Front on the Move

Use weather readings to predict a storm and plan for safety.

6.9 "Use data analysis to monitor and predict weather changes and the impact of weather events, including severe weather. a. Obtain, evaluate, and communicate data that describes characteristics of air masses, including temperature, pressure..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two phrases that explain how air masses can cause storms, circle table readings that show a change in air mass, and number the two route details that matter for safety.

A Storm Near School

1 Air masses are large bodies of air with similar temperature and moisture. A front is a boundary between air masses. When colder, denser air pushes under warm, humid air, the warm air can rise and form storm clouds. Air pressure often falls before a front arrives and rises after it passes.

2 At a school on a spring afternoon, a weather crew recorded the readings below. Around noon, dark clouds gathered and thunder sounded. Hard rain fell for twenty minutes, and a nearby creek rose over a low walking path. The table shows relative humidity, the percent of water vapor in the air compared with what it can hold.

SCHOOL WEATHER READINGS

Time	Temperature (°F)	Air pressure (hPa)	Relative humidity (%)
8 a.m.	82	1008	76
11 a.m.	86	1004	80
2 p.m.	72	1012	48
5 p.m.	68	1016	42

3 Students usually walk home by one of two routes. The short route crosses the low creek path; the longer route follows higher streets. A storm alert warns that flooded crossings may hide deep, fast water. The school can keep students inside while adults check road conditions and plan safe rides home.

2 ANSWER WITH EVIDENCE

Use the passage

1. At 11 a.m., what changes since 8 a.m. suggest stormy weather may be approaching? Use two readings and the passage.

2. What evidence suggests a front passed between 11 a.m. and 2 p.m.? Explain what happened to the air masses.

3. Use the 2 p.m. and 5 p.m. readings to predict whether the evening air will likely be warmer and wetter or cooler and drier. Give two data trends.

4. Why should the school avoid the short route after the storm, even if the rain has stopped?

3 YOUR TURN

Your own words

A community center expects warm, humid air to meet cooler air tomorrow. Write a short weather alert that predicts a weather event, uses a pressure trend from the school data to explain your warning, and gives two specific ways families can reduce harm.

ANSWER KEY

Front on the Move

GRADE 6 · 6.9

PART 1 · READ AND MARK

Underline two phrases that explain how air masses can cause storms, circle table readings that show a change in air mass, and number the two route details that matter for safety. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	At 11 a.m., what changes since 8 a.m. suggest stormy weather may be approaching? Use two readings and the passage.	**Pressure fell from 1008 to 1004 hPa, and relative humidity rose from 76% to 80%. Falling pressure can signal an approaching front, and humid air can help form storm clouds.**
2	What evidence suggests a front passed between 11 a.m. and 2 p.m.? Explain what happened to the air masses.	**Temperature fell from 86°F to 72°F, relative humidity fell from 80% to 48%, and pressure rose after the storm. These changes suggest colder, drier air pushed under and replaced warmer, more humid air.**
3	Use the 2 p.m. and 5 p.m. readings to predict whether the evening air will likely be warmer and wetter or cooler and drier. Give two data trends.	**The air will likely be cooler and drier. Temperature fell from 72°F to 68°F, and relative humidity fell from 48% to 42%.**
4	Why should the school avoid the short route after the storm, even if the rain has stopped?	**The creek rose over the low path, and floodwater can hide deep, fast water. Students should wait for a safe route or use the higher streets.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Community center alert: Warm, humid air may rise as cooler air pushes in, bringing thunderstorms and heavy rain near the front. In the school data, pressure fell from 1008 to 1004 hPa before the storm, so falling pressure here would add to the warning. Move outdoor games inside before thunder arrives, and send families alerts so they can delay pickup until the storm passes.

Accept reasonable predictions supported by the table and the passage. For Part 3, look for a plausible event near a front, correct use of the falling-pressure trend, and two specific safety actions.