

WEATHER SYSTEMS

ESSENTIAL QUESTION:

What are the _____ conditions that cause different _____ of weather and _____ in the weather?

VOCAB

The atmospheric conditions, along with _____ changes, of a certain _____ at a certain _____.



The pressure that a _____ of air exerts on the air, or _____, below it.

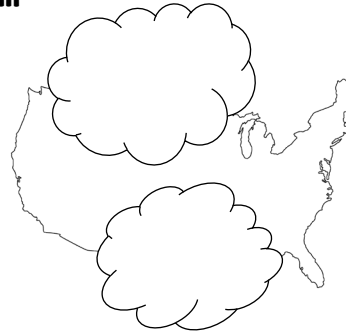
TOPIC QUESTIONS:

1

What is an _____?

An air mass is a large _____ of air in the _____ atmosphere with specific _____ and _____ characteristics.

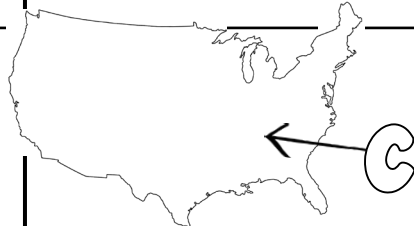
An air mass forms when air spends _____ to _____ hovering over the _____ part of Earth.



Air masses can extend for a _____ kilometers or more. Sometimes one air mass covers _____ of the United States. Air masses affect weather _____.

2

What determines the _____ of an air mass?

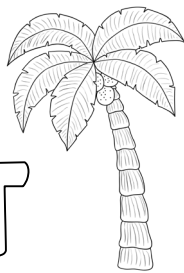


continental

An air mass takes on the characteristics of the _____ it is _____ above. _____ air masses form over _____ and are _____; _____ air masses form over _____ and are _____.



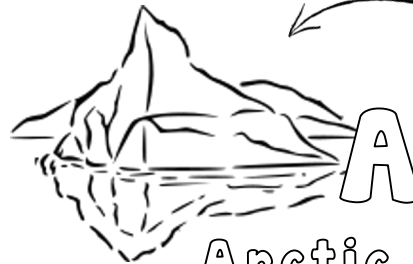
maritime



T
Tropical



P
Polar



A
Arctic

The _____ on Earth where air masses form are called _____ regions. Tropical regions produce _____ air masses, _____ regions produce _____ air masses, and _____ regions produce _____ air masses.

TOPIC QUESTIONS:

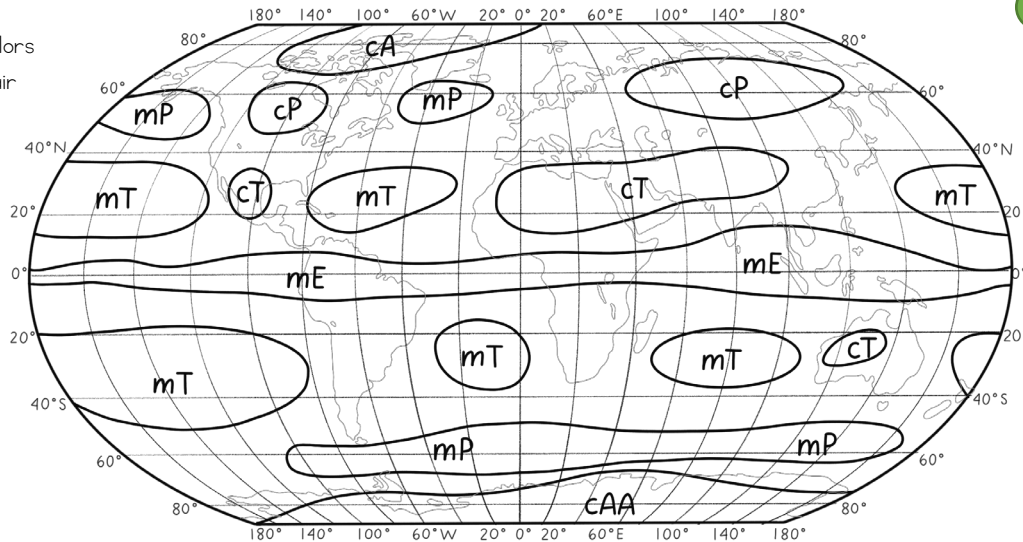


3

Where are
Earth's _____
air masses?

