

WATER CYCLE

Purpose Of The Experiment:

To observe and explain the formation of rain through a model representing the water cycle. To raise awareness about the importance of water for living beings and to learn what can be done for water conservation.

Theme Beyond Disciplinaries:

How the world works
Sharing the planet



**CURIOUS
BOX** 



TUNING IN

Let's arouse curiosity!



FINDING OUT

What Should Little Science People Discover?



TAKING ACTION

Question Of The Day?



QUESTIONING CYCLE

SORTING OUT

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



MAKING CONCLUSIONS

Activity Pages, Exit Card



GOING FURTHER

What else can we do? ?



WATER CYCLE

Let's Arouse Curiosity



- Where does the water you drink come from?
- What would happen if there was no water?
- What do we call the water droplets falling from the sky?

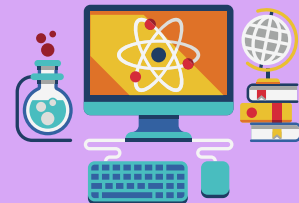
"We live on Earth, which is a magnificent blue sphere because a large part of its surface is covered with water. Water covers a large part of the Earth's surface through oceans, seas, lakes, rivers, and glaciers. Understanding and using water resources sustainably is critically important for leaving a clean and fruitful world for future generations. So, how does water come to the Earth's surface? Through rain, snow... Have you ever wondered how water droplets rise to the clouds and then return to Earth as precipitation?" is asked. The materials for the activity are taken out and examined.

NOTE: Don't forget to prepare water before the activity!

Let's Start Discovering!

The activity video is watched, paused, and followed along. The contents of the set are checked, and the activity is conducted. All steps of opening the packages are done simultaneously with the students.

Watch The Video By Pausing!



Content Of The Set

- | | |
|--------------------------------------------------|-------------------------------------------------------------------|
| <input type="checkbox"/> Experiment mat | <input type="checkbox"/> Earth label |
| <input type="checkbox"/> Ziplock water cycle bag | <input type="checkbox"/> "Water Cycle" label |
| <input type="checkbox"/> Blue food coloring | <input type="checkbox"/> Water (not included in the set contents) |
| <input type="checkbox"/> Mixing container | <input type="checkbox"/> "Let's Save Water" activity sheet |
| <input type="checkbox"/> Stirring stick | |
| <input type="checkbox"/> Sun label | |

How Do We Do It?



1. Food coloring is poured into the mixing container, and water is added to it halfway, then stirred.
2. The Earth label and the sun label are attached to the water cycle bag.
3. The prepared water-food coloring mixture is poured into the water cycle bag. (Filled up to the squirrel with sunglasses on the Earth label)
4. The water cycle bag is sealed with the zipper and attached to a sunny window with its label.
5. The water droplets on the water cycle bag are observed the next day.

What Should Little Science People Discover?

Students are directed the following questions:

- Why is water important, do you think?
- Where does the rain or snow go after it falls?
- Can water disappear? What would happen if it ran out?

Importance of Water

First and foremost, water is essential for drinking. Our bodies function and grow thanks to water. When we are thirsty, we wilt like a flower. That's why mothers and fathers always say, "Don't forget to drink water."

But water is not only important for drinking; it is also necessary for all living things in nature. Birds drink water, trees drink water, even tiny ants drink water. No living thing can survive where there is no water.

Water helps plants grow. When there is water inside a seed, that seed can one day become a big tree. When the sun shines and water droplets fall to the ground, flowers start to grow.

Also, water helps us with cleanliness and hygiene. We use water to wash our hands, clean our faces, and brush our teeth every day. This way, we stay healthy.

Remember, water is one of the most valuable treasures of our planet. We must take care of it and not waste it. Because every drop of water wasted is waste.

Appreciating and protecting water will help us make our world a better place. So, what should we do for that?

