

# Lesson 5:

## Plant Life Cycle



## Time Allotted

30 Minutes

## Target Audience

Grades 1-8

## Objectives

- Students will identify the 8 stages of the plant life cycle and the unique characteristics of each stage
- Students will identify at what stage different garden crops are ready for harvest

## Summary

Students will learn the 8 stages of the plant life cycle and how those stages connect to a garden's life cycle.

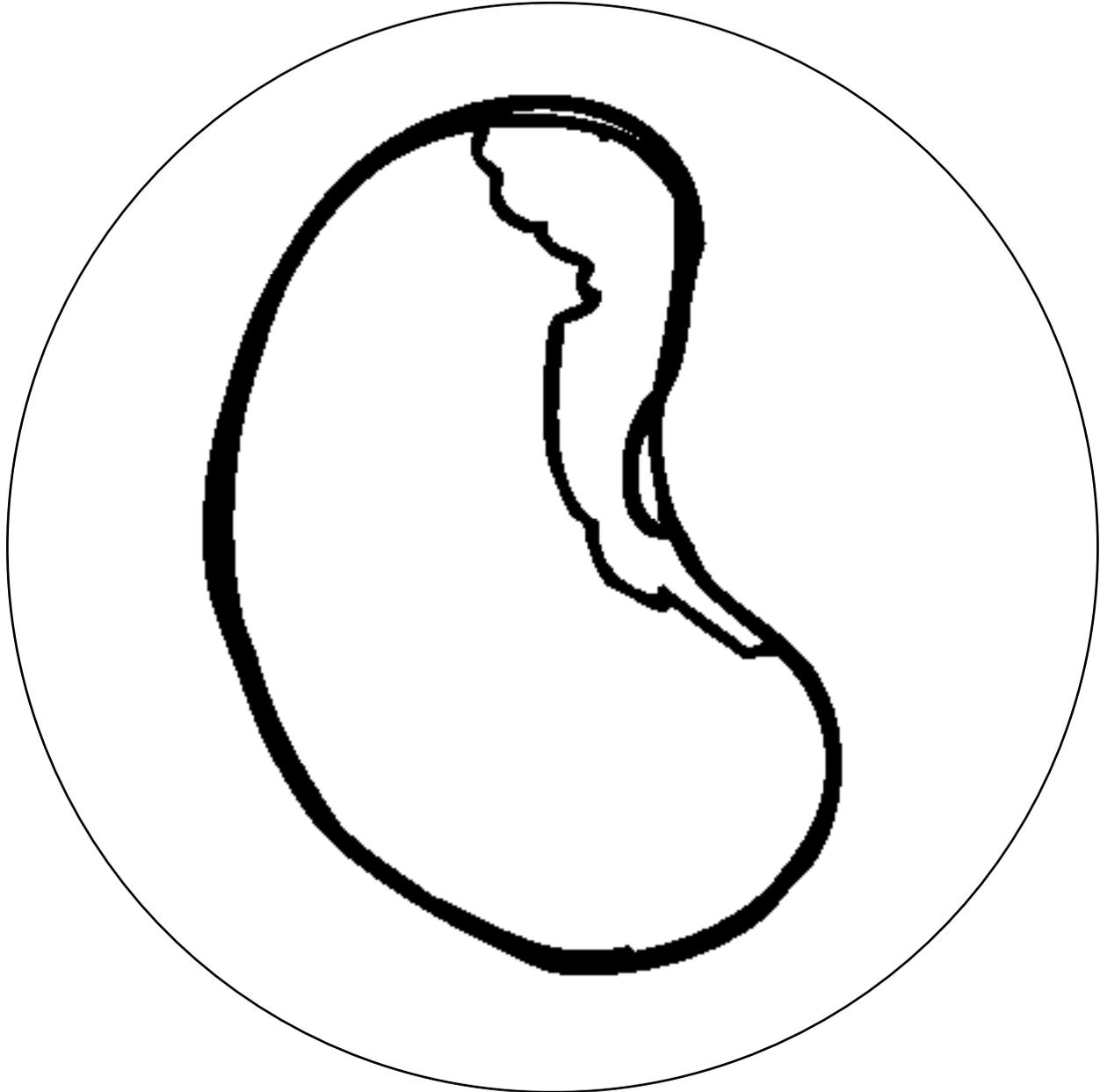
## Background

Plant growth can be tracked and divided into 8 stages. The ability to recognize these stages and the changes that the plant undergoes during each stage will help students to understand how to determine germination, maturity, and harvest readiness of plants in the garden.

