

I'M MAKING A TERRARIUM



66

Unita/Theme: Sustainable Living and Interaction

Purpose: To question the importance of biodiversity for natural life.

99

**CURIOUS
BOX** 





Questions the importance of biodiversity for natural life.



What do you know?

- Which living things do you observe around your home, in your schoolyard, or in your neighborhood?
- Why do you think these living things live together in the same environment?
- Have you ever heard of concepts like ecosystem or habitat?

Explain what you know!

Let's Spark Curiosity!



Let's start exploring!

“Imagine for a moment that only a single species exists in nature. No birds, no insects, no different plants... Do you think life could continue for long in such an environment? Every living organism in nature has an important role in its habitat and is connected to others through invisible links. This variety of living organisms is called biodiversity. Now, we will create a terrarium together to observe why biodiversity is indispensable in a small ecosystem and draw conclusions from the information we gather.” The activity materials are then requested to be taken out.



Kit Contents



The activity video is watched with pauses. Before starting the activity, the contents of the set are checked. All steps for opening caps and packages are performed simultaneously with the students.

- | | |
|---|--|
| <input type="checkbox"/> Terrarium container..... | <input type="checkbox"/> Seeds..... |
| <input type="checkbox"/> Soil..... | <input type="checkbox"/> Water (not included in the set)..... |
| <input type="checkbox"/> Sand..... | <input type="checkbox"/> Mixing stick..... |
| <input type="checkbox"/> Gravel..... | <input type="checkbox"/> Sawdust..... |
| <input type="checkbox"/> Wooden template (nameplate,
mushroom and turtle figures)..... | <input type="checkbox"/> “My Terrarium” activity sheet..... |
| | <input type="checkbox"/> Pencil (not included in the set)..... |

How do we do it?



1. Place the terrarium container on a flat surface and tilt it slightly.
2. Carefully pour the sand so that it rests against the side wall of the container.
3. Add the soil and gently level the center using the mixing stick.
4. Place the gravel along the side of the container.
5. Make small holes in the soil.
6. Put the seeds into the holes you made.
7. Lightly cover the seeds with soil using the mixing stick.
8. Moisten the soil by adding a small amount of water.
9. Place the sawdust inside the terrarium to create a natural look.
10. Write your name on the nameplate from the wooden template.
11. Place the mushroom and turtle figures inside the terrarium.
12. Position the terrarium in a suitable place and observe it regularly.

What Should Future Scientists Discover?

Students are asked the following questions:

How can we prevent water pollution?

Why are clean water resources limited?

What can you do at home to save water?

The natural environment where living things live and continue their lives is called a habitat. A forest, a lake, or a garden can be a habitat for many living things. Living organisms do not live alone in these environments; they interact with plants, animals, fungi, and non-living elements. This whole system formed by living organisms and their non-living environment is called an ecosystem.

Groups of living things that share similar characteristics and can reproduce by mating with one another are called a species. Species that live only in a specific region and are not naturally found anywhere else are called endemic species. Endemic species reflect the natural richness of the region they live in and are very important to protect.

The large number and variety of plant and animal species in an ecosystem or on Earth is called biodiversity. For living things to survive, they need a suitable environment with clean water and air, fertile soil, food, and necessary nutrients. These needs are provided by other living organisms such as fungi, plants, and animals in the environment. All these living things together create biodiversity, which is essential for the continuation of natural life.

For example, if a plant disappears from an environment, the insects and animals that feed on that plant are negatively affected. Other animals that feed on those organisms may also struggle to find food. In addition, plants protect the soil and produce oxygen, so the disappearance of a plant can negatively affect the soil, water, and the entire ecosystem.

Biodiversity in an ecosystem:

- Helps living organisms adapt more easily to changing environmental conditions,
- Ensures the continuity of life on Earth,
- Supports a healthy and productive environment.

