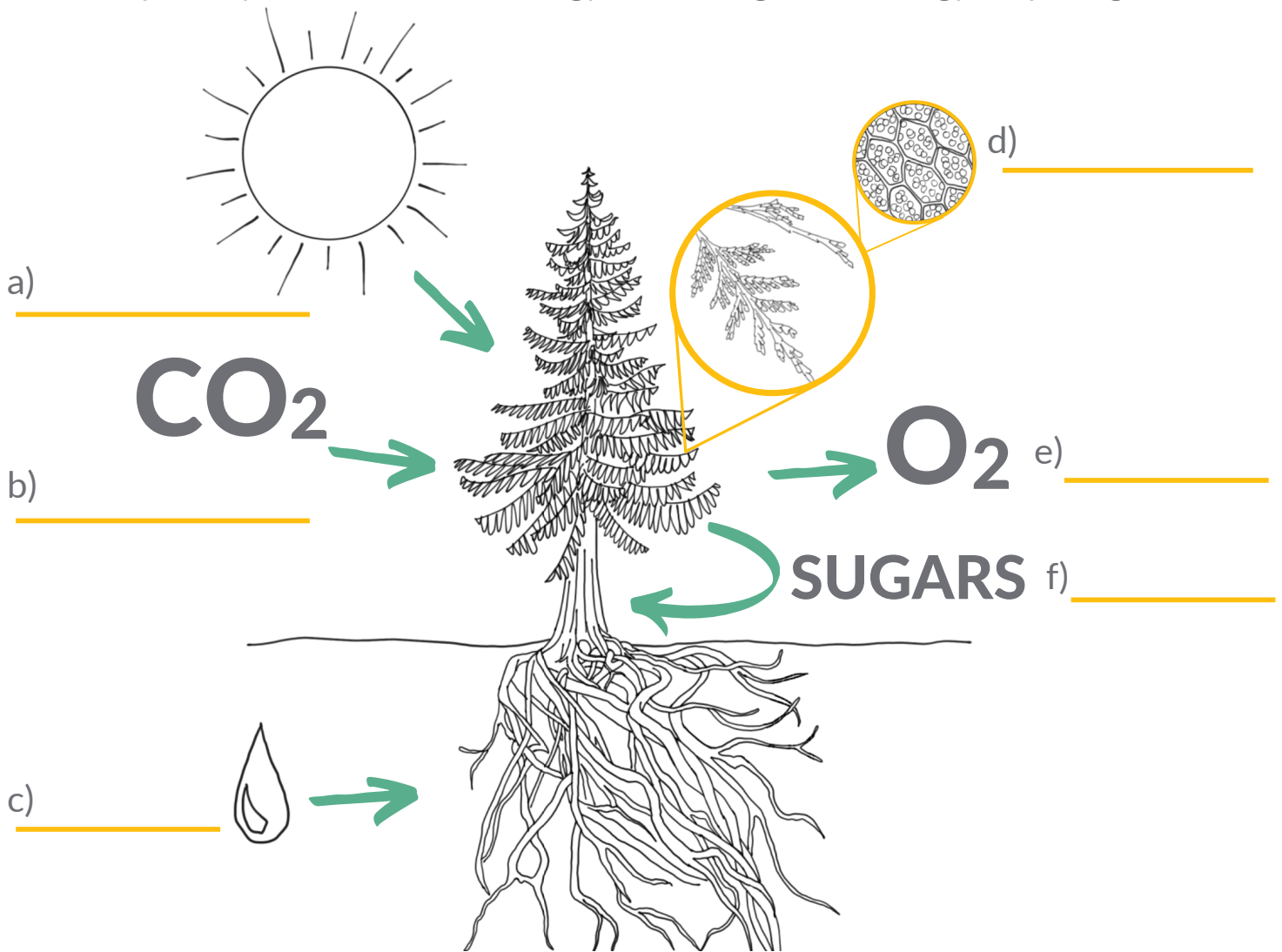
**Bud:** a small growth at the tip or on the side of a plant stem that later develops into a flower, leaf, or new shoot

**Stem:** the main stalk of a plant that develops buds and shoots and usually grows above the ground

**Fruit:** the ripened part of a seed plant; often sweet and pulpy.

# WHAT DO PLANTS NEED TO SURVIVE?

Unlike animals, plants make their food by using sunlight! Plants use a process called photosynthesis to covert energy from sunlight into energy for plant growth.



Label the diagram above with the following **bolded** terms:

Photosynthesis requires **sunlight**, chlorophyll, water, and carbon dioxide gas. **Chlorophyll** is a substance in all green plants, especially in the cells of the leaves. Plants take in **water** from the soil and **carbon dioxide** ( $\text{CO}_2$ ) from the air.

Photosynthesis starts when chlorophyll absorbs energy from sunlight. Green plants use this light energy to change water and carbon dioxide into **oxygen** ( $\text{O}_2$ ) and nutrients called **glucose** or sugars. The plants use some of the sugars and store the rest. The oxygen is released into the air.

