



Seeds & Sprouts: Teaching Greenhouse Key Concepts, Key Activities\

Big Idea

K-1 students participating in the Seeds & Sprouts program should come away from the experience understanding that **plants need light, soil, and water to grow**. They should also be able to **identify roots, leaves, stems, and seeds**. These are the most important concepts. We would also like to try to help them to make the connection between plant features and plant needs by understanding that **roots take in water and nutrients**, and **leaves make food from water and light**.

Secondarily, we want to encourage students to understand the role of a gardener: to provide for the basic needs of chosen plants so that they may grow. The students would understand that they, too, could be a gardener.

The Lesson: Soil (8 min)

Key Concepts:

Soil provides **water, nutrients**, and even **air** to the **roots** of growing plants. Roots take in these things to help the plant grow. **Soil is made up of many components** that help provide water, nutrients, and air to roots: weathered rocks, sand, compost (including old plant parts) and even living organisms.

Key Activities:

- Use root-view boxes to see roots growing in soil
- Feel wet and dry soil and compare.
- Look closely at potting soil, sand, and compost under the lens and talk about the features of each.
- As a class, make a batch of soil for their own seeds by following a “recipe”.

The Lesson: Water (8 min)

Key Concepts:

Water is taken into the plant by the roots. Plants **may wilt or die without enough water**.

Gardeners provide water to their plants.

Key Activities:

- Read “What’s This” and discuss.
- Use seeds, seedlings, and sunflowers growing outdoors to make connections to the events in the story.

The Lesson: Light (8 min)

Key Concepts:

Leaves use light to make food. Leaves are (often) arranged on a stem so that each may gather the optimal amount of light.

Key Activities:

- Encourage visualization by having the students act as plants in response to a narration about sunlight and the process of making food.



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- Using a model of a stem, student will insert leaves so that the plant can produce food, discussing leaf placement as well.

The Lesson: Planting Your Bean Seed (around 8 min)

Key Concepts:

Students can be a gardener too; they will provide for the needs of their own plant. **Seeds grow into plants.**

Key Activities:

- Using soil from the class-prepared batch, prepare a pot for a bean seed. Then plant the bean seed. Discuss its care.