The main factors that harm biodiversity and cause its decline are:

- Excessive and uncontrolled use of forests (hunting, overgrazing, construction, fires),
- Air, water, and marine pollution,
- Climate change and global warming,
- Destruction of natural areas due to agriculture, livestock, and tourism activities,
- Spread of invasive species and insect damage,
- Uncontrolled collection of plants and animals,
- Population growth and unplanned urbanization.

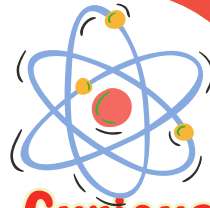


Biliyor Musun?

Every minute spent in the shower uses approximately 20 liters of water.

The water left running while brushing your teeth wastes an average of 12 tons of water per year.

A SCIENTIFIC Explanation for the Curious



Students are asked the following questions:

- What can be done to prevent situations that threaten biodiversity?
- Are there any extinct or endangered species in our country?

Reducing the factors that threaten biodiversity is very important for its protection. To achieve this, the natural habitats of plant and animal species must be preserved. Zoos and botanical gardens not only introduce living species to people but also contribute to the protection of endangered species.

To protect biodiversity:

- Environmental precautions should be taken during industrialization.
- Agricultural lands and forests should be protected.
- Water resources should not be polluted.
- Uncontrolled and illegal hunting should be prevented.



Extinct and Endangered Species

As in the world, various environmental and human-related factors have caused some plant and animal species in our country to become extinct or face the risk of extinction.

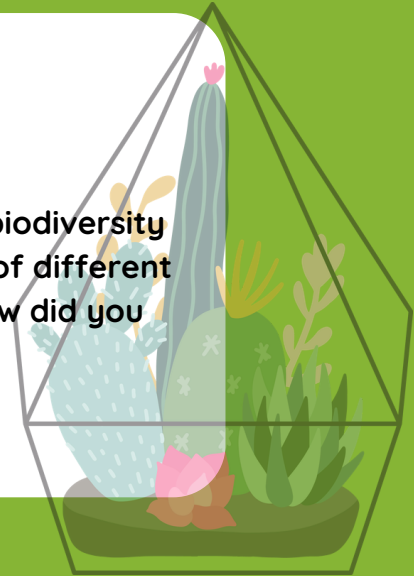
- The Anatolian leopard, Asian elephant, African tiger, Indian elephant lion, and cheetah, along with some species of sainfoin and Turkish rockrose, used to live in our country in the past but are now examples of extinct species.
- Currently, the Mediterranean monk seal, sea turtle, flamingo, brown bear, crane, shelduck, northern bald ibis, and sturgeon are among the animals in our country that are at risk of extinction.
- Snowdrop, cyclamen, lake onion, burning flower, black crocus, daffodil, and peony are among the plant species that need to be protected.
- Globally, dinosaurs, dodo birds, moa birds, and mammoths are examples of extinct species, while rhinoceros, orangutan, African elephant, and polar bear are among the species currently facing the risk of extinction.



What Did We Discover?



“Today, we created a terrarium together and explored why biodiversity is important for natural life. We observed how the presence of different living organisms affects the balance of an ecosystem. So, how did you feel?”



What Else Can We Do?



Come on,
you try it
too!

Dear Teacher,

By creating a terrarium together with your students, you have helped them experience biodiversity and understand how the coexistence of different living things affects the natural balance. To enable students to recognize the importance of biodiversity for the ecosystem and make inferences based on the variety of living things they observe in their own surroundings, you can conduct the “Biodiversity in My Environment” activity.

Materials

- Observation paper/notebook
- Pencil
- (Optional) Colored pencils

1. Students are asked to make observations in the schoolyard, around their home, or in a park.
2. They write down the living things they observe, grouping them into plants, animals, and other organisms (insects, fungi, etc.).
3. They are asked to give at least 3 examples from each group.
4. Students evaluate whether the diversity of living things in the observed environment is high or low.

The following questions are posed to the students:

- Which group of living things did you encounter the most in the environment you observed?
- What changes might occur if a species disappears from this environment?
- Why do you think environments with greater biodiversity are more balanced?


**Question of
the Day**

**What are invasive species?
How do they affect ecosystems?**



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