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1. **Before** you read the whole article, read only the title of the article. Predict what you think this article is going to be **mostly about**.

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1. **While** you are reading, underline 3 pieces of evidence that support your prediction.

What Happens When Air Masses Collide?

An air mass is a large body of air with even temperature and humidity. When air masses form, they take on the temperature and humidity of the region they are in. Air masses from a warm place (a tropical region) will be warm, and air masses from a cold place (a polar region) will be cold. Air masses that form over water (maritime) will be humid (wet), and air masses that form over land (continental) will be dry.

The density of an air mass depends on the temperature and humidity. Warm or humid air masses are less dense than cold or dry air masses. Remember, the air particles in a warm air mass are moving quickly and are far apart from each other. This means they are less dense! The air particles in a cold air mass are pretty close together. This means they are more dense.

But what happens when two different air masses meet? You can figure this out by thinking of oil and water as two different air masses. The oil represents a warm air mass because it is less dense, and the water represents a cold air mass because it is more dense. What happens when they meet? A boundary (a line) will form between the oil and water, and the oil (warm air) will float above the water (cold air).

The place where a warm air mass and a cold air mass meet is called a front. There are two kinds of fronts: Warm fronts and cold fronts. They are named for the new air mass moving in. For example, the front edge of a warm air mass that is moving into a region where a cold air mass was is called a warm front. The front edge of a cold air mass that is moving into a region where a warm air mass was is called a cold front. At a front, the weather is usually stormy, and precipitation is common.

As a warm front moves in, the warmer air slowly rises above the cooler air. Slow-moving clouds form. This means there will be longer lasting rain. This is because of the higher humidity in the air of warm fronts.

As a cold front moves in, the cooler air pushes against the warmer air. The cooler air forces warmer air to move up quickly and the warmer air forms big clouds along the front. This will cause heavy precipitation. The precipitation at a cold front will last for a shorter time than the precipitation at a warm front.

1. **After** you read: Was your prediction right? If it was right, use 2 pieces of evidence to prove it was right. If it was wrong, explain how the article was different from what you predicted and use 2 pieces of evidence to show how it was different.

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1. Use what you know about density to explain why hot air rises and cool air sinks.

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1. What is a front?

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1. Describe the weather that will occur when a warm front moves into a region.

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1. Describe the weather that will occur when a cold front moves into a region.

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1. Draw the symbols for a warm front and a cold front.

|  |  |
| --- | --- |
| Warm front | Cold front |