

TEKS Grade 7 - S.7.10.C

Ocean Currents and Air Masses

- ✓ 7th Grade Science TEKS Curriculum Bundle
- ✓ Variety of Lesson and Activity Types
- ✓ Digital + Printable Formats



NEW 2024

Resources Included

- ✓ **Complete S.7.10.C - 7th Grade Science TEKS Curriculum.**
- ✓ **Variety of Lesson Types** - Includes a lesson, activities, assessments, and more.
- ✓ **Daily Teaching Timeline Included** - Includes a ready-to-go, daily teaching timeline.
- ✓ **Digital + Printable Formats** - Ideal for classroom, hybrid, or remote learning environments with flexible access options.

Daily Teaching Timeline Included

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



Ocean Currents and Climate Simulation Activity



Reading Comprehension Passage & Questions

Hurricanes

6th, 7th, and 8th Grade Science

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



TEKS – Grade 7

5.7.10 Earth and space. The student understands the causes and effects of plate tectonics.

5.7.10.C - The student is expected to describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.

Resources:

- How Air Masses Shape Our Weather - Lesson
- Ocean Currents and Climate Simulation Activity
- Simulated Air Mass Collision - Lab Activity
- Weather Map Detective - Activity
- Hurricanes - Reading

TEKS Science Daily Teaching Plan

Lesson Length: 55 minutes

Timeframe: 5 Days

Day	Lesson/Activity
Day 1	How Air Masses Shape Our Weather - Lesson
Day 2	Ocean Currents and Climate Simulation Activity
Day 3	Simulated Air Mass Collision - Lab Activity
Day 4	Weather Map Detective - Activity
Day 5	Hurricanes - Reading

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)
- Worksheets 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?

Activity Questions: Answer Key

1. What happened when the cold and warm waters met?
The cold water stayed low, pushing the warm water upward, forming swirls at the boundary.
2. How is this similar to what happens in the atmosphere when cold and warm air masses meet?
In the atmosphere, cold air also pushes warm air upward, often forming clouds and storms.
3. What kind of front does this model represent?
A cold front.
4. Based on this activity, why might storms form at the boundary between air masses?
Warm air rises over cold air, cooling and condensing to form clouds and precipitation.

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 isotherms.
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 of air mass.

4. When low.

Activity Questions: Answer Key

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?
Colder temperatures, possible rain or storms, increased wind.
2. A high-pressure system is moving into Denver. What kind of weather will Denver likely experience?
Clear skies, dry weather, and light winds.
3. The wind across New Texas show air moving from the Gulf of Mexico northwest. What kind of air mass is this and how might it affect the weather?
This is a warm, moist tropical air mass. It could bring humid conditions and possible precipitation.
4. What happens when a cold air mass meets a warm air mass?
The cold air pushes the warm air upward, often causing clouds, storms, or rain.

Who is this Bundle for?

- **Teachers who teach 7th grade science in Texas**
- **Teachers who want multiple resources at their fingertips including lessons and a variety of activities, in order to prepare their students for the STAAR Science Exam**
- **Teachers who don't have time to develop their own resources or organize what to teach and when**

