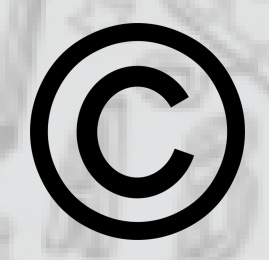




# EDUKALA



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# SCIENCE

# 1st Grade



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# AIR AROUND US

- The topic "Air Around Us" focuses on the properties and characteristics of air
- Students will learn that air is a gas that surrounds us and is essential for life
- They will also learn that air takes up space, has weight, and can be compressed
- Through various activities and experiments, students will explore the effects of air on different objects and learn about the importance of air for living things.



# The Wind

By Christina Rossetti

Who has seen the wind?  
Neither I nor you;  
But when the leaves hang trembling,  
The wind is passing through.

Who has seen the wind?  
Neither you nor I;  
But when the trees bow down their heads,  
The wind is passing by.

- Have students conduct a simple experiment that demonstrates the properties of air, such as blowing up a balloon or making a paper airplane



# OBJECTIVES



- Students are able to describe the properties of air.
- Students understand that air is essential for life
- Students understand the effects of air on different objects, such as wind and weather.
- Students are able to ask questions and make observations about the world around them.





# PRE-ASSESSMENT



- Ask students questions that encourage them to think critically about air, such as "What is air?" or "Why do we need air to live?"
- Engage students in a discussion about air and the environment. Encourage them to share their thoughts and ideas about the topic.







# PRE-ASSESSMENT



- Use a KWL chart to assess students' prior knowledge and understanding of air. Ask them to list what they already know about air (K), what they want to learn (W), and what they have learned (L) at the end of the lesson. Then they can draw three columns in their notebook for this activity.
- Ask students to draw air first. On a separate sheet of paper, have students draw how certain objects such as balloons and bubbles are affected by air.



# PRE-REQUISITES

- Clear container with lid
- Water
- Bubble solution
- Bubble wands or straws
- Cups or containers for holding the bubble solution
- A small empty water bottle with a narrow opening
- A bowl of hot water
- A bowl of cold water





# PRE-REQUISITES

- A marker
- Objects that can be moved by air (e.g., feathers, balloons, bits of paper)
- A fan or hair dryer for demonstrating the effects of wind
- Materials for conducting experiments, such as straws, paper, and balloons
- Books or videos about air and the environment (refer to school library)



# ACTIVITY-1

## **AIR TAKES UP SPACE:**

- Show an empty container to students, asking them if they think it is empty
- Fill the container with water, while leaving the small space at the top.
- Place the lid on the container and ask students if they can see water
- Insert straw through the lid and slowly blow air into the container
- Observe and discuss what happens to the water level
- Distribute small pieces of paper to each student
- Instruct students to crumple paper and place it inside the container.
- Repeat steps 5 and 6 and observe the effect on paper



# ACTIVITY-2

## **BLOWING BUBBLES:**

- Objective: To demonstrate that air takes up space and has the ability to move objects.
- Have students gather in a circle or at their desks.
- Introduce the concept of air and explain that it is all around us and takes up space.
- Pour some bubble solution into a cup or container and show the students how to dip the bubble wand or straw into the solution.
- Instruct the students to blow gently through the bubble wand or straw and create bubbles.
- Have the students observe how the bubbles move through the air and how they are affected by the wind or air movement in the room.



# ACTIVITY-2

- Ask the students questions about what they observed, such as "What happened to the bubbles when you blew on them?" or "How did the bubbles move through the air?"
- Encourage students to experiment with different ways of blowing the bubbles, such as blowing hard or softly, and see how it affects the bubbles.
- Extension: To extend this activity, teachers can have students experiment with different objects to see if they can move them using air, such as blowing on a feather or a lightweight object like a piece of paper.
- Teachers can also discuss the different ways that air is used in our everyday lives, such as in windmills or air conditioning systems.



# ACTIVITY-3

## **AIR PRESSURE EXPERIMENT:**

- Objective: To demonstrate that air has weight and exerts pressure on objects.
- Explain to the students that air has weight and exerts pressure on objects.
- Have students blow up the balloon and tie it off.
- Use the marker to mark the balloon with the student's name or initials.
- Place the empty water bottle into the bowl of hot water for a few minutes.
- Have students hold the balloon and place it over the mouth of the water bottle.
- Observe what happens to the balloon as the air inside the bottle cools down and contracts.





# ACTIVITY-3

- Remove the balloon from the bottle and place it in the bowl of cold water.
- Observe what happens to the balloon as the air inside the balloon heats up and expands.
- Ask students questions about what they observed, such as "What happened to the balloon when it was placed over the water bottle?" or "Why did the balloon expand when it was placed in the bowl of hot water?"
- Extension: To extend this activity, teachers can have students experiment with different temperatures of water and different sizes of water bottles to see how it affects the balloon. They can also discuss the practical applications of air pressure, such as in weather patterns or in the functioning of airplanes.





# POST-ASSESSMENT

- 3 points may be written by students on what they learnt about air.
- An open-ended question asking, "What is one way that air affects objects"



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