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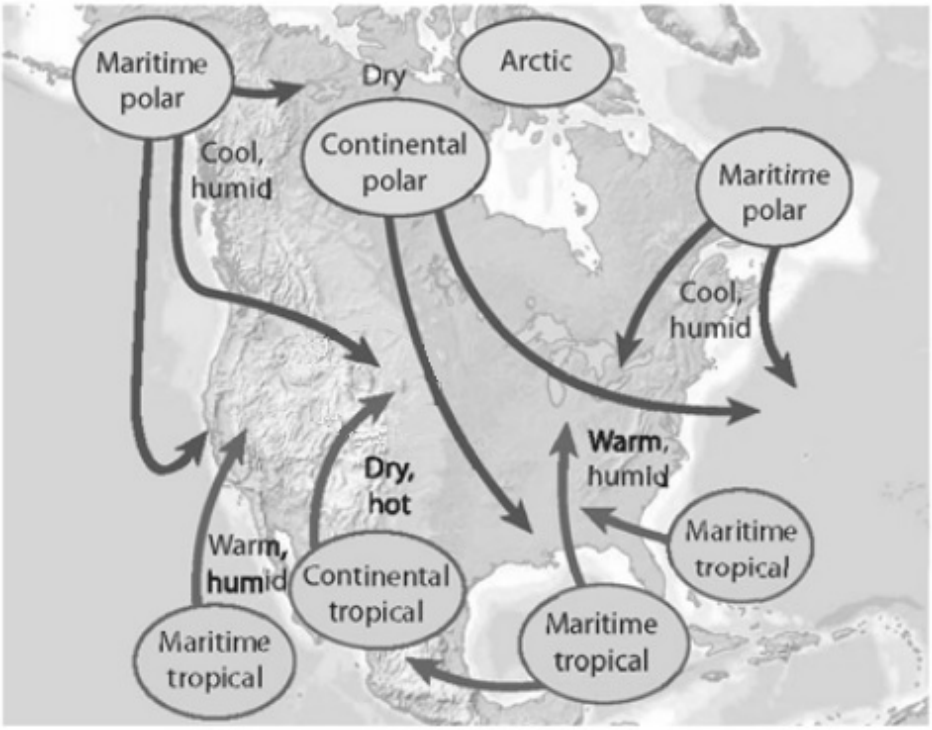
Lesson Check: Weather Patterns

1) The map describes and shows the movement of air masses over North America. Which does not describe these air masses?



- **A)** They move from cooler areas to warmer areas.
- **B)** They are consistent in temperature humidity, and pressure.
- **C)** They take on the characteristics of the Earth's surface below them as they form.
- **D)** They can affect the weather of an area when they meet.

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2) Your town is experiencing a drought in which the weather has been hot and dry for weeks. Infer which type of pressure system is stalled over the area. Explain your answer.

3) Low-pressure systems bring clouds and precipitation.

- ○ True
- ○ False

4) Which of the following occurs as altitude increases?

- ○ **A)** Air pressure decreases.
- ○ **B)** Air pressure increases.
- ○ **C)** Air pressure remains the same.
- ○ **D)** Air pressure behaves unpredictably because the two are unrelated.

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5) High pressure systems usually bring good weather because _____.

- ○ **A)** the air masses rise, preventing precipitation from falling
- ○ **B)** the air masses sink, making it difficult for clouds to form
- ○ **C)** the air masses rise, causing wind that blows away the clouds
- ○ **D)** the air masses sink, forcing air to move from low pressure to high pressure

6) Compare and contrast warm and cold fronts.

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7) A meteorologist is tracking a weather system that is moving from the West Coast to the East Coast of the United States. She wants to make a prediction about what the weather will be a few days later along the East Coast.
a. Identify three types of data that the meteorologist can collect to help her make a prediction.

b. Describe the kind of information that the data you identified in part (a) will provide to the meteorologist to help her predict the weather.

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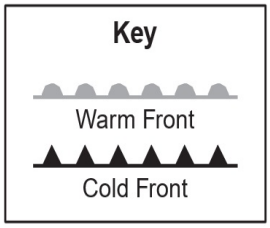
8) This map shows the locations of Chicago and Detroit.



Jane predicts that Chicago will become cooler and Detroit will become warmer over the next 24 hours. Describe where the weather fronts shown in the key need to be placed on the map in order to match Jane's prediction. Explain your answer.

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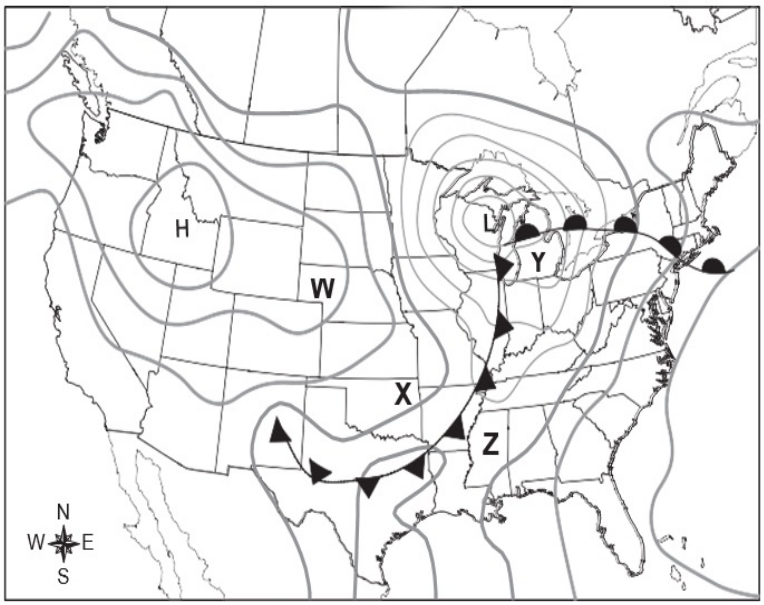
9) This map shows four locations, W, X, Y, and Z, and weather systems across the United States.



Key	
Weather Fronts	**Barometric Pressure**
Warm front	Pressure isobar
Cold front	**H** High pressure
	L Low pressure

Which prediction about the weather is accurate, based on the evidence in the map?

- ○ **A)** Location W will have cooler temperatures, because a cold front is moving toward it.
- ○ **B)** Location X will have cloudy skies, because it is positioned within a high-pressure system.
- ○ **C)** Location Y will be stormy, because it is positioned where a cold front meets a warm front.
- ○ **D)** Location Z will be calm, because it is far away from both the high- and low-pressure systems.

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Lesson Check: Weather Patterns

10) Scientists are monitoring two colliding air masses along a frontal boundary. They are concerned that a tornado may form.
Which data collected along the frontal boundary would **best** alert scientists that the two colliding air masses may cause a tornado?

- ○ **A)** strong gusty winds and cloudy skies where the fronts meet
- ○ **B)** air masses of the same temperature and altitude coming together where the fronts meet
- ○ **C)** large differences in temperature, humidity, and air pressure on either side of where the fronts meet
- ○ **D)** many similarities in the altitude of clouds, amount of clouds, and wind direction on either side of where the fronts meet