

GROWING A PLANT

Purpose Of The Activity:

To observe the life cycle of a plant. To fulfill tasks such as watering, soil control, and maintaining the overall health of the plant.

Theme Beyond Disciplinaries:

How we express ourselves



**CURIOUS
BOX** 



INQUIRY CYCLE

TUNING IN

Let's arouse
curiosity!



FINDING OUT

What Should
Little Science
People Discover?



SORTING OUT

Let's Start
Discovering!,
Scientific
Explanation For
The Curious,
Video



GOING FURTHER

What else can
we do? ?



TAKING ACTION

Question Of The Day?



MAKING CONCLUSIONS

Activity Pages,
Exit Card



GROWING A PLANT

Let's Arouse Curiosity



Students are directed the following questions:

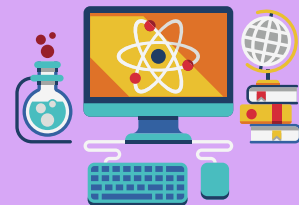
- Do you like flowers and fruits?
- Do you enjoy walking among lush green trees?
- What does a botanist do?
-

"I love them too. Walking in the forest brings so much peace to everyone. But how did those tall trees grow so big? How did they multiply so abundantly? Observing the growth processes of plants provides an opportunity to understand the cycle of life. In today's activity, we will learn how plants grow, how flowers and vegetables are born, and discover the treasure nature offers us. The seeds you will plant today will become healthy plants tomorrow. It will be your responsibility to give them water, ensure they get sunlight, and care for them with love." The materials for the activity are taken out and examined.

Let's Start Discovering!

The activity video is watched by pausing. The content of the set is checked before proceeding with the activity. All the lid and package opening steps are done simultaneously with the students.

Watch The Video By Pausing!



Content Of The Set

- | | | | |
|--------------------------|---------------------------------------|--------------------------|--|
| <input type="checkbox"/> | Pot..... | <input type="checkbox"/> | Some water (not included in the set)..... |
| <input type="checkbox"/> | Soil..... | <input type="checkbox"/> | "The Life Cycle of a Flower" activity..... |
| <input type="checkbox"/> | Arugula seeds..... | | page..... |
| <input type="checkbox"/> | Face cutouts (eyes, nose, mouth)..... | | |

NOT: Don't forget to prepare water before the event!

NOT: The seeds you will use are native heirloom seeds. You can talk to your students about the importance of native heirloom seeds.

How Do We Do It?



1. Take the pot.
2. Pour $\frac{3}{4}$ of the soil into the pot.
3. Plant the arugula seeds in the pot, about 1-1.5 cm deep, spaced apart from each other, with 4-5 seeds per pot, with 5 cm intervals.
4. Add the remaining soil on top. The soil on top should not be too thick, about 0.5 cm. Arugula seeds need light to germinate, so they should not be planted too deep.
5. Take a label and stick it on the desired spot on the pot.
6. Give the plant its first drink of water. After planting the seeds, the first watering is done with a spray. Then, to avoid disturbing the seeds, watering is done only to keep the soil moist, every 2-3 days on average, in a spray form. Overwatering can rot your seeds. Arugula seeds start to germinate within 4-8 days when they have reached the ideal temperature of 4-12 degrees Celsius and have enough moisture.
7. Place the plant in a sunny spot. You should grow your newly germinated arugula in a well-lit area. If there is insufficient light, your plant will grow thin and weak, with a light green color and a low aroma.
8. You can start harvesting your first arugula leaves between 20-50 days on average. Since arugula is a cool climate plant, you can plant seeds twice a year, in spring and autumn. 15-20 arugula seedlings you grow will meet the needs of a family of 4 throughout the year, and even enough to share with your neighbors. You can share your seeds with your loved ones :)

What Should Little Science People Discover?

Students are directed the following questions:

- Are plants alive?
- What does a plant need to grow? How should we take care of it?

What Does a Plant Need to Grow?

We call living beings those who can breathe and feed. When we look at the living beings around us; we can give examples like plants, animals, and us humans. Water is the basic source of energy for living beings. Water creates a living space for living organisms. Therefore, every living being needs water. For example; let's think of a tree as a plant. Trees are rooted in the soil with their roots and transport water from their roots to the tips of their leaves.

Plants are formed with the germination and growth of seeds. You are already very familiar with these seeds. For example; the seeds of tomatoes, apricots, watermelons, etc. Seeds are dormant. When the necessary conditions are provided, they become active. That is, they germinate. The germination of seeds is a magnificent process that nature offers us. In this process; a combination of factors such as **soil, water, temperature, air, oxygen, and light** creates a magnificent combination for a seed to germinate.