- Don't forget to turn off the tap when washing your hands or brushing your teeth. Keeping the tap closed prevents water from going to waste.
- You can organize a water-saving competition with your family or friends. The group that saves more wins the game. This will be a fun competition and will instill a habit of water conservation.
- You can tell your families to wash laundry and dishes in the washing machine only when it's full.
- When it rains, you can collect rainwater using a collection container. You can use this water to water plants.

Water Cycle

So where does this water come from? Water is constantly in motion. The thing that sets water in motion is the Sun. The Sun heats the water, and the heated water evaporates. We call evaporated water "**water vapor.**" As water vapor rises into the sky, it cools down. And thus, it turns back into water droplets. When millions of water droplets come together in the air, they form "**clouds.**" When water droplets in the clouds touch the ground, they return to Earth as precipitation. This event is called "**precipitation.**" The journey of water like this is called the "**water cycle.**"

As long as we don't take care of the water, it will decrease, and it will continuously become polluted. And this polluted water will enter the water cycle. So, it will become increasingly difficult for us to access clean water. That's why we should use water conservatively.



Did You Know?

A leaking toilet flush can cause 83,000 liters of water to go to waste in a year. With this amount of water, you can take a bath three times a day for a year.

Scientific Explanation For The Curious



Students are directed the following questions:

- Can you tell us what you observed in the bag?
- Where do you think the water droplets in the bag came from?
- Why do you think the water droplets accumulated at the top of the bag fell down?

Approximately two-thirds of the Earth's surface is covered by water. Water is crucial for living beings. Water never disappears; it is constantly in motion. This process is called the "water cycle" and is primarily based on two physical phenomena: evaporation and condensation.

Thanks to the Sun, water heats up. And over time, the evaporation process occurs, and the water evaporates. When the evaporated water encounters cold air, it turns into liquid again. This is called "condensation." When millions of water droplets come together in the air, they form "clouds." The water particles in the clouds return to Earth as precipitation. Later, the water that falls to the Earth heats up again and continues the same journey. This is called the "**water cycle.**"

In the experiment we conducted, the blue water in the sealed bag evaporated and turned into water vapor, then condensed into water droplets when it came into contact with the cold glass. When we touch the clouds in the bag, water droplets fall like rain. This experiment is a simple example of the water cycle in nature. Changes in temperature and heat will affect your observation process. Patiently observe your water cycle bag at different times of the day!

What Else Can We Do?

Dear teacher,

With the little scientists, you learned about the importance of water and how precipitation occurs. You can raise awareness about water conservation by organizing a visit to a water treatment plant in your city.

You can explain to them that all living beings on land, in the sea, and in the air need clean water. You can do the "Let's Make an Aquarium" activity together.

Let's Make an Aquarium

Materials

(2 white paper plates, blue paint, colored pencils, strong adhesive, sand, seashells, colored beads, String and cutter, transparent acetate, tinsel, scissors)

1. Before the activity, a hole is made in the center of the white paper plate with a cutter. (For the students to cut around)
2. Fish figures are drawn on colored beads. (For the students to cut around)
3. Transparent acetate is glued to the hole opened.
4. Half of the other white paper plate is painted blue. (The blue area will be the water)
5. Strong adhesive is applied to the bottom of the painted blue area, and sand and seashells are glued.
6. Corals are made with tinsels in various shapes and glued.
7. The colored beads are cut into fish shapes and glued.
8. The transparent acetate-glued plate with the hole is glued onto the painted blue plate. (The concavities of the plates will face outward)
The aquarium is ready!

What Did We Discover?/Exit Card

Today, we tried to determine what animals' shadows look like. Wasn't it fun? We explored our responsibilities to nature and learned how we benefit from living creatures. At the end of the activity, exit cards are prepared for the students.

Question of
the Day?

How many liters of water does a healthy person need per day?



Exit Card



Draw two things you
learned in today's lesson!

Two large, rounded rectangular drawing areas. The top one is light green and the bottom one is light purple. Both have a thick orange border. They are positioned below the instruction box and above the logo.

CURIOUS BOX



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