

Sunflowers – Planting to Harvest

Have you ever eaten a sunflower seed? They are a tasty snack. Each seed is very small, hardly bigger than I, Araña Pequeña! Read with me, and I will give you a closer look.

Planting

The **seed** is about half an inch long. It has a hard, striped covering. The covering protects the soft inside (the part that is tasty to eat). What the covering protects, and what you like to eat, is the food that the sunflower needs to begin to grow into a plant. Let's plant the seed and watch it change and grow!

In the spring, when the ground is warm, and the soil is soft, you can plant your seed. The seed needs to be buried in the soil where it can be warmed by the **sun**, watered by the **rain**, and fed by **nutrients** and **oxygen** trapped in the soil.

Now underground, the hard covering of your seed splits open, and a little, white root appears! The root is the first part of the sunflower to grow. It will grow downward because of the force of gravity. The roots will hold the sunflower in the ground. This is a big job because your sunflower may grow to be over seven feet tall! The roots will also help feed the plant so that it can grow to be so tall.



Growing

I see it! Your sunflower has begun to grow! There is a small green **shoot** pushing up out of the soil. This is the beginning of the plant's **stem**, and it grows up into the air (instead of down into the ground like the root) because it needs the sun's light in order to do its job.

Leaves start to form in pairs on the stem as it grows taller. The leaves and the roots of your sunflower both feed it so it can become big and strong and then flower. The roots collect water and nutrients from the soil. The leaves catch energy from the sun. The energy helps the plant create food in a process called **photosynthesis**. This is a big word! It is bigger than I, Araña Pequeña!

Because the leaves cannot produce food without energy from the sun, your sunflower leans towards the sunlight all day. As the sun moves from east to west across the sky, the plant will lean directly toward it.

Now that the leaves are helping the roots feed your plant, it grows very fast. In two months, your sunflower may grow to be seven feet tall! How much do you grow in two months? In a year?

Flowering

Look! There is a **bud** forming at the top of the stem, above the highest pair of leaves. The bud is the protected, growing **flower**. There are strong, green, pointed petals covering it as it becomes bigger.

When the bud begins to form, your sunflower won't grow much taller. The bud is eating up the food that was used before to make leaves and a strong, tall stem.

One morning, your sunflower bud begins to open. The strong, green petals open slowly. Watch the big yellow petals appear! These have been growing inside the bud. Inside the circle of bright yellow petals is a dark disk. This disk is made up of hundreds of tiny buds. These buds are smaller than I, Araña Pequeña! They won't grow very big, but they give your sunflower a special name. Your sunflower is a **composite flower** – or a number of flowers that together form what looks like only one, large flower. Let's take a closer look at this composite flower!

Each tiny bud in the disk has its own reproductive parts. The female part is called the **pistil**. The pistil is made up of a **stigma**, a **style** and an **ovary**. The male part is called the **stamen**. The stamen is made up of a **filament** and an **anther**.

Do you know how a sunflower reproduces? The process is called **pollination**. And sunflowers need insects to help them. Watch the bee that has landed on your sunflower! The bee is attracted by the bright yellow petals. When the bee lands on the sunflower, **pollen** from the stamen (the male part) of the flower gets stuck to the legs of the bee. When the bee flies away and lands on a different sunflower some of the pollen rubs off onto the pistil (the female part) of that flower. This is how plants are pollinated.

Once one of the little flowers in the disk is pollinated, it can grow a seed.

Composite Flower

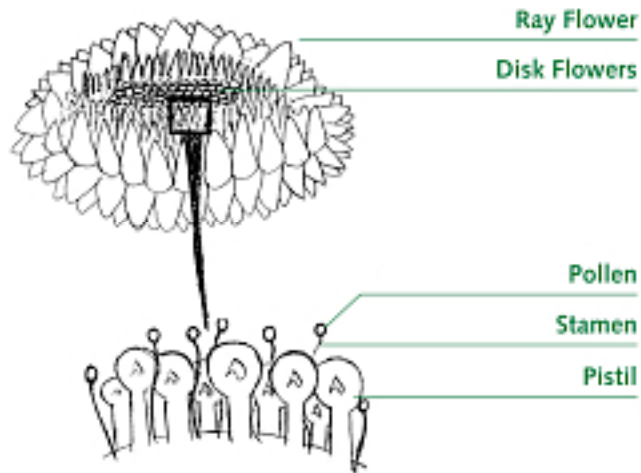


Illustration by Daniel Fairclough

Harvesting

More and more **seeds** start to grow in the sunflower disk. The food from the **roots** and from **photosynthesis** is now going into the growing seeds. Your sunflower may have more than 2000 seeds!

By fall, all the seeds have grown to their full size, about half an inch long. Now farmers will **harvest** the seeds. Some of the seeds will be eaten by people like you and me. The ones that are not harvest might be eaten by small animals like squirrels and chipmunks. Do you know what else sunflower seeds are used for?

Sunflower seeds can be pressed to make oil. The oil is used for cooking or in paint or soap. They are also used as **birdseed**, and to feed **farm animals**. And some of the seeds are saved to be planted. Without these seeds, we wouldn't get any new sunflower plants next spring!