

Q: Why do plants need sunlight?

Let's get ready for our next experiment!



Oregon State University
Extension Service

Time for our experiment!

Gather the following materials before you begin:

- ✓ **Two medium cups** - pick something that sunlight will not pass through easily, like colored plastic.
- ✓ **Quick sprouting seeds** – sunflower, peas, and grass seeds are some examples – but anything that sprouts and grows in the 3-10 day timeframe will work just great!
- ✓ **Soil** – healthy soil is preferred here since it tends to be high in nutrients, which as you know is good for growing.
- ✓ **Water** – to keep your soil moist so your seeds can grow.



All my materials except the water!

Step #1 – Plant Your Seeds

1. Label one cup with sunlight or an "S" so you can tell them apart. Leave the other cup blank.
2. Fill both cups up about half way with soil.
3. Add in about 5-7 seeds in each cup if you're using a larger seed, a pinch or two for smaller seeds.
4. Add enough water so the soil is moist.
5. Add a little bit more soil on top.



My two cups with soil and seeds.

Step #2 – Find a Spot to Rest

1. For your cup labeled with sunlight, find a sunny spot near a window, on a porch/front step, in a window box or in a yard/garden.
2. For the blank cup without a label, put it in a dark spot (no natural or electric light). A cabinet or closet that you rarely open or dark spot in a basement would work great!
3. Wait about 5-14 days or until your sunlight plant is sprouting (growing green leaves). Throughout this waiting period, be sure to add some water to both your plants (the soil should feel moist to the touch).



My non-sunlight cup sitting in the cabinet before closing it up.

Step #3 – Results

1. After 5-14 days (or when you see sprouts in the sunlight cup) compare the two cups.
2. Answer the following questions using full sentences: What happened to the cup in the dark? What does the cup in the light look like? Why do you think you got the results you did?



Note: this is not my experiment – I'm still waiting for my seeds to sprout! But this is what I expect the results to sort of look like...

What did we see and learn?

- You should have seen that your plant growing in the dark doesn't look very healthy. It may be smaller with fewer sprouts or leaves than the plant growing in the sunlight. It also may be very tall, but looks dead and is lacking a green color.
- This is because plants need sunlight to grow!
- Plants actually use sunlight as their source of energy – they are able to take sunlight and convert it into sugar to give them energy to help them grow.
- This important plant process of converting sunlight to energy is called **photosynthesis**.



Q: Can you imagine what it would be like if you could convert sunlight into energy for your body? Instead of eating, you'd just have to take a nap in the sun!