Create a color key and use your colors to color in the different types of air masses on the diagram:

- Maritime Tropical (mT)
- Maritime Polar (mP)
- Maritime Equatorial (mE)
- Continental Tropical (cT)
- Continental Polar (cP)
- Continental Arctic (cA) and Continental Antarctic (cAA)



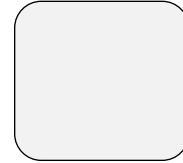
In each box in the table, draw an icon for each type of air mass to help you remember its characteristics.

Air Masses

Maritime _____ (mT): These _____, moist air masses form over the Gulf of Mexico, the Caribbean Sea, and the eastern Pacific Ocean. They bring hot, _____ air in Summer and heavy _____ in Winter.



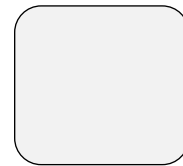
Maritime _____ (mP): These _____, moist air masses form over the northern Atlantic and Pacific _____. They bring _____, rainy weather.



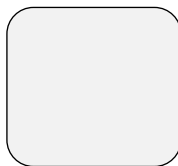
_____ Tropical (cT): These hot, _____ air masses form in the Summer over dry _____ in the tropical _____. They bring _____ skies and _____ temperatures.



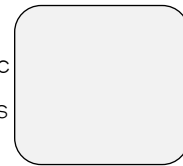
_____ Polar (cP): These cold, _____ air masses form over land in the _____ latitudes. These are _____-moving air masses that bring _____ temperatures in _____ and _____ temperatures in _____.



_____ Equatorial (mE): These _____, moist air masses form over the _____. They bring _____ and consistent winds and frequent _____. These air masses can form _____ in the Northern Hemisphere and cyclones in the _____ Hemisphere.

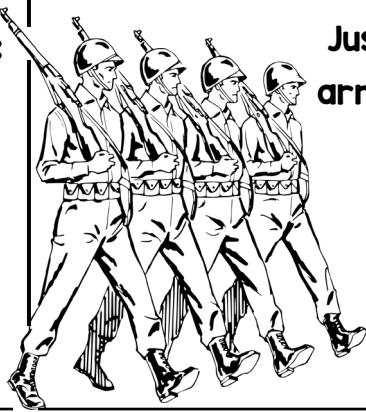


Continental Arctic and Antarctic (cA/cAA): These extremely _____, dry air masses form over the Arctic and _____ Circles during Winter. Continental Arctic air masses bring _____ cold temperatures while Continental Antarctic air masses tend to _____ warmer and more moist as they travel north over _____.



TOPIC QUESTIONS:

4



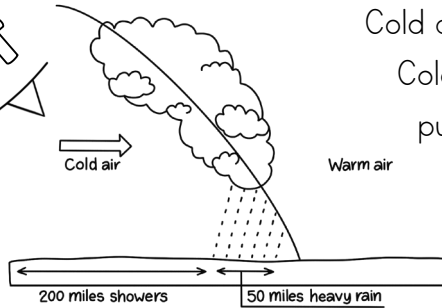
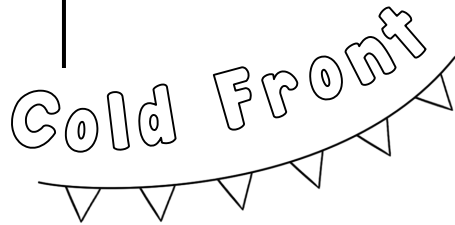
Just as a _____ front is the _____ between opposing armies, a weather front is the boundary between _____ air masses.

As _____ carries an air mass away from the area where it formed, the air mass will eventually _____ into _____ air mass.

One air mass is usually _____ than the other, and the air masses have different _____ and different levels of _____. This clashing of air types causes _____: rain, _____, cold days, _____ days, and _____ days.

What is a weather _____?

5



Cold air masses move _____ than warm air masses.