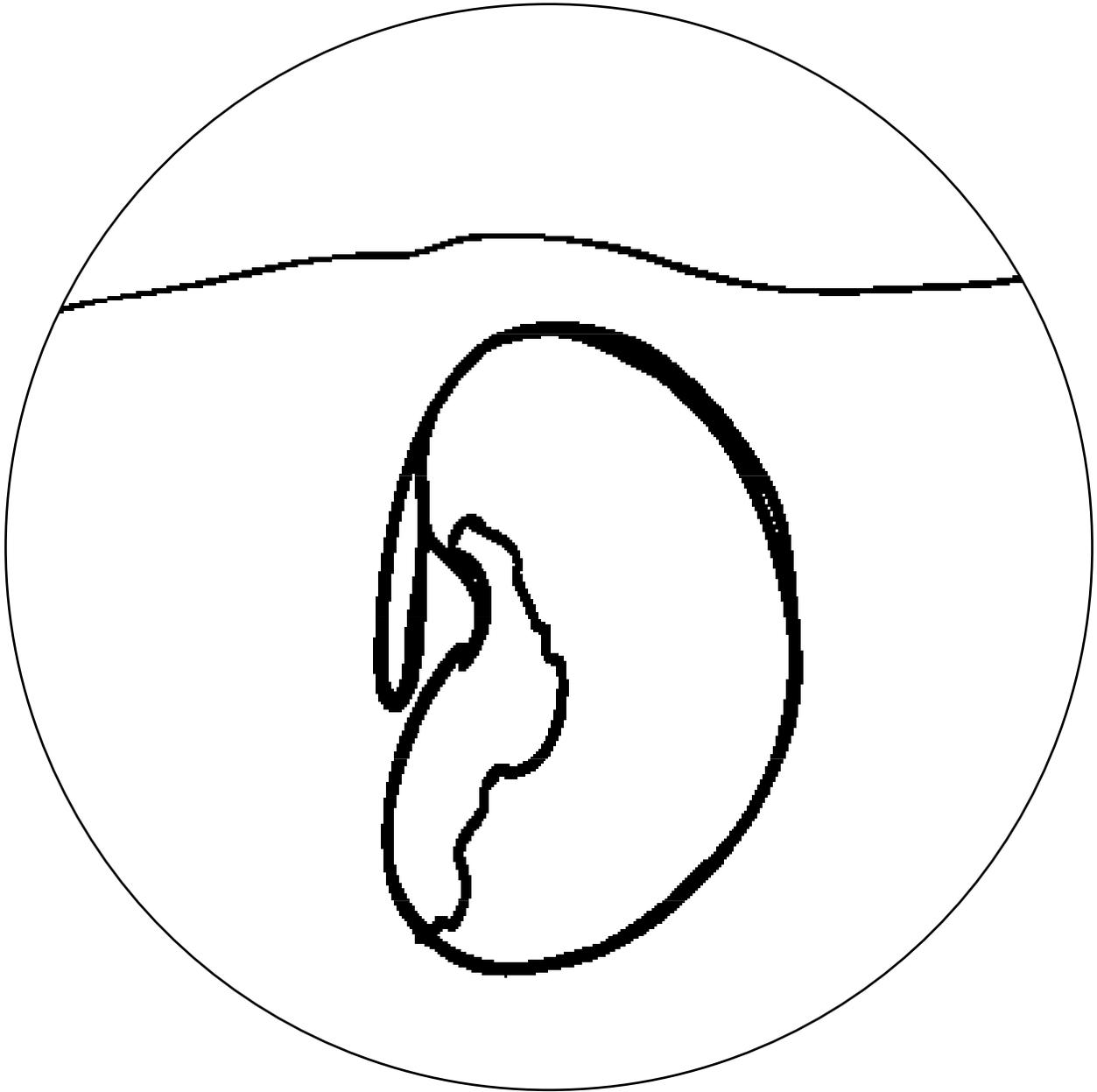
## Method

1. Cut out the following images and descriptions (separately) of the eight stages of a plant's life cycle.
2. Either in groups or independently, have students arrange the images and descriptions chronologically.
3. As a class, review the correct order and discuss the process. Are there any plants that we eat as a seed? A shoot? Before the buds/flowers/fruit form? Are there plants that we grow only for their fruit? Do all plants begin growing at the same time? Do all plants mature at the same time? Do all plants like the same weather — water, temperature, sunlight? How might this affect how our garden grows?
4. Have the students choose and research the life cycle of a food item (grain/fruit/vegetable). Have students draw a diagram of their findings, indicating the stage and at what time of year the food item is harvested.

