

Weather Clues Together

Read how several measurements describe changing weather.

SC.5.E.7.3 "Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each weather measurement in the passage. Number the five kinds of measurements: 1 temperature, 2 pressure, 3 humidity, 4 wind, and 5 precipitation, so you can see how they work together.

A Changing Day in Pine Harbor

- ① At 7:00 a.m. in Pine Harbor, the air temperature was 68°F. The barometric pressure was 29.8 inches and falling, meaning the weight of air above the town was decreasing. Humidity was 88 percent, so the air held much water vapor. A 12-mile-per-hour southeast wind blew in from the ocean, bringing moist air. Thick gray clouds covered the sky, and falling pressure often signals unsettled weather.
- ② By noon, raindrops fell steadily, creating a rainy, cool afternoon. The temperature reached only 71°F because clouds blocked some sunlight. The humid air supplied water vapor that formed cloud droplets and rain. The falling pressure and ocean wind supported the change to unsettled weather. Weather at one place and time depends on these measurements together, not on only one.
- ③ Near sunset, the rain ended. Pressure began to rise to 30.1 inches, and the wind shifted to the northwest at 8 miles per hour. The temperature dropped to 64°F, while humidity stayed high at 82 percent. Cooler air, lighter wind, and rising pressure matched the clearing sky. A weather report needs each observation because the conditions can change during one day.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What two clues in the morning showed that there was a lot of water available for rain?

2 How did barometric pressure change from morning to sunset, and how did the weather change with it?

3 How did clouds affect the noon temperature, and what precipitation fell then?

4 Why does a weather report need temperature, pressure, humidity, wind, and precipitation instead of only one measurement?

3 YOUR TURN _____ Your own words

A town reports a temperature of 75°F, pressure of 30.0 inches and rising, humidity of 45 percent, a north wind at 6 miles per hour, and no precipitation. Write two sentences that describe the weather and explain how at least three measurements support your description.

PART 1 • READ AND MARK

Underline each weather measurement in the passage. Number the five kinds of measurements: 1 temperature, 2 pressure, 3 humidity, 4 wind, and 5 precipitation, so you can see how they work together. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What two clues in the morning showed that there was a lot of water available for rain?	Humidity was 88 percent, and a southeast wind brought moist air from the ocean.
2	How did barometric pressure change from morning to sunset, and how did the weather change with it?	Pressure changed from 29.8 inches and falling to 30.1 inches and rising. The weather changed from cloudy and rainy to clearing.
3	How did clouds affect the noon temperature, and what precipitation fell then?	Clouds blocked some sunlight, so the temperature reached only 71°F. Steady raindrops fell.
4	Why does a weather report need temperature, pressure, humidity, wind, and precipitation instead of only one measurement?	The measurements work together to describe weather, and the conditions can change during one day.

PART 3 • YOUR TURN (SAMPLE ANSWER)

The town is likely dry and fairly calm, with a temperature of 75°F and no precipitation. Its rising pressure of 30.0 inches, 45 percent humidity, and light 6-mile-per-hour north wind support fair, less stormy weather.

Accept equivalent explanations that connect the stated measurements to rainy, cloudy, clearing, dry, calm, or unsettled conditions. For the open response, accept reasonable weather descriptions supported by at least three given measurements.