

INV. 4 ACTIVITY—GROWING GARLIC BULBS

Investigation

Another way you can grow plants at home is with a common bulb many people have in their homes. Garlic! If you do not have garlic, you might have paperwhite narcissus or other small spring bulbs like daffodils. You could plant those bulbs instead.

Supplies:

- One bulb of garlic (containing many garlic cloves)
- Plastic container, reused food containers are great
- Cotton balls, or even a small thin sock will do if you don't have cotton
- Water

With your child, observe the bulb of garlic. What do you notice, what do you smell? Then, break apart the bulb of garlic into cloves. Do not peel the white part off. Observe one clove. Ask your child what questions she or he has about the garlic. Ask how you could make new garlic from old garlic?



The focus question: *How does a bulb grow?*

Plant some in garlic in cups. Spread the cotton at the bottom of your plastic container. If you don't have cotton balls, you could use an old spare sock or other piece of fabric to provide support and retain moisture. Make the cotton ball about one inch high.

Take three or four garlic cloves and put them with the flat end down and the pointy end pointing toward the ceiling—lean them against the sides of the container—held upright by the cotton.

Pour water, about $\frac{1}{8}$ to $\frac{1}{4}$ of a cup, so that the water is soaked up by the cotton and there is very little resting in the bottom of the container. Water every few days, keep it moist but not wet.

Possible follow up activities

- Eat roots: radishes, carrots, turnips and so forth
- Think about the parts of different plants that you eat: are you eating the leaves, the stem, the seeds, the fruit, the roots?
- Grow a sweet potato, roots, in water—poke three toothpicks to suspend to sweet potato so that the bottom half is submerged in a container of water.
- Transplant anything grown inside into a garden bed or container outside.

INV. 4 ACTIVITY—WATCH IT GROW

Engage with online activity—“Watch it Grow”

To access the Online Activities, login to FOSSweb with the user name and password provided by your teacher. Click on the Plants and Animals Module, and go to the Online Activities.

Have your child engage with the online activity “Watch It Grow!” Students select five seeds from different plants—carrot, tomato, onion, potato, and bean—to start a virtual garden. Through animated time-lapse, the plants grow and produce fruit. Students click on the parts to compare the structures on each plant.

NOTE: Students may ask about growing onions, carrots, and potatoes from seed since they may have grown them in other ways in class. Let them know that these plants produce flowers and seeds. Potatoes are usually grown from stems rather than seed.

Firsthand Growing Activities

- **Grow a sweet potato in water**

Unlike white potatoes, sweet potatoes are roots, botanically speaking. They can grow in water and will develop into magnificently luxuriant houseplants. Use three toothpicks to suspend a sweet potato so the bottom half is submerged in a container of water.

This is another opportunity to chart and graph the growth of new roots versus stems of new plants. Have your child measure the stems and roots of the sweet potato every 3 days for about 3 weeks, then identify number patterns in the charts and graph. Have your child use the chart or graph to predict the growth pattern for the next few weeks.

- **Plant flower bulbs**

A number of bulbs are available from nurseries and mail-order seed companies. Many require forcing to grow indoors, but some, like paper-white narcissus bulbs, will grow and bloom indoors without forcing. Have students plant a few bulbs indoors. **NOTE:** The scent of narcissus can be pungent.

Have your child plant some flowering bulbs outdoors in the home garden in the fall before the first frost. Have the students follow the bulb planting instructions on how deep to plant them and what kinds of soil additives might be needed. Make note of the bulb locations and the planting date, because that information will be needed in the spring. As a family, you can become a part of a citizen science group monitoring the date when the bulbs first emerge and then bloom in the spring. Check out the Budburst website for citizen science as well as other family activities.