

NGSS MS-ESS2-5

Curriculum Bundle

How Air Masses Cause Weather Changes

- ✓ 2 Lessons and 4 Activities
- ✓ Daily Teaching Timeline Included
- ✓ Everything You Need to Teach NGSS MS-ESS2-5



Teach With
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Resources Included

✓ 2 Lessons

✓ 4 Activities

- How Air Masses Shape Our Weather Lesson
- Simulated Air Mass Collision - Lab Activity
- Weather Map Detective - Activity
- Water and Weather Lesson
- How Weather Works Reading
- Weather Climate Word Search and Scramble

How Air Masses Shape Our Weather - Lesson
6th, 7th, 8th Grade

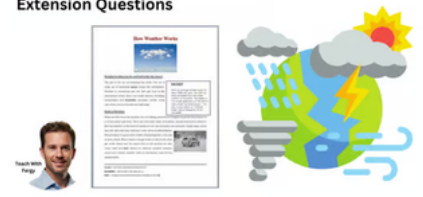
✓ **How Air Masses Shape Our Weather:** Air Masses, High- and Low-Pressure Systems, Weather Fronts, How weather changes and why it's so hard to predict weather accurately.
✓ **Student + Teacher Versions:** Office, Google, and PDF Versions
✓ **Multimedia-Rich Lesson with No Prep Required**



Reading Comprehension Passage & Questions

How Weather Works
6th, 7th, and 8th Grade Science

✓ **No Prep, Ready-to-Use Resource** in Google and Office Format
✓ **Includes Comprehension and Extension Questions**



Simulated Air Mass Collision Lab

Objective: Students will model air mass collisions using colored water and observe how different air temperatures interact.

Materials Needed (per group):

- Two clear containers (or a large plastic bin)
- Warm, red-colored water (food coloring + warm water)
- Cold, blue-colored water (food coloring + cold water)
- Divider (e.g., a stiff piece of cardboard or plastic)
- Worksheet with observation questions

Instructions:

1. Fill one side of the container with warm red water, the other with cold blue water (with divider in place).
2. Remove the divider and watch how the two water masses interact.
3. Discuss what the simulation represents (warm vs. cold air masses).

Activity Questions:

1. What happened when the cold and warm waters met?
2. How is this similar to what happens in the atmosphere when cold and warm air masses meet?
3. What kind of front does this model represent?
4. Based on this activity, why might storms form at the boundary between air masses?

Everything You Need to Teach NGSS MS-ESS2-5

How Air Masses Shape Our Weather - Lesson 6th, 7th, 8th Grade

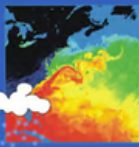
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Water and Weather Lesson

- The Troposphere
- What Causes Weather?
- The Hydrosphere
- Effects of Water Bodies on Weather
- Oceans and Weather
- Lakes and Weather






Weather and Climate Word Search and Scramble

THREE Activities in One!

1. Basic 25-Term Word Search
2. Scrambled Words Word Search
3. Word Scramble and Define Activity





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Reading Comprehension Passage & Questions

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Weather Map Detective

Objective: Students will interpret weather maps to track how the movement of air masses causes changes in local weather conditions.

Materials Needed:

- Printed or projected weather maps showing:
 - Temperature
 - Pressure systems (H and L)
 - Fronts (cold/warm)
 - Wind direction
- Activity worksheet with guiding questions (provided below)

Instructions:

1. Show students a U.S. weather map with high and low-pressure areas, fronts, and temperatures.
2. Ask students to identify:
 - Where air masses are located.
 - The direction they are moving.
 - How the weather will likely change in specific cities.

Activity Questions:

1. Look at the city of Chicago on the map. A cold front is approaching. What weather changes would you expect in the next day?
2. A high-pressure system is moving into Denver. What kind of weather will Denver likely experience?
3. The wind arrows near Texas show air moving from the Gulf of Mexico northward. What kind of air mass is this and how might it affect the weather?
4. What happens when a cold air mass meets a warm air mass?

Two Additional Activities

Includes a Daily Teaching Timeline for the Standard and the Resources it Uses

MS ESS2 Earth's Systems

MS-ESS2-5. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions. [Clarification Statement: Emphasis is on how air masses flow from regions of high pressure to low pressure, causing weather (defined by temperature, pressure, humidity, precipitation, and wind) at a fixed location to change over time, and how sudden changes in weather can result when different air masses collide. Emphasis is on how weather can be predicted within probabilistic ranges. Examples of data can be provided to students (such as weather maps, diagrams, and visualizations) or obtained through laboratory experiments (such as with condensation).] [Assessment Boundary: Assessment does not include recalling the names of cloud types or weather symbols used on weather maps or the reported diagrams from weather stations.]

Resources:

- How Air Masses Shape Our Weather Lesson
- Simulated Air Mass Collision - Lab Activity
- Weather Map Detective - Activity
- Water and Weather Lesson
- How Weather Works Reading
- Weather Climate Word Search and Scramble

NGSS Standard Daily Teaching Plan

Lesson Length: 55 minutes

Timeframe: 6 Days

Day	Lesson/Activity	Notes
Day 1	How Air Masses Shape Our Weather Lesson Start Simulated Air Mass Collision - Lab Activity	
Day 2	Finish Simulated Air Mass Collision - Lab Activity How Weather Works Reading	
Day 3	Finish How Weather Works Reading Weather Map Detective - Activity	
Day 4	Water and Weather Lesson	
Day 5	Finish Water and Weather Lesson Weather Climate Word Search and Scramble	
Day 6	Complete any outstanding activities	

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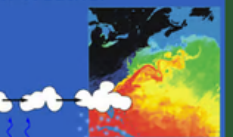
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Who is this Bundle for?

- **Teachers who teach middle school science and use the NGSS**
- **Teachers who want multiple resources at their fingertips including lessons and a variety of activities, in order to meet the standard**
- **Teachers who don't have time to develop their own resources or organize what to teach and when**