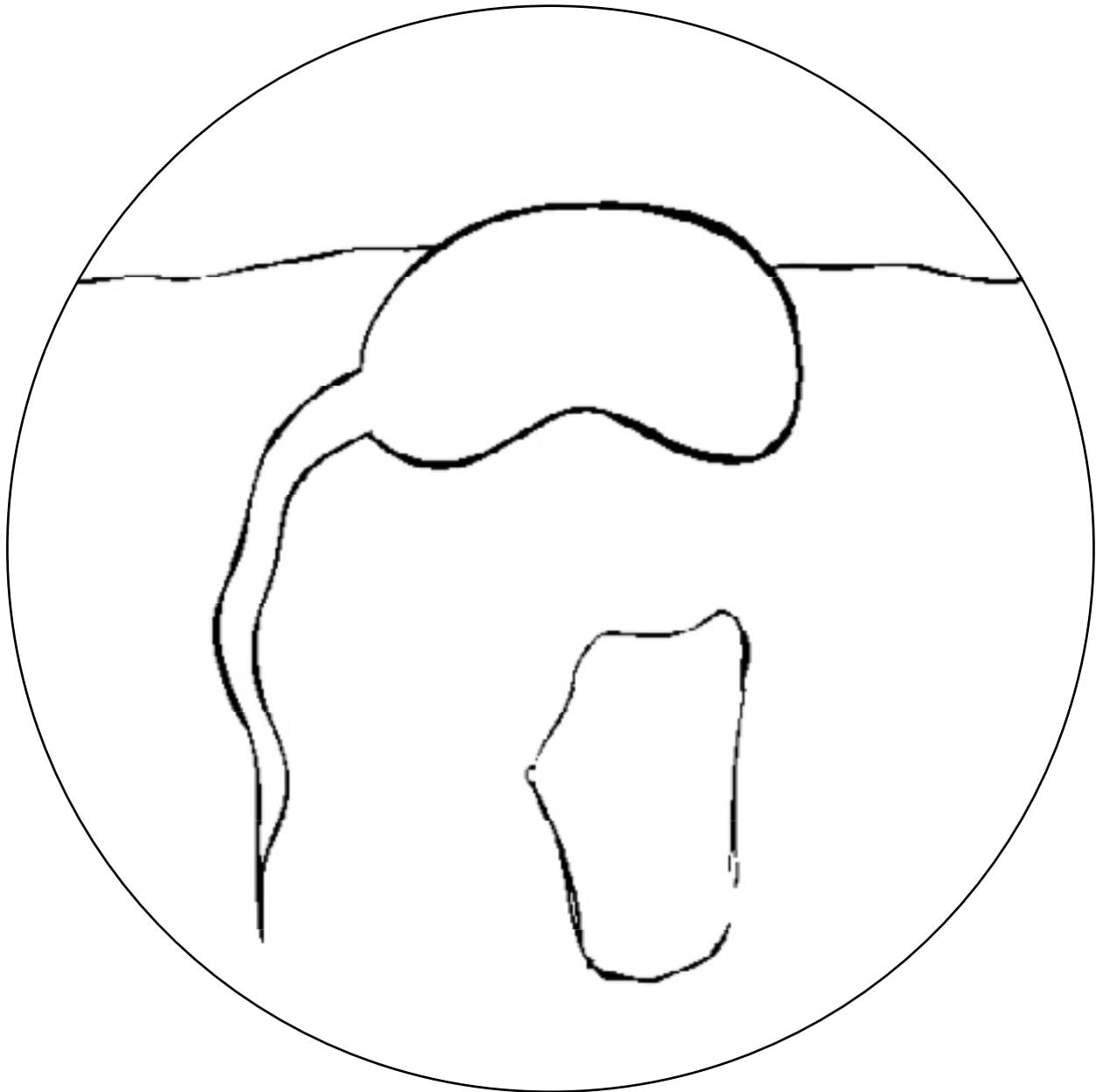
**Instructions:** Cut out the following images and descriptions of the eight stages of a plant's life cycle. Arrange them in the correct order on the board. Images should be arranged in a circle.



