



TAKE CARE OF TEXAS: EDUCATOR MATERIALS

## LESSON PLAN

# Layers of the Atmosphere

### Objectives:

Students will define atmosphere and identify its impact on Earth. Students will describe each of the five major layers of Earth's atmosphere.

### Prerequisites:

Students should know the difference between climate, weather, and atmosphere. They must also understand how climate, weather, and atmosphere impact each other.

### Duration:

45 minutes

### Materials:

Layers of Atmosphere Notes Organizer Worksheet  
Layers of Atmosphere Presentation  
Layers of Atmosphere Fill-in-the-Blank Worksheet  
large poster size paper  
markers  
science journal

#### **Atmosphere Jar Materials (optional)**

jar  
honey  
corn syrup  
dish soap  
water  
vegetable oil

### Introduction:

#### Engage:

Pose the question, "What is atmosphere and what does it do for Earth?" to students. Let them think for about 30 seconds and then write down their own definition and functions of the atmosphere in their journal. Explain to students that they will watch a video showing Earth's atmosphere and will need to write down how it is being described. Show them the [I jumped from Space video](#) once from start to finish without any pauses. Then, rewatch the video, pausing to help students write descriptions they hear in the video.



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After rewatching the video, have students discuss what they wrote in their journal for about two minutes, then reread their first definition of atmosphere and make any changes. Bring the class together and have them provide their own description of atmosphere and its functions. Using their responses, create a class definition and list of functions for the atmosphere leaning towards the following:

***Atmosphere is a jacket of gases that surrounds the Earth. It keeps Earth warm, gives oxygen to breathe, and is where weather occurs.***

## Explain

Tell students that the atmosphere is made up of layers of gases and they will learn about each layer in small groups. Introduce the Layers of the Atmosphere presentation to students and explain they will use this to read about the layers and will need to take notes about each layer. *Teacher Note: You can have students do this activity individually or you can have them do this in small groups of 2 or 3.* Pass out the Layers of Atmosphere Notes Organizer Worksheet or have students take notes in their journal. Give students about 15 minutes to write down facts about each layer.

## Procedure:

### Enact

As students finish writing their notes, break them into small groups of 3 to 4 members each. Give each group a large poster size piece of paper and have them draw the layers of atmosphere with an explanation of each layer. Students can collaborate and share their notes from the previous activity to ensure a thorough explanation of each layer. Give students 15 minutes to work together to create this drawing. Afterwards, allow each group to explain the layers and what they included. Once all the groups have presented, gather the posters and hand out the Layers of the Atmosphere Fill-in-the-Blank worksheet for students to complete and turn in.

### Extend

Have students create their own atmosphere jar. Grab a jar and, in this order, have students pour the liquids into the jar: honey, corn syrup, dish soap, water, and then vegetable oil. When pouring each liquid, make sure to do it slowly to ensure you see the distinction between each layer. As students look at the different layers, have them explain how the layers mimic the layers of the atmosphere. Have students hypothesize what would happen if changes occurred in the layers.

## Glossary:

- **atmosphere** – a jacket of gases that surrounds the Earth and keeps Earth warm, gives oxygen to breathe, and is where weather occurs.
- **troposphere** – the innermost layers of the Earth’s atmosphere where weather occurs.
- **stratosphere** – located above the troposphere but below the mesosphere, the stratosphere has its own set of layers and has no storms.
- **mesosphere** – this layer is between the stratosphere and the thermosphere and is the highest layer of atmosphere in which gases are all mixed up.
- **thermosphere** – this layer lies between the mesosphere and the exosphere and temperatures here can reach up to 4,500 degrees Fahrenheit.
- **exosphere** – the outermost layer and the very edge of our atmosphere

## Applicable TEKS:

- **6<sup>th</sup> Grade**– §112.6.b.10A
- **8<sup>th</sup> Grade**– §112.8.b.10A