Photosynthesis is very important because almost all living things depend on plants for food. Photosynthesis is also important because of the oxygen it produces. Humans and other animals need to breathe in oxygen to survive.

# SENSORY EXPLORATION

## STARTING FROM THE GROUND UP!

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Find a place in your backyard or neighbourhood where you can easily see a plant that is growing. Start by laying face-down on the ground and begin by using your hands to dig into the soil and really touch the soil. Take care to not disrupt the plant. Move some soil between your fingers. What does the soil feel like? Is it wet? Dry? Cold? Then, smell the soil! Describe its smell. Does it smell like anything else you recognize?

Next, look around you. Is there a plant that grabs your attention? It must be a plant that is still growing. Now you're going to take some time to use your senses to complete observations about this plant.

To see the root of the plant, you only need to uncover a few centimetres of soil. Remember that the plant's root system is important for its survival, so treat it gently. Do not snap the roots and once you have observed them, cover them back up with soil.

On the chart on the next page, first use words to describe your observations. Then, draw a picture of what you see. Use each category on the sheet provided to record your scientific observations.

**Some ideas of the many adjectives to describe texture:** smooth, bumpy, rough, waxy, sticky, furry, silky, bumpy, gritty, firm, delicate, pliable, rubbery, fibrous, coarse...

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### Answer key

**What is a plant? :** a) flower, b) leaf, c) bud, d) fruit, e) stem, f) seed, g) roots, h) crown, i) trunk, j) annual growth rings, k) bark

**What do plants need to survive? :** a) sunlight, b) carbon dioxide, c) water, d) chlorophyll, e) oxygen, f) glucose

# YOUR SENSORY OBSERVATIONS

What does  
it feel like?

What does  
it look like?

What does  
it smell like?

Draw a picture  
of what you see!

**Soil**

**Roots**

be gentle when  
digging down  
a little deeper

**Stem**

**Flower**

**Leaves**

**Fruit or  
seed**

# SENSORY EXPLORATION

Follow up questions:

Do you know the common name of the plant you were looking at?

Does this plant grow anywhere else, besides here?

If you have access to a camera, try taking a picture of it!

## CHALLENGE:

If you were put in charge of naming this plant, what would you name it?

Why did you give it that name?

Try looking up the name of the plant using these ID resources:

“Plants of the Pacific Northwest” by Pojar & Mackinnon  
iNaturalist.org

# PHOTOSYNTHESIS EXPERIMENT

Plant two small potted plants of the same species in two cups or flowerpots.

Place one pot on a windowsill or counter that receives lots of sunlight. Place the other pot in a dark room or closet that receives very little sunlight. Over the next days, give each plant the same amount of water at the same time.

*Based on your knowledge of photosynthesis, which plant do you think will be healthier over time?*

## Follow-up questions:

After four days, compare the two plants. Which one looks healthier? Why?

What would have happened to the plant in the dark after several weeks?

Now it is time to nurse the plant that was in the dark room back to life. Place it somewhere that receives ample light and watch it regain health.

# WHAT DO PEOPLE USE PLANTS FOR?

How do you use plants? Look around your home. What can you find that is made from plants? You may be surprised to find plants are A LOT of what you use daily.

Many plants are important sources of products that people use, including food, fibres (for cloth), and medicines. Plants also help provide some of our energy needs. In some places, wood is the primary fuel people use to cook their meals and heat their homes.

Some few examples of plant use:

- Food
  - Tea
  - Coffee
  - Fruits and vegetables
  - Grains
  - Oat/almond/soy milk
  - Tofu
- Tools (building, etc.)
  - Wood to build furniture
  - Wooden cooking spoons
  - Paper
  - Cotton
  - Bamboo (even for clothing)
  - Cork (used in bulletin boards, pot mats or coasters)
- Medicine
  - Aloe Vera
  - Tea Tree oil, other essential oils
  - Some medications come from plants
- Art
  - Dyes
  - Brushes
  - Wreaths
  - Carved pumpkins
  - Weaving
  - Carvings

**What can you find around your house made from plants? Add them to the four categories here!**

- Food
  - 
  - 
  - 
  - 
  -
- Tools (building, etc.)
  - 
  - 
  - 
  - 
  -
- Medicine
  - 
  - 
  - 
  - 
  -
- Art
  - 
  - 
  - 
  - 
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# DRAW WHAT YOU FOUND!

Draw all the plants you ate yesterday! (Tip: remember that even things like cereal, bread, and noodles come from plants! Ask an adult if you're not sure)

Draw one thing from every room in your home that comes from a plant! (Tip: think about things made from wood (chairs, tables, counters, even paper!), things made from cotton (some clothing, carpets, place mats) or things made from any other plant (woven baskets, wooden instruments, hemp twine, etc.). Also draw any house plants.

