



## How to Grow a Sunflower Plant

Written by GEF Staff

**Grades:** PreK-2

**Subject:** Science, Math

**Time:** 30-40 minute class session along with daily cultivation of the sunflower plant

\* **Standards:** Students will...

**Science Standard 5:** Understand the structure and function of cells and organisms.

**Benchmark # 1:** Know the basic needs of plants (e.g., air, water, nutrients, sunlight, food, shelter).

**Benchmark # 2:** Know that plants have features that help them to live.

**Science Standard 9:** Understand the sources and properties of energy.

**Benchmark # 1:** Know that the Sun supplies heat and light to the Earth.

**Science Standard 12:** Understand the nature of scientific inquiry.

**Benchmark # 1:** Know learning can come from careful observation and simple experiments.

**Benchmark # 2:** Know that tools (e.g., rulers) can be used to gather information and extend the senses.

**Mathematics Standard 4:** Understand and apply the basic and advanced properties of the concepts of measurement.

**Benchmark # 1:** Understand the basic measure of height.

**Benchmark # 3:** Know the process for measuring height.

**Objectives:** Students will be able to...

- Identify the basic needs of sunflowers (sunlight, water, nutrients, space, air).
- Identify the parts of a sunflower (root, stem, leaf, flower).
- Measure, compare and order the height of their sunflowers.
- Organize and record data using charts and graphic representations.
- Recognize that tools (rulers) have specific functions (to assist in measuring) to make tasks easier.

[Please click here to view both the creative artwork for this great lesson and the downloadable PDF.](#)

### Materials:

- Pictures of sunflowers
- Sunflower seeds
- Compost
- Soil
- Garden spade
- Trowel
- Pre-cut window screening
- Craft stick
- Fertilizer
- Water
- Copies of "How to Grow a Sunflower" data collection and directions worksheet (included below)





**Overview:** Sunflowers are an annual plant native to North America. The varieties range in size from the miniature (2-4 feet tall) to the typical (6 –10 feet tall) to the giant (10- 20 feet tall). Though traditionally they are yellow, sunflowers also come in shades of cream, rust and deep burgundy red. These daisy-like flowers prefer rich well-drained soil and plenty of mulch for weed control. While they grow best in full sun, at least 6-8 hours a day, they will tolerate some shade. Regular watering and fertilizer will encourage blooms. They have deep root systems that help them remain upright in strong winds and tolerate dry growing seasons.

Sunflowers may be started indoors in peat pots three to four weeks prior to transplanting or they may be sown directly outdoors once the danger of frost has passed. They take approximately 70 to 90 days to mature. When deciding where to plant sunflowers remember that they face themselves East, and follow the path of the sun.

Sunflower plants are used for a variety of purposes all over the world. Valued for their versatility and nutrition the seeds and oils are used in cooking, snack foods and medicinal purposes. They are an excellent source of protein and contain significant quantities of B vitamins, vitamins A and E, calcium, phosphorus, potassium, iron, nitrogen and thiamine; and are only 48 calories per spoonful. Seeds are also used as feed for birds and livestock, composted and returned to the soil as fertilizer, and manufactured into paints and cosmetics. Some countries use the fiber from the stems to make papers and fabrics. (Note: Sunflower petals are NOT edible and are considered to be highly poisonous.)

**Kid's Speak:** Sunflowers were first found in North America, but they are such an important plant that they are now grown all over the world. Sunflowers have many uses. Their seeds are edible and can be roasted for snacks, ground into meal, pressed for their oil, or left out to feed the birds. The oil is used for cooking and made into other products, such as paint.

To grow sunflowers the seeds can be planted directly in the ground, or they can be started indoors and then moved outside once it is warm enough. Sunflowers grow best in the sun. They need about 6 to 8 hours of sunlight a day and they need to be water regularly.

Some sunflowers can grow up to 20 feet tall. They have very deep root systems that help them stand up in strong winds and make it through dry growing seasons. Sunflowers face the sun and move as the sun moves from East to West.

**Eco-Fact:** Sunflowers are one of the fastest growing plants in the world. They can grow eight to twelve feet tall in rich soil within six months.

**Procedure:**



**Before Planting:**

- Develop a KWL Chart on sunflowers. Ask students what they know about sunflowers and what they would like to know? Record their responses.
- Discuss what sunflowers look like and show some sunflower pictures.

**Planting Procedure:**

1. Choose a planting area that receives full sun if possible. Use the trowel to dig a trench about 1 inch deep. Fill the trench with water and allow it to soak into the soil.
2. Place the sunflower seeds into the trench about 4 inches apart. Cover the seeds with an inch of loose soil and pat down lightly. Water lightly.
3. Cover the area where the sunflower seeds have been planted with the window screening. The screen will prevent birds and small animals from disturbing the seeds.
4. Mark the planting row with a small craft stick so you know where the seeds have been planted.
5. Keep the soil moist and watch for seedlings within one to two weeks. When the seedlings emerge, remove the screening.
6. Thin the seedlings when they are 3 inches tall. Large sunflowers must be spaced about 12 inches apart. Smaller sunflowers can be spaced 6 inches apart.
7. Fertilize the sunflowers with an all-purpose fertilizer diluted in water every two weeks during the entire growing season.

**After Planting:**

- Divide the class into groups. Give each group the responsibility for one or more of the sunflowers.
- Using the data collection sheet provided, have students record the growth sequence of the sunflowers. Students can measure the heights of the sunflowers and compare them to other sunflowers. On the data sheet students can keep track of how well the sunflower plants grow each month and how well they grow over the course of several months.
- Review and discuss the progress of the sunflowers over time. As new facts are learned about sunflowers add them to the KWL chart.

**Adaptations:**

- Students can try the lesson in different seasons to see how well sunflower plants grow in different conditions.
- Students can limit the number of hours their sunflower plants are in the sun. In doing so, students will understand the importance of sunlight in the growth of their sunflower plants.

**Extensions:**

- Compare cacti growth with sunflower growth. Check out the Green Thumb Challenge: How to Grow a Cactus Indoors lesson on this GEF site.
- For tips on dietary guidelines and healthy eating habits visit the USDA Food Pyramid at <http://www.mypyramid.gov/index.html>

**GEF Community:** Join the GEF Community online. Students can share pictures of their sunflower plants with the GEF Community. In addition, students can discuss techniques and tips about how to keep their sunflower plants growing strong.



## How to Grow a Sunflower

1. Choose a planting area that gets full sun. Use the trowel to dig a trench about 1 inch deep. Fill the trench with water and let it soak into the soil.
2. Place the sunflower seeds into the trench about 4 inches apart. Cover the seeds with an inch of loose soil and pat down gently. Water lightly.
3. Cover the area where the sunflower seeds have been planted with a window screening. The screen will prevent birds and small animals from disturbing the seeds.
4. Mark the planting row with a small craft stick so you know where the seeds have been planted.
5. Keep the soil moist and watch for seedlings in 1-2 weeks. When the seedlings emerge, remove the screening.
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Date	Height	Observations

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