

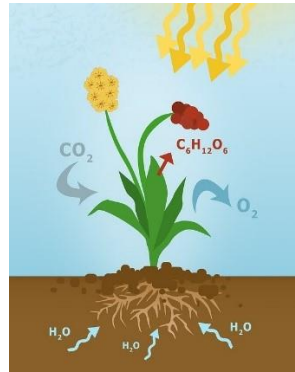
## BULBS – HOW DO THEY GROW?

Maybe you think that spring is the only time to plant flowers and vegetables in your garden. Keep reading and discover some beautiful flowers you can plant right now!

Plants are living things which grow and reproduce like all other living things. Most plants live anchored into the ground and need carbon dioxide ( $\text{CO}_2$ ), water ( $\text{H}_2\text{O}$ ), sunlight, and nutrients to grow. They produce their own food through a process known as **photosynthesis**. Most plants have roots in the soil, and stems, leaves, and flowers above ground. Once food is produced by the leaves of a plant, it is transported through the plant to other parts of the plant such as the stems and roots.



**Daffodil bulbs**



**Parts of a plant**



**Red onion bulb**

A **bulb** is a special kind of plant. Bulbs grow from a thick mass of storage tissue. There is a miniature plant inside the bulb surrounded by **scales**. The scales provide food for the plant. Bulbs can be classified as **tunicate** or **non-tunicate**. Tunicate bulbs have a papery covering, like onions and tulips. Non-tunicate bulbs do not have paper coverings; an example is a lily. If a bulb is sliced in half horizontally, you will see rings formed by the scale leaves. If you slice one in half vertically, you may be able to see leaves, stems and sometimes flower buds.

Bulbs are able to store energy from one growing season to another. When a bulb grows, it uses its stored food to form roots, shoots, leaves and flowers. Unlike other plants that depend on perfect weather and soil conditions, bulbs are very self-sufficient.



### **ACTIVITY: Watch a plant grow!**

#### **Materials**

- One clear glass container, a jar or vase will work well
- Plant bulb (tulip, daffodil, crocus, and hyacinth all grow well in our climate; available at garden centers, online, and even some grocery stores)
- Marbles or small stones
- Water
- Optional: notepad and pen, pencil, markers or crayons for recording observations





### Materials for this activity

1. Fill your container  $\frac{1}{2}$  -  $\frac{3}{4}$  full with marbles or small stones.
2. Place your bulb on top, roots facing down.
3. Add water until it just covers the bottom of the bulb.
4. Place the bulb in a sunny spot in your house.
5. Observe the bulb each day.
6. Continue adding water as the water level goes down.
7. Record your observations.



### A daffodil bulb set up and ready for observation

*What's happening here?*

With this project you will be able to observe the plant growing roots and stems. If you have chosen a flowering bulb (like a tulip, daffodil or crocus), and you continue to provide water and sunlight, it will eventually produce a beautiful flower for you! Consider planting it in your garden or in a pot when you have finished this activity.





**Tulips**



**Crocus**



**Daffodil**

*Take it a step further*

- Try a few different kinds of bulbs and record your observations.
- With the help of an adult, cut a bulb in half lengthwise to see what is inside.
- Cut another bulb horizontally and compare.



**Clump of daffodil bulbs that were recently dug up – these have multiplied and produced three bulbs from one! Ready to plant again for spring bloom.**

*Facts about bulbs*

- Fall is the perfect time to plant bulbs outside for a spring show of flowers.
- Bulbs can also be planted in pots and containers.
- Different kinds of flower bulbs bloom at different times of the year.
- Some spring flowering bulbs are tulips, daffodils, crocus, and hyacinths.
- Crocuses are the earliest bulbs to appear in springtime and flower. They will even push up through a layer of snow to bloom!
- Summer bulbs include gladiolas and calla lilies. Summer bulbs are planted in the spring for flowers in the summer and fall.
- Amaryllis and paperwhite are types of bulbs planted indoors early in the winter for a show of indoor flowers during the dreary winter months.



- Bulbs will multiply if they are left in the ground. To help them multiply, remove the dead flowers, but do not remove the leaves. These leaves will continue making food to store in the bulb for the plant to use during the winter. After the leaves wither, you can cut them down to ground level.
- Every few years, you can dig them up, divide them, and plant even more of them!

## ADDITIONAL RESOURCES

### Books available from the Washoe County Library System:

*Bloom* by Deborah Diesen

*Bulbs for All Seasons* by Pierre Gingras, translated by Michael Ballantyne

*Flowers* by Kathryn Clay

*The Magic Hill* by A. A. Milne

*The Netherlands* by Ann Heinrichs

*The Nitty-Gritty Gardening Book: Fun Projects for All Seasons* by Kari A. Cornell

*Plants Can't Sit Still* by Rebecca E. Hirsch

*Plants in Spring* by Martha E. H. Rustad

*Seeds, Bulbs, Plants and Flowers: The Best Start in Science* by Helen Orme

*Tulips* by Mitchell, Melanie S.

### Videos:

ehowhome, At Home with P. Allen Smith, "Teaching Kids How to Plant Daffodils"

<https://youtu.be/fa4Y0oRW8As>

Sci Show Kids, "How Does a Seed Become a Plant?" <https://youtu.be/tkFPyue5X3Q>

Tanya Visser - The Gardener, "Planting Daffodils in Pots" <https://www.youtube.com/watch?v=gAuKPi7aGwo>

### Websites:

Kids Gardening, Bulb Botany <https://kidsgardening.org/lesson-plans-bulb-botany/>

National Association of Landscape Professionals, Gardening with Kids

<https://www.loveyourlandscape.org/expert-advice/little-landscapers/family-fun/gardening-with-kids/>

University of Maryland Extension Office, Bulbs <https://extension.umd.edu/hgic/topics/bulbs>

