

## BOWMAN GRADE FIVE FALL NATURE WALK

### **Walk Overview**

#### **Logistics:**

- **Time:** Allow 45 minutes
- **Groups:** 4 total
- **Sites:** Two general sites: 1) near large spruces by soccer field and 2) in front of the school including the cattails across the driveway.

#### **Objectives:**

- Identify parts of a plant (Roots, stem, Leaves, Flower, seeds) and discuss their functions.
- Discuss what all green plants need to survive (Air, Water, Minerals/soil, Warmth, Sunlight) - All non-living parts of environment.
- Review characteristics of a living thing: Growing, Breathing, Moving Reproducing, needing food (energy) to carry out all their life processes
- Discuss photosynthesis Process.
- Allow students to draw either a dandelion or plantain, label its plant parts, add the elements of photosynthesis.
- Introduce the concepts of producer/consumer.

#### **Activities:**

- Chart photosynthesis process
- Choose plant and draw/label parts

#### **Questions?**

Please contact the current PTA BBB coordinator(s)

Remember the quote by W.B. Yates: *"Education is not about filling a pail but it is about lighting a fire."* We are fanning the flames of our children's curiosity and sense of wonder.

## Nature Walk

### Materials:

- Tongue depressors marked: Growing, Breathing, Moving, Reproducing, Needing food 1 set per group
- Clipboard, paper, pencil 1 per student.

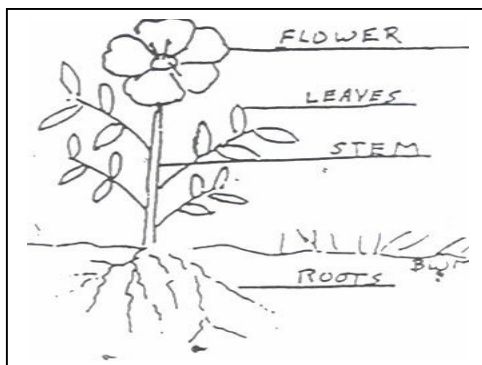
### Logistics:

- **Time:** Allow 45 minutes including drawing.
- **Groups:** 4 total.
- **Sites:** Two general sites: 1) Tree (maples or oak in front of school) 2) dandelion or plantain in lawn.

### 1) At Front of School, select either a dandelion or plantain plant to draw.

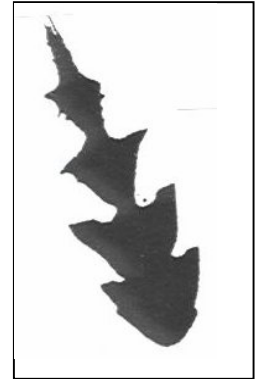
Prepare the students for drawing either a dandelion or plantain (or any flower/plant they chose). Before they start to draw talk to them about 4 elements of field drawing:

- **Observation.** Have students look closely at the plant they are drawing from all different positions. To help them focus, they can use a frame (a piece of paper with a square hole in it. to look at it
  - **Shape:** Sketch the dominant geometric shapes before starting on details: circle, oval, oblong, triangles, diamonds, squares. Are the leaves primarily triangular, oval? Where do lines occur?
  - **Proportion:** After drawing the main shapes, look at how they are in relationship to each other and make any corrections. What is the largest part of the plant? The smallest part?
  - **Shading:** How does the light fall on the plant? Look for the dark areas and fill them in.
- 2) Have the students find either a plantain or a dandelion.
  - 3) They should sketch the plant
  - 4) Label the parts (roots, flower, seeds, stems, leaves)
  - 5) Add the non-living elements needed for photosynthesis (sun, water, air, minerals, warmth)
  - 6) Add arrows to show how the non-living elements interact with the plant to complete photosynthesis.



## A. DANDELION

**Description:** Leaves jagged; yellow flowers; fluffy seed heads



**Uses:** Greens for salads or cooked. Made into a tea for stomach upset. Used to cure warts. Roots ground to treat a snake bite. Roots roasted for a drink like coffee.

**Comments:** What do we think of dandelions today?

- The flower blossom is not just one flower, but many. Every petal is a complete flower!
- Observe the seeds forming. The yellow petals will have wilted and the seeds will be clearly visible at the base of the long white filaments. The seeds are green at first but then turn dark brown. Examine the fuzzy seed heads that the children so love to blow. Find the seed at the base of each white filament. Each petal flower has become a seed.