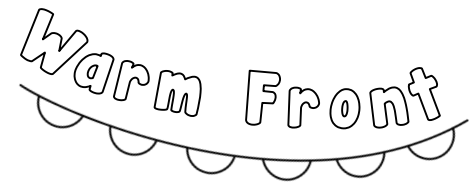
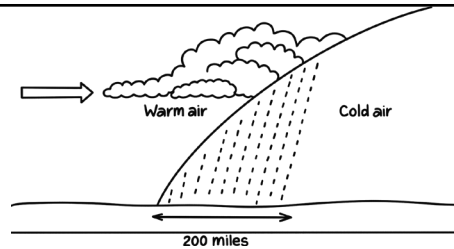
Cold air is _____ than warm air so the cold air pushes _____ the warm, _____ air.

The warm air _____ and begins to _____.

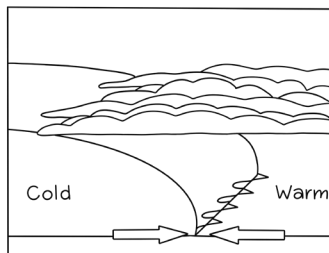
This results in a _____ period of _____ rain and possibly _____ thunderstorms.

What are the _____ at cold, warm, and stationary fronts?

When a _____ dense, warmer air moves toward colder, _____ air, the warm air _____ above the cold air mass.



When the water _____ in the warm air _____, a wide _____ of clouds forms. These clouds often bring _____ rain or snow for several hours or _____. A warm front brings _____ temperatures and causes the wind to _____ directions.

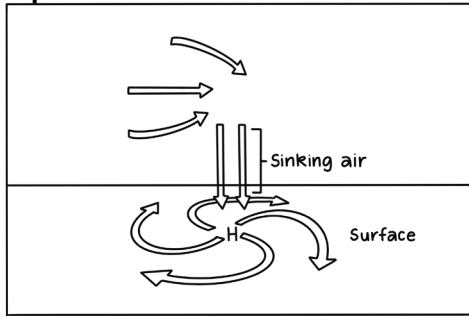
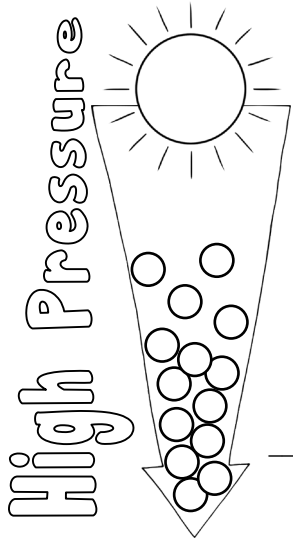


Something that is stationary is _____ moving. A _____ front is the boundary between two air masses that are _____. This usually results in _____ days in a row of _____ and _____ rain.

TOPIC QUESTIONS:

6

What are high and low _____ systems and how do they _____ the weather?

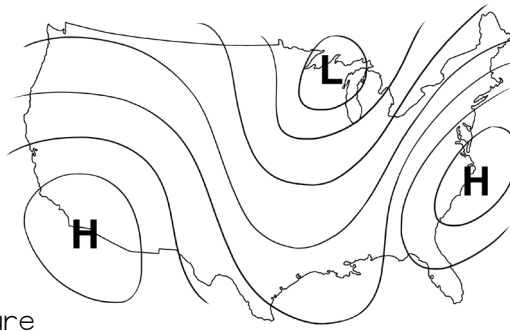


High pressure systems rotate _____ (in the Northern Hemisphere) and contain _____, dry air.

Winds blow _____ from the _____ of a high pressure system. Air from higher in the atmosphere _____ down to fill in that space. The sinking air _____ away moisture in the air near the surface of Earth. Generally, high pressure areas bring _____ weather with _____ skies.

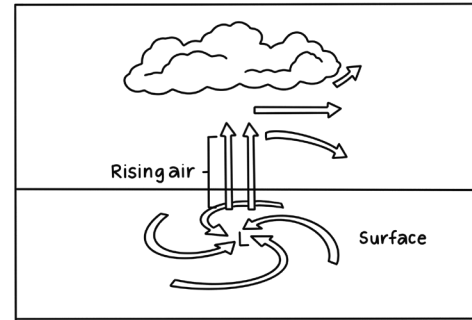
High and _____ pressure systems are _____ where the air _____ is higher or lower than _____ areas.

_____ are _____ pressure systems. When air masