

BENCHMARK SC.5.E.7.3

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| 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> |

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| 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 | |
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|  | 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.