



## Caring for Seeds and Seedlings

Instructions for participating Growing a Wild NYC Schools, 2016

*Prepared by Patrick Over, SCA Intern*

### During Cold Stratification (Until February 29)

**If your trays are outside, check them once a week to make sure they are not sprouting.**

Especially if the temperature is above 50°F for several days in a row. If seeds are sprouting, bring the trays inside and put them under your grow lights.

**Be sure to have your students record your plant growth every day on a growth log (attached, p.3).**

### During Germination and Growth (After February 29)

During our January 2016 classroom visit we talked about the basic requirements a plant needs for healthy growth, so care for seeds and seedlings is separated into categories based on those needs.

Temperature:

**Room temperature is fine for germination and seedling growth.**

Light:

**The grow lights will supply your light. They should be kept on for 14-16 hours a day. A good rule of thumb is to place your grow lights six inches above the tops of your leaves, and then move the lights up as the plants grow.** This is because, with electric bulbs, the intensity of the light decreases with distance. The further away a bulb is, the less intense the light is for the plants. Ideally, we would want the grow lights as close as possible to the seedlings, but since the lights produce heat, this could damage the leaves. Since the sensitivity of the leaves varies from plant to plant, if you ever notice the leaves of your plants looking brown or burned, move your lights further away.

Air:

**This should not be a problem.** Make sure there is not standing water in the drainage tray beneath the germination trays your seedlings are in, so that the roots get enough air.

Water:

**The ideal way to water plants is to water the soil thoroughly, then wait until the soil dries out before you water again.**

**Water the seedlings with a spray bottle until after our next classroom visit (March-April). You should spray until water is dripping out of the holes in the bottom of the germination tray the seeds and soil are in. This may take an entire spray bottle of water per tray.**

**Each germination tray will be sitting in a larger drainage tray with no drainage holes, make sure you check the drainage tray after each watering and if there is more than a half inch of standing water in it, then empty the tray.**

Knowing when it is time to water again is tricky because this depends on the temperature/humidity of your room and how thirsty your seedlings are. You may only have to water twice a week, but if your room is very warm it could be every other day. Some methods to help you decide when it is time to water are weight, sight, and touch.

**Weight:** When the tray is well watered it will be noticeably heavier than when it is dry and in need of water. Lift your trays after watering and get a feel of their weight. Check them every day and when you notice the soil looking and feeling dry to the touch you should also notice that it is getting lighter. If you have access to a scale you could record your weights each day and make your watering schedule a scientific process, knowing exactly how much water weight your trays need to lose before it is time to water them again. If you have no scale you can still use this method and estimate how light the tray should be before being watered again.

**Sight:** Simply look and see how dry the soil is. Wet soil will be darker than dry soil. This isn't entirely reliable though, because the surface of the soil will dry first and the lower levels of soil may still have enough water. Also, when your seedlings germinate, you should check the seedlings every day, if the soil looks dry and the plants are wilting, water them immediately. If there is mold forming, the soil is too wet, let it dry. In the unfortunate case where the seedlings are wilting and the soil is *wet*, the seedling roots have most likely rotted. This is a sign of too much water and not enough air. Let the soil dry out before adding more water and hopefully some seedlings will survive.

**Touch:** pick a corner or spot in your tray where you will test the soil wetness. Each day stick a finger half an inch into the soil in the spot to feel how wet it is. When done replace the soil so that there is no hole from your finger. This is a simple way to tell how dry the soil is beneath the surface.

Each of these methods has drawbacks and advantages. Weight is the most reliable, but the other two are helpful as well. A combination of the three will likely be most successful. At the end of the day, the important thing is to pay attention to the plants, they will usually communicate by wilting or changing color if their needs aren't being met. When you notice something wrong, try to find out which of their needs if any are not being met. If you have any problems or questions feel free to reach out to NPS Ranger Dan Meharg at [dan\\_meharg@nps.gov](mailto:dan_meharg@nps.gov). Good luck!