## B. PLANTAIN

**Description:** Leaves in cluster close to ground; seed stalk 5-6 inches tall

**Uses:** Leaves stop bleeding and help cuts to heal. Leaves relieve pain from mosquito bites.



7) Ask students to name a **part of a plant** and talk about its **function**.

As the students are drawing and labeling, ask them about the parts of the plant and what its function is.

### Leaf

- What is the function of leaves?
  - Place where sunlight combines with water and carbon dioxide to product sugar (food) for plant
  - Shade the ground underneath to keep roots and other plants cool
- Are all leaves the same or different? What are some similarities between leaves? (have veins, often green) Let them mention any ideas.
- Do we eat plant leaves? (lettuce, spinach, kale, etc)

### Flower

- What is the function of Flowers? The part of the plant where reproduction takes place. Pollen is spread by wind, insects, birds.
- Do we eat any flowers? (Broccoli, artichoke, cauliflower)
- Non-flowering plants such as mosses and ferns reproduce by spores. Conifers reproduce by seed-bearing cones.

### Fruit/Seeds

- What is the function of fruits? They are the part of the plant that contains the **seeds** that ensure that new plants continue to grow.
- What would happen to plants that don't produce seeds?
- What happens to the trees in the winter? (Become dormant) What happens to dandelions during the winter? (They die) Why are there more dandelions in the spring? (Because seed germinate and grow into dandelions)
- Do we eat any seeds? (nuts, peas, beans)

### Roots

- Function:
  1. Carry nutrients (minerals) and water from the soil to the rest of the plant. Remember from Grade 2 that soil is made up of components: minerals (non-living) and **organic** or **humus**: once living.
  2. Secures plant to nutrition source. How wide do roots go in the ground? (Generally a tree's roots spread as wide as its canopy.)
- Some roots can be eaten In late fall the roots were harvested from the mud in which they grew. Can the students name some (potatoes, carrots, parsnips, turnips)
- Native Americans ate Cattail roots (grade 2 walk) These roots are full of starch and very nutritious. Native Americans often boiled or baked the roots and ate

them like potatoes, but sometimes the roots were dried and ground for bread flour.

### Stems

- Function: Support the plant and the transportation of water, nutrients and food to the parts of the plants
- Can you think of any stems that we eat? (asparagus, rhubarb)

These plant parts contribute to the **Life Cycle** (a sequence of growth, reproduction and death) Many plants grow from seeds, flower, reproduce by making seeds and then die.

**8) What do all green plants need to survive?** As students identify elements to what makes a plant grow, have them add them to their drawing.