**STAGE 1: Seed**  
Seeds are mature and distributed.



**STAGE 2: Seed Germination**  
Seed absorbs water and begins to swell, root emerges.



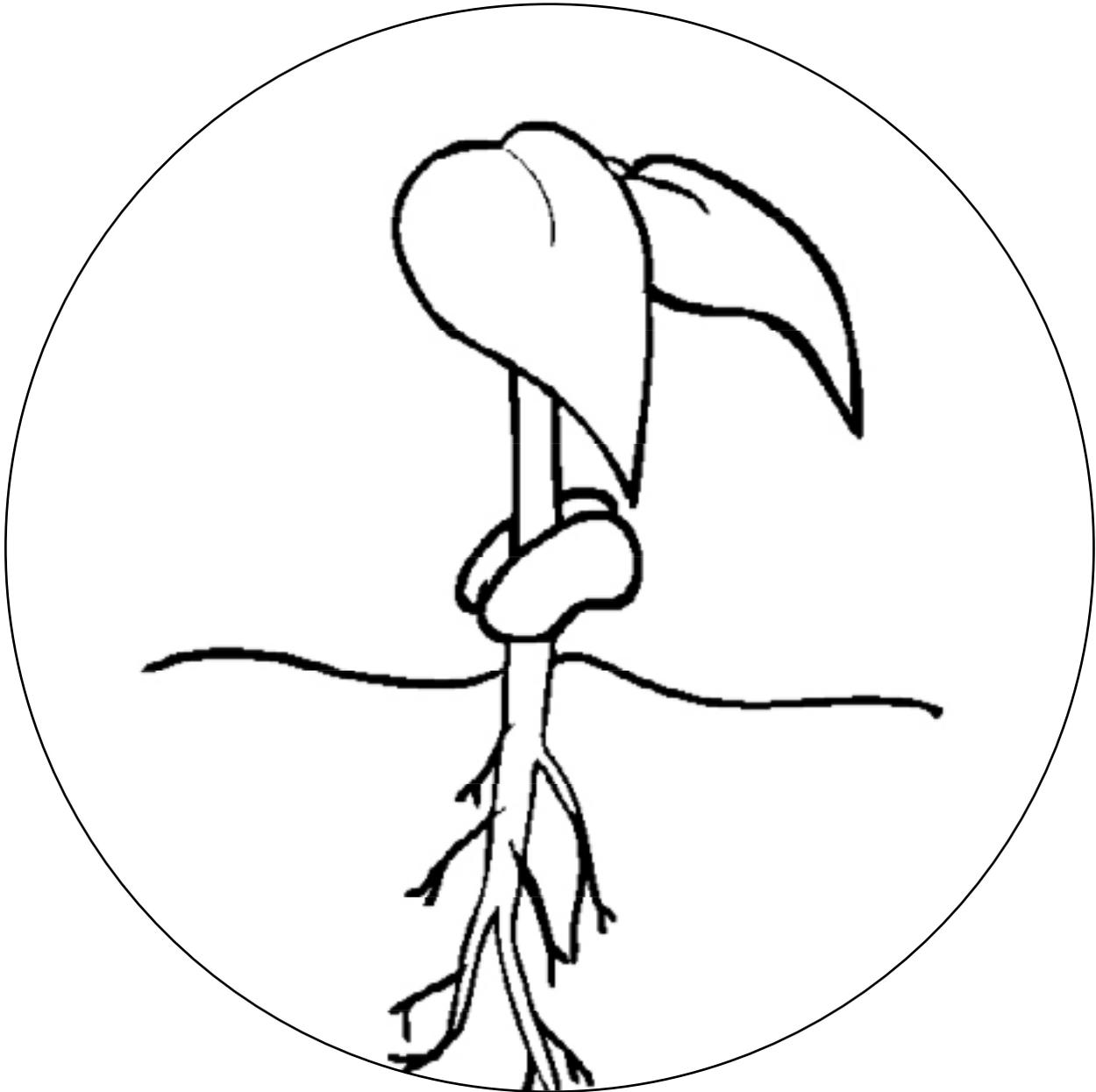
### STAGE 3: Shoot

Shoot penetrates the soil toward the light,  
root continues to grow downward.



### STAGE 4: Leaf

Mature leaves develop, taproot and main roots develop.



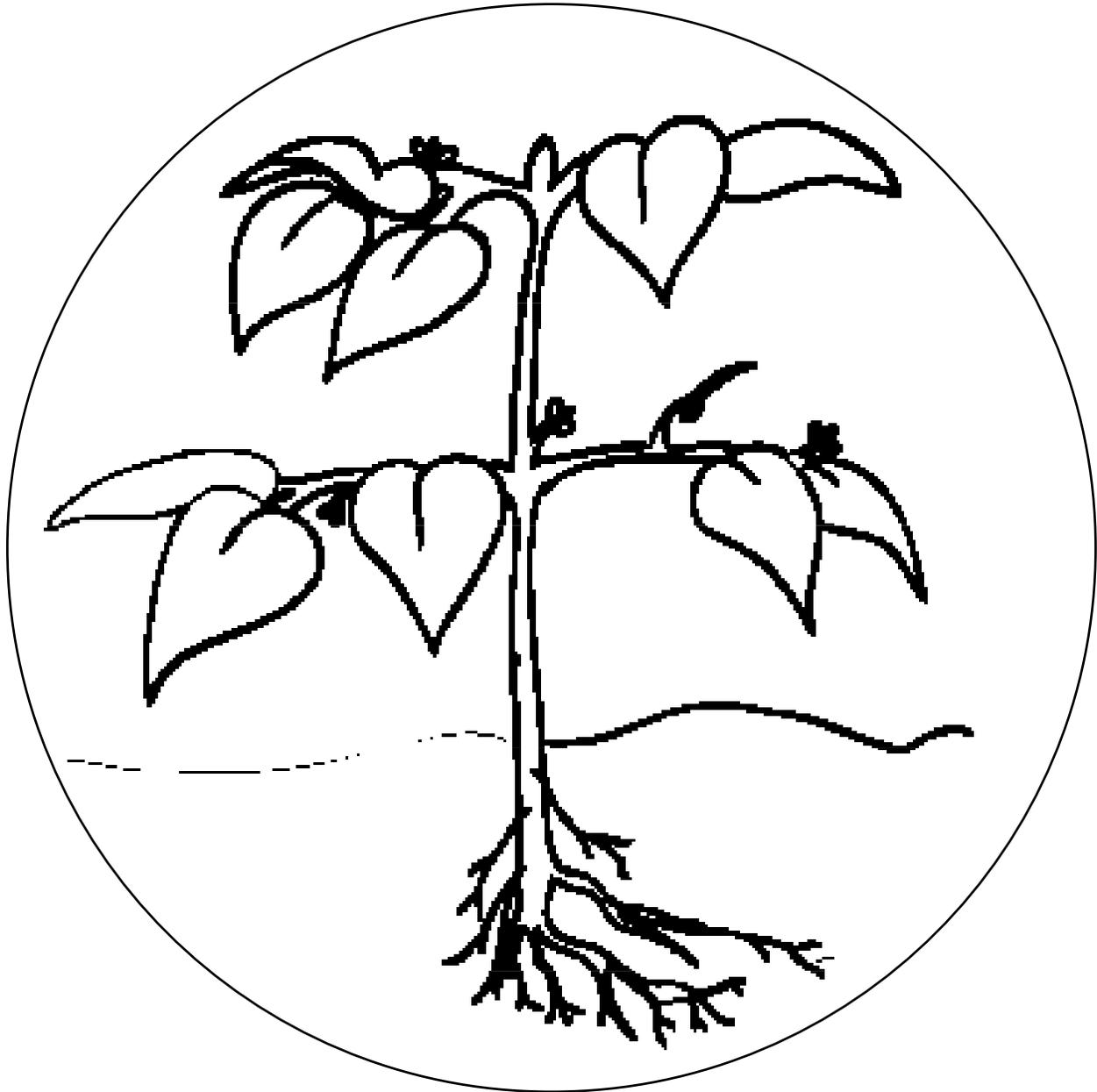
### STAGE 5: Stem

Stem and true leaves develop, roots continue to penetrate the soil in search of nutrients.



### STAGE 6: Bud

Leaves grow outward, roots extend outward to support the plant's growth, rhizo-sphere or bud develops.



### STAGE 7: Flower

Flowers pollinate, roots take up more nutrients from soil.



**STAGE 8: Fruit**  
Fruit and seeds develop.

## Extensions

- Have students research the process their food item undergoes after harvest. What does this item become? Ex: wheat->processed to separate grain from chaff->milled for flour, groats, or whole grain->packaged and sold as flour/groats/grain->flour sold to become baked item, grain for feed, groats as bulgur.

**Discuss:** Why is it important to understand this process? Understanding this cycle begins to reveal the moving parts and players in our food system, how a garden fits in, and the benefits/drawbacks of different system models such as scale, agricultural methods (conventional, organic, sustainable), local vs. non-local foods, and highly vs. minimally processed foods.