

6. State two factors and explain how each influences the weather in Ohio. Respond in the space provided in your **Answer Document**. (4 points)

**Sample Response for Item 6 (Extended Response):**

Other Correct Response(s):

- Latitude – the closer to the equator a region is, the warmer its weather/climate will be.
- Elevation (altitude) – the higher up a region is, the colder its weather/climate will be.
- Proximity to a large body of water (e.g., effect on average & range of temperature due to Lake Erie) – the closer a region is to a large body of water, the more moderate its weather/climate will be.
- Ocean currents (e.g., Gulf Stream interrupting usual west to east pattern) – ocean currents can be warm or cold, which influences any region near them.
- Mountains – regions on the windward side of mountains tend to be cooler and wetter than regions on the leeward side.
- Planetary wind and pressure belts (e.g., snow belt in NE Ohio) – these can be warm or cool, wet or dry, thus influencing the regions within their boundaries.
- Amount of moisture in the atmosphere (or amount of contaminants) – greater moisture causes higher humidity.
- Other acceptable responses
- Pollution affecting weather
- Micro climates

**Scoring Guidelines for Item 6**

| Score Point | Description  |
|-------------|--|
| 4 points    | The student states two factors that influence the weather in Ohio and correctly explains the effect of each.   |
| 3 points    | The student states two factors that influence the weather in Ohio and correctly explains the effect of one factor.   |
| 2 points    | The student states two factors that influence the weather in Ohio<br>OR<br>The student states one factor that influences the weather in Ohio and explains the effect   |
| 1 point     | The student states or explains only one factor that influences the weather in Ohio. The response provides unrelated or unclear information.  |
| 0 points    | The student response does not meet the criteria required to earn one point. The response indicates inadequate or no understanding of the task. It may only repeat information from the passage or prompt or provide incorrect or irrelevant information. The student may have written on a different topic or written, “I don’t know.” |

snow - It causes school to be delay or close somethings, people have accidents on the roads.

**Score Point: 0**

The response does not meet the criteria required to earn one point. Snow is not a factor that influences the weather; it is a weather phenomenon.

There are many factors that influences the weather in Ohio. One factor would be the sun. If the sun is out, then we will have a warm sunny day. If the sun is not out, then we will have probably a cold and cloudy day. The air pressure (the way the atmosphere works) is also another factor that influences the weather in Ohio. If there's strong pressure in the air, then it might show a sign of rain, thunderstorms or even a chance of snow. If it feels like the air is very humid, then it may start raining soon or within the next few days. There are many other factors, but the sun and the air pressure are two main factors that influences the weather in Ohio.

**Score Point: 0**

The response does not meet the criteria required to earn one point. Just stating that the sun is a factor or that air pressure is a factor is not sufficient as the resolution the question is addressing (i.e., weather in Ohio).

The amount of water in that area effects how much rain there will be.

**Score Point: 0**

The response does not meet the criteria required to earn one point. Just stating that there is water in some unspecified area that causes rain is not specific enough to be an acceptable response to the task statement. It is not possible to determine what kind of water the response was referring to or where that water was located.

The Ozone layer, if sun rays seak in it makes our summer days alot hotter. Golbal Warming it might turn our winters mild and our Summers colder.

**Score Point: 1**

The response states one factor that influences the weather in Ohio. (Factor: "Golbal warming")

Sunlight affects the weather in Ohio. Whether the sun is shining or not is an important factor in the days weather. Hot and cold fronts are also important to Ohio's weather. They affect the temperature of the state.

**Score Point: 1**

The response states one factor that influences the weather in Ohio. (Factor: "Hot and cold fronts")

Cold and warm <sup>air</sup> winds. If cold <sup>air</sup> winds from the northern hemisphere into the warm air in the state of Ohio these temperatures mixed together will cause a tornado.

**Score Point: 1**

The response states one factor that influences the weather in Ohio. The response describes the collision of air masses. (Factor: "If cold air from the northern hemisphere into the warm air in the state of Ohio these temperatures mixed together")

1. evaporation. This is what causes rain to come and bring nutrition to the different types of plants.

2. Oxygen in the air is important because when the wind blows and the trees breathe in carbon from the air they exhale oxygen for the different organisms that need it.

**Score Point: 1**

The response explains one factor that influences the weather in Ohio. (Explanation: "evaporation ... causes rain to come")

The greenhouse effect affects our weather. It can make Ohio very warm at times. Another factor is our proximity to water.

**Score Point: 2**

The response states two factors that influence the weather in Ohio. (Factor: "The Greenhouse effect" Factor: "our proximity to water.")

Lake Erie is one of the Great Lakes, It is also the shallowest of the lakes. Which allows it to cool much quicker in the Winter. The lake stays warm enough to produce lake-effect snow, however. This can put down anywhere from inches to feet a day. And, if conditions are right, they can be blizzard like. Because, snow laying on the ice can be blowing in the wind along with the lake-effect snow.

**Score Point: 2**

The response states one factor that influences the weather in Ohio and explains the effect. (Factor: "Lake Erie" Explanation: "The lake stays warm enough to produce lake-effect snow.")