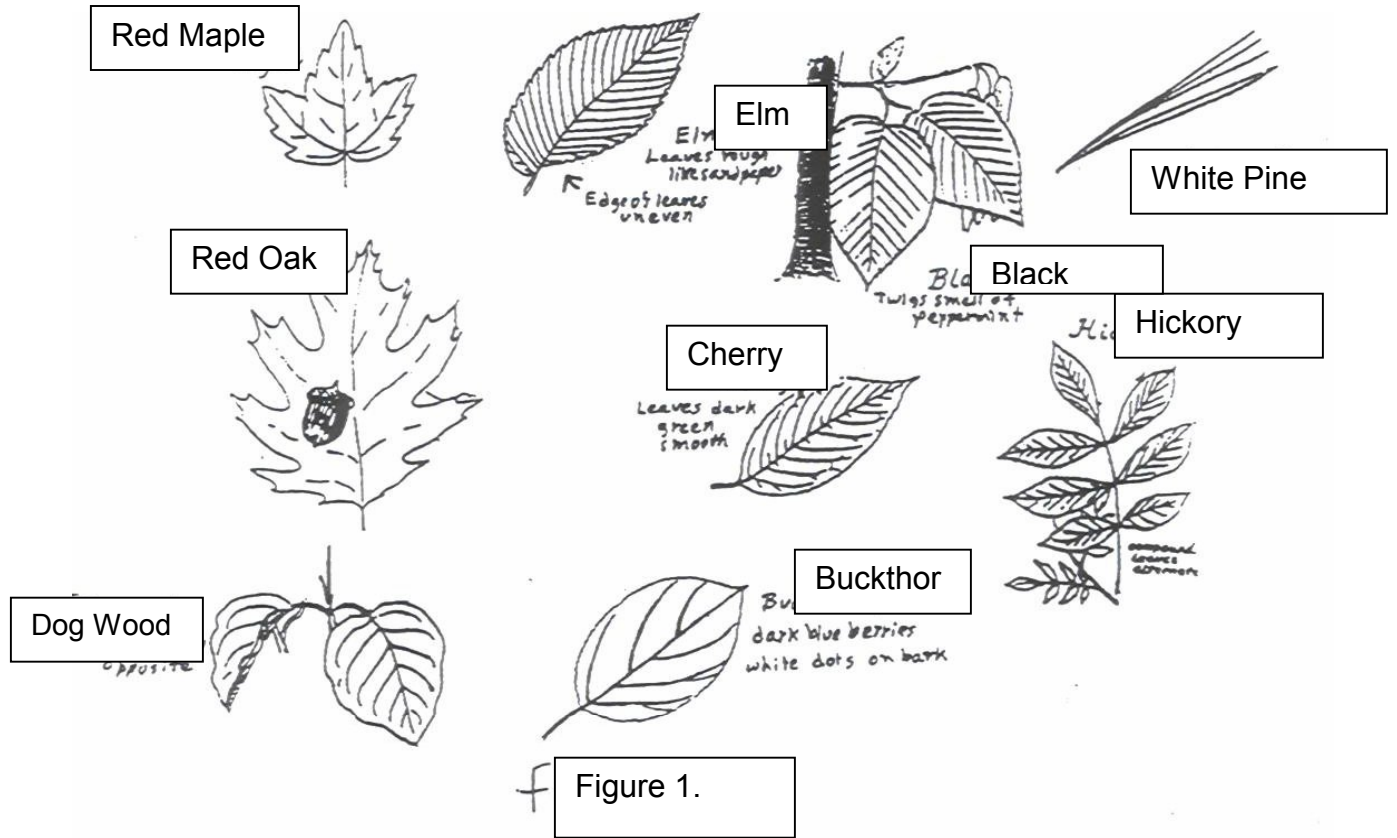
1. Air both oxygen and carbon dioxide
2. Water
3. Minerals/soil – dissolved in water absorbed by roots
4. Warmth
5. Sunlight shining directly on leaves

What do all these things have in common? (All non-living parts of environment.)

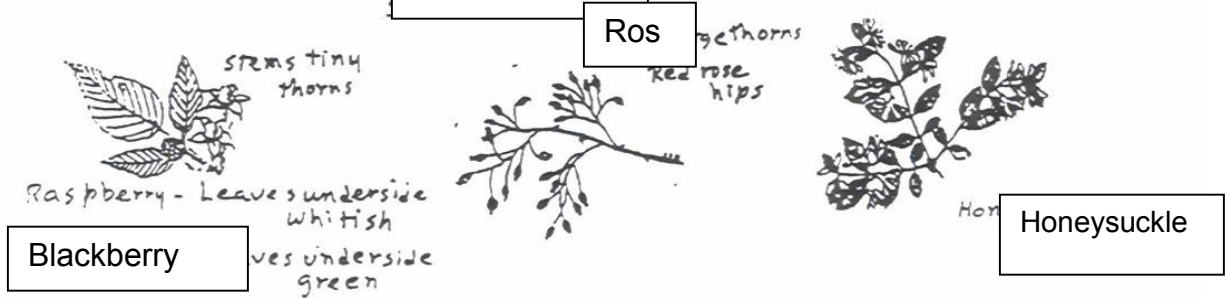
### 9) Photosynthesis.

- Are plants living? What are the characteristics of something that is living? Hand out the tongue depressors as students get the following answers:
  - Growing
  - Breathing
  - Moving
  - Reproducing
  - Needing food (energy) to carry out all their life processes.
- Are we living?
- What do plants need to make food/energy? (Air, water, minerals, warmth, sunlight.)
- Using the sun's energy, green plants make food from non-living parts of the environment. This process is called **photosynthesis**.
- Scientists call plants **producers** because plants produce their own food for the energy they need to live and grow with non-living things
- Are humans producers? Can we eat dirt, drink water, bask in the sun and survive? What do we eat? (Plants, animals) Are the foods we eat alive at one time? (Yes)
- Scientists call animals that eat foods that were once alive **consumers**.

**TREE LEAVES**



**SHRUBS**



**FIGURE 2.**