



Meteorologist: Understanding Air Masses

Adventure Description:

In this adventure, students will think like a meteorologist and create a script for a Youtube video to teach kids about air masses and weather!

Activity

Step 1: Background Information (5 minutes)

- Explain that meteorologists are weather forecasters, meaning that they study the weather and educate people about the weather.
- Today, students will think like meteorologists and create a YouTube video to show to the public.
- Explain that their YouTube video will focus on air masses. Explain to students that air masses are large bundles of air that are approximately the same humidity (degree of wetness) and temperature. When two air masses meet, they can create storms, like thunderstorms and tornadoes.

Step 2: Creating an Air Mass (30-35 minutes)

- Explain to students that they will create a model that shows what happens when air masses meet. They will then use this model to make a Youtube video to educate other people about how air masses work and how storms form.
- Provide students with [Handout: Creating an Air Mass](#). Read through the steps as a class. Provide students with the following materials:
 - Clear bin
 - Hot tap water with a drop of blue food coloring mixed in
 - Juice glass that is shorter than the top of the clear bin
 - Tape
 - Heat lamp
 - Sandwich baggie filled with ice
 - Clear plastic wrap.
- As students are working to create their model, ask the following questions:
 - What changes do you see?
 - What do you think the air mass inside the container is like? Is it warm and wet, or cool and dry? (Warm and wet.)
 - How is the air mass outside of the container different than the one inside? (The air mass outside is cool and dry.)

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- How does the air mass outside the container change when you put the ice on top? (it gets colder)
- What does the water that forms on the underside of the plastic represent? (rain forming in clouds)
- What does the water that falls into the juice glass represent? (rain falling from clouds)

Step 3: Writing a YouTube Script (5-10 minutes)

- Explain to students that they will now write their script.
- Provide students with [Handout: Creating a Youtube Video](#). Walk through the handout as a class.
- As students are working, ask the following:
 - What does your audience need to understand about how air masses work?
- Teacher note: students can practice their script if they finish before other students.

Step 4: Discussion (5 minutes)

- Have students share their favorite part of their YouTube script. Ask them how they incorporated their model into their YouTube video.
- Have a concluding class discussion about how air masses meet each other and create storms. In real life, large storms are created when two air masses of very different temperatures mix together and create a storm.
- Extra Time? Provide students with an iPad or other recording device and have them record their YouTube video.

Materials List

Provided online:

- Handout: Creating an Air Mass
- Handout: Data Table
- Handout: Teacher Key
- Handout: Creating a Youtube Video

Not provided (each student or group needs):

- Clear bins (shoe box size)
- Hot tap water with a drop of blue food coloring mixed in
- Empty juice glass (glass must be at least an inch shorter than the sides of the bin)
- Clear plastic wrap
- Tape or rubber bands
- Heat lamp (Do not use fluorescent or LED bulb)
- Sandwich baggie filled with ice

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