

# AIR-FLOATATION

10.8.2018

## Subject

Basic Science

## Prepared By

[Instructor Name]

## Grade Level

1

## Overview

This lesson plan covers teaching content for;

1. Feeling Air Around Us
2. Objects that float in the air

## Teacher Guide

### Day 1/Lesson 1- 15 Mins

1. To demonstrate that air has weight, ask the students to predict which is heavier, an inflated balloon or an empty balloon.
2. Many students may predict that the empty balloon is heavier, because they associate filled balloons with “floatability” in the air.
3. Demonstrate that two empty balloons are the same weight on the balance scale.
4. Group the students into different groups, have the groups use wire hanger, thread, and two empty balloons to prove that air has weight.
5. (They can tie equal lengths of thread to each end of the hanger. Then tie the end of each thread around each tied off balloon end.
6. To use the balance, the students can raise it by placing a pencil under the hanger hook.)
7. After they make their balance scale, they can compare the weight of an inflated balloon and an empty balloon.
8. The balloon filled with air will make its side of the scale tip slightly lower because the air in the balloon has weight.

## Guided Practice

### Day 2 Lesson 2- 15 mins

1. Divide the class into group of four students.
2. To prove that air takes up room, each group of four students needs a plastic container filled with water plus the cup and paper towel.
3. Each group will ball up the dry paper towel and place it securely in the bottom of the cup.
4. Ask the students to predict what will happen to the paper towel if they place the cup into the water upside down.
5. Have the groups invert the cup and hold it straight down as they slowly submerge it in the water.
6. They will then pull it out of the water still keeping it totally vertical.
7. Have the groups remove the paper towels. They will find that the paper towels are still dry.
8. Ask why the paper towel stayed dry.
9. Explain that there was air taking up room in the cup along with the paper towel. The air prevented water from entering the cup, because two objects cannot be in the same place at the same time.

## Materials Required

- Empty bottle
- Balloons
- Water
- Wire hanger
- Ruler
- Newspaper
- Glass Jar
- Pencil
- Paper towel (tissue paper)
- Cup

## Additional Resources

- <http://eekwi.org/teacher/air.htm>
- <https://sciencing.com/science-activities-preschool-ages-6468647.html>
- <https://www.pinterest.com/bethbe/air-experiments/>
- <https://www.weareteachers.com/best-weather-activities/>
- <http://sciencenetlinks.com/lessons/properties-of-air/>

## Objectives

Students will be able to;

1. Observe and identify things that float in the air.
2. Make things float in air.

## Information/Instruction

1. Begin the lesson by going around the classroom and squeezing an “empty” bottle at all the students.
2. Ask the students if the bottle is really empty and what is coming out of the bottle.
3. The students will tell you that air was in the bottle.

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## Teacher Guide

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4. Show the students that the air flows back into the bottle the second you stop squeezing it. (Air is fluid.)
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### Day 3 Lesson 3- 15 mins

1. To show the effects of air pressure, have each group place a ruler on their tables so that about one third of the rulers extend over the edge.
2. Tell the students to tap this end gently.
3. They will find that the rulers fall off the tables.
4. With the rulers in the same positions on the tables, the students will place a sheet newspaper over them.
5. Have the students tap the rulers with the same degree of force as used the first time. This time the ruler should not fall.
6. Explain that air was pressing on the larger surfaces of the paper and therefore the rulers as well. This pressure was greater on the papers than on the ruler by itself.

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## Guided Practice

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### Day 4 Lesson 4- 15 mins

1. Group the students; Have each group place a jar on a tabletop, about ten inches behind the jar, place a short (4-inches tall or so) candle upright, and light it.
  2. The flame should be entirely centered behind the jar—not over to the side, and not taller than the jar.
  3. Ask the students to make a scientific guess—a hypothesis—about the candle. If the students blow hard on the jar, not the candle, will anything happen? Will the candle flame stay the same?
  4. Now ask the students to blow hard on the jar on the opposite side of the candle—so that the jar is directly in front them with the candle directly behind it.
  5. What happens when they blow on the jar? The candle should go out immediately! (If it doesn't, move it a little bit forward so it's closer to the back of the jar). How did this happen? Did the air travel through the jar?
  6. Ask the students what they think. What happened was that the air separated when it hit the sides of the jar and flowed around its curves to come together again and form a stream that hit the candle. Sure, they couldn't see it, but it happened!
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	Teacher Guide	Guided Practice
<b>Assessment Activity</b> 1. Assess the students' verbal answers to questions: "Where is air? Does air take up space?" 2. Assess the students' descriptions of observation of Air experiment.	<b>Assessment Activity</b> 1.	
<b>Summary</b>		