One factor of the weather in Ohio can be influenced by the climate of the ocean if the ocean is cold then we get cold. Another factor could be how close we are to the sun, the sun is hottest when you are on the equator. We are a pretty good distance from the equator so we have mild temperature

**Score Point: 2**

The response states two factors that influence the weather in Ohio. (Factor: "the climate of the ocean" Factor: "We are a pretty good distance from the equator")

Ohio's location plays a big part in our weather system. We are located in the Northwest close to Lake Michigan. We get a lot of cold weather from that & from the east. It rains pretty much here b/c of the water around us caused by the water cycle. We also get a decent amount of snow each winter. Ohio is a middle-size state, but we have a lot of land to grow crops & things of that nature. Ohio has many farms & is very much agricultural. This can influence the weather to rain, the sun to shine or just to be cloudy. Ohio is a very good location b/c we don't get hurricanes, tornadoes or blizzards! We just get the normal weather.

**Score Point: 2**

The response states one factor that influences the weather in Ohio and explains the effect. (Factor: "located ... close to Lake Michigan." Explanation: "It rains pretty much here b/c of the water around us caused by the water cycle.")

Ohio is near the lake so that is one influence on it. Ohio is also farther from the equator, and when this occurs it's colder.

**Score Point: 3**

The response states two factors that influence the weather in Ohio and correctly explains the effect of one factor. (Factor: "Ohio is near the lake." Factor: "Ohio is also farther from the equator" Explanation: "and when this occurs it's colder.")

In Northern Ohio, Lake Erie is a major factor that influences the weather. It provides a water source for precipitation, such as lake-effect snow or just rain in general. The water from Lake Erie is evaporated and the precipitation falls.

Another influential factor of Ohio's weather would be the pretty flat land, as well as a varying temperature range. The flat land and temperature are prime conditions for storms and tornadoes of which we experience on occasion.

**Score Point: 3**

The response states two factors that influence the weather in Ohio and correctly explains the effect of one factor. (Factor: "In Northern Ohio, Lake Erie is a major factor" Explanation: "water from Lake Erie is evaporated and the precipitation falls." Factor: "the pretty flat land" Explanation: The explanation of how flat land influences Ohio weather is not acceptable for credit.)

Many factors contribute to the weather in Ohio. Things that influence our weather are our lake and the fronts that push through from the west. For example in the winter time, Lake Erie can produce lake effect snow caused by cold pressure over the warm waters. In winter the lake keeps surrounding areas warmer and in the summer the lake cools down areas. Ohio is more up north. The fronts come from the west from the Pacific Ocean. When a warm front is present we have pleasant weather and when a cold front is present we have cooler weather. It is all because of the winds pushing in the fronts depending on the warm or cold ocean water.

**Score Point: 3**

The response states two factors that influence the weather in Ohio and correctly explains the effect of one factor. (Factor: "our lake" Explanation: "In winter the lake keeps surrounding areas warmer and in the summer the lake cools down areas." Factor: "fronts that push through from the west" Explanation: The explanation of how warm and cold fronts influence Ohio weather is incorrect.

Two factors of Ohio's weather would be the fact that we are near a body of water (Lake Erie), and we are close to Canada (close to the North Pole) and further away from the equator than other states. Being near the water in Ohio causes many types of weather changes. In the summer being near the water allow for a cooler temperature in various locations. Also, water spouts and dangerous weather conditions can exist by the water. Being closer to the Pole than the equator allows for cooler temperatures in the winter months, and warm temperatures during summer months. It depends on the tilt of the Earth's axis.

**Score Point: 4**

The response states two factors that influence the weather in Ohio and correctly explains the effect of each factor. (Factor: "near a body of water (Lake Erie)" Explanation: "In the summer being near the water allow for a cooler temperature" Factor: "Being closer to the Pole than the equator" Explanation: "allows for cooler temperatures in the winter months, and warm temperatures during summer months")

Two factors that influence weather in Ohio are location and weather patterns. Location is in the northeast, this causes it to be colder than places farther south. Ohio is also by Lake Erie as a result we also get, lake effect weather like rain and snow. Weather patterns is also a cause of weather in Ohio. The wind usually only blows certain directions because of the earth's rotation. The wind we normally get comes from the north where it is colder and more moist

**Score Point: 4**

The response states two factors that influence the weather in Ohio and correctly explains the effect of each factor. (Factor: "Location is in the northeast," Explanation: "this causes it to be colder than places farther south." Factor: "Ohio is also by Lake Erie..." Explanation: "... we also get, lake effect weather like rain and snow.")

Two factors that influence the weather in Ohio are. The amount of air pollution, & Lake Erie. The air pollution makes the sky grey and blocks the sun-light, Lake Erie is a factor because of the evaporation. Evaporation soon leads to precipitation.

**Score Point: 4**

The response states two factors that influence the weather in Ohio and correctly explains the effect of each factor. (Factor: "The amount of air pollution" Explanation: "air pollution makes the sky grey and blocks the sun-light." Factor: "Lake Erie is a factor" Explanation: "because of the evaporation. Evaporation soon leads to precipitation.")