How Should I Take Care of My Plant?

Touching the soil, sowing seeds, and watching plants grow will help you establish a closer relationship with nature. You will realize that nature is full of surprises! So how should you take care of your plant?

Soil Control:

Regularly check the moisture of the soil for the health of your plants. You can feel the water level by sticking your fingers into the soil. If the soil is dry, give your plant a little water. However, always make sure the soil is not excessively watered.

Sunlight:

Plants love sunlight! Place them by a windowsill to ensure they get enough sunlight. Our plant loves the sun. However, some plants may not want too much sunlight, so be sure to choose a suitable location depending on the type of plant you have.

Talking to Them:

Yes, you heard that right! Talking to plants can make them happy. You can even sing to them. Your voice can positively affect the growth of plants. Giving them love and positive energy can help them feel better.

Cleanliness:

The leaves of plants can get dusty over time. Clean them regularly with a soft cloth or sponge. Clean leaves help your plant breathe better.

Check for Pests:

Sometimes small insects or pests can bother your plants. Check them regularly and if you see any, clean them with the help of an adult. This will help maintain the health of your plant.

Choose the Right Pot:

Change the pot as your plant grows. Choosing the right pot is important to provide enough space for your plant's roots. Make sure the pot has drainage holes at the bottom so that water does not accumulate and the roots do not rot. When you take care of your plants with love and care, they will respond to you beautifully. Enjoy growing them!



Scientific Explanation For The Curious

Students are directed the following questions:

- How do we awaken a dormant seed?
- During the germination process of a seed, there are several essential things the seed needs.

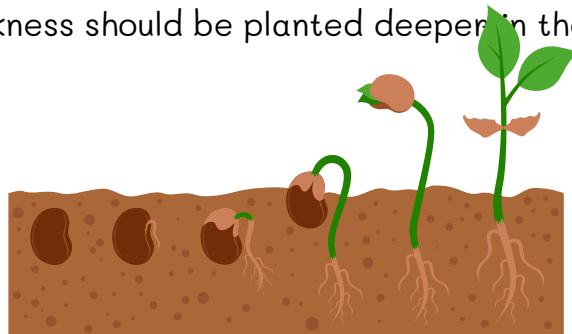
Soil: At the beginning of the germination process, the substance inside the seed (embryo) needs a suitable environment to extract nutrients and grow. Fertile soil allows the roots of the seed to spread easily.

Water: Water plays a critical role in the germination process of the seed. By dissolving and moving nutrients inside the seed, water wakes up the substance inside the seed (embryo) and starts germination. However, it is also important not to overwater as the seed should not rot.

Heat and Temperature: Each seed can germinate within a specific temperature range. Some seeds are cold-resistant, while others prefer warmth.

Air and Oxygen: Oxygen intake is also critical during the germination process of seeds. Air pockets in the soil allow the substance inside the seed (embryo) to receive oxygen. Additionally, the surrounding air encourages germination.

Light: Some seeds require light, while others germinate in darkness. Light-sensitive seeds should be planted near the soil surface. Seeds that germinate in darkness should be planted deeper in the soil.



What Else Can We Do?

Dear teacher,

You have explored the life cycle of the plant with young scientists. You can make bookmarks from colorful flowers or leaves.

My Bookmark

Materials;

(Recycled transparent plastic container or acetate, glue, colored pressed flowers/leaves, scissors, string, paintbrush)

1. Before the activity, ask students to bring recycled transparent plastic containers, and cut two rectangles for each student (approximately 21 x 6 cm).
2. (Rectangles can also be made from acetate instead of transparent plastic containers.)
3. Make a hole in the corners of the rectangles for the string.
4. Apply a thin layer of glue on one rectangle with a paintbrush.
5. Arrange flowers and leaves on the rectangle in the desired design and let it dry.
6. Apply another thin layer of glue on top of the flowers and leaves.
7. Stick the other rectangle on top and let it dry.
8. String is passed through the hole and a bow is made. The bookmark is ready!

What Did We Discover?/Exit Card

"I saw how excited you all were in this activity. I hope the process you will spend with your plants will help you establish a deeper connection with nature and gain a more sensitive perspective on your surroundings. Do not forget tasks like watering plants regularly, placing them in the sun, and checking the soil!" The "Life Cycle of a Flower" activity page is handed out. At the end of the activity, exit cards are made.

Question of the Day?



**Do plants communicate
with each other?**



Do plants communicate with each other? Draw!



CURIOUS BOX



miniskop

www.curiousbox.co