

BENCHMARK SC.5.E.7.3

Reporting Category	Earth and Space Science
Standard	Big Idea 7 Earth Systems and Patterns
Benchmark	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. (Also assesses SC.5.E.7.4, SC.5.E.7.5, and SC.5.E.7.6.)
Also Assesses	<p>SC.5.E.7.4 Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.</p> <p>SC.5.E.7.5 Recognize that some of the weather-related differences, such as temperature and humidity, are found among different environments, such as swamps, deserts, and mountains.</p> <p>SC.5.E.7.6 Describe characteristics (temperature and precipitation) of different climate zones as they relate to latitude, elevation, and proximity to bodies of water.</p>
Benchmark Clarifications	<p>Students will identify and/or describe how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation describe weather in a particular place and time.</p> <p>Students will identify or distinguish the forms of precipitation (rain, snow, sleet, and hail) and their related weather conditions.</p> <p>Students will distinguish weather conditions among different environments.</p> <p>Students will describe the temperature and precipitation of different climate zones as they relate to latitude, elevation, and/or proximity to bodies of water.</p>
Content Limits	<p>Items assessing weather and climate are limited to conceptual understanding.</p> <p>Items will not assess the difference between climate and weather.</p> <p>Items will not address or assess the interpretation of specific characteristics used to forecast weather.</p> <p>Items addressing the types of clouds are limited to cumulus, cirrus, stratus, and cumulonimbus as they relate to weather but will not require differentiation among these types of clouds.</p> <p>Items assessing climate zones are limited to polar, tropical, and temperate.</p>

Content Limits	<p>Items assessing weather-related differences among different environments may include desert, grassland, rainforest, tundra, and wetland.</p> <p>Items will not require knowledge of specific geographic locations.</p> <p>Items will not assess fronts.</p> <p>Items may refer to common tools used to measure air temperature, barometric pressure, humidity, wind speed and direction, and precipitation but will not assess specific knowledge of the tools.</p>
Stimulus Attributes	<p>Scenarios may include a weather map with a key explaining weather symbols.</p> <p>Dual thermometers showing degrees Fahrenheit and degrees Celsius must be used if the scenario requires an illustration of a thermometer.</p> <p>Wind speeds will be shown in miles per hour (mph).</p> <p>The phrase <i>air pressure</i> should be used rather than the phrase <i>barometric pressure</i>.</p>
Response Attributes	<p>None specified</p>
Prior Knowledge	<p>Items may require the student to apply science knowledge described in the NGSSS from lower grades. This benchmark requires prerequisite knowledge from SC.2.E.7.1, SC.2.E.7.2, SC.2.E.7.4, SC.2.E.7.5, SC.2.P.8.4, and SC.2.P.8.5.</p>

Sample Item 11 **SC.5.E.7.6**

Earth has many types of climate zones. The map below shows the tundra climate zones of the Northern Hemisphere.

Tundra Zones of Earth's Northern Hemisphere



LEGEND	
	Tundra climate

Which of the following **best** describes this type of climate zone?

- A. It is very hot because it is on the coastline.
- B. It is very wet because it is below sea level.
- C. It receives very little snowfall because it is close to the ocean.
- ★ D. It has very cold temperatures because it is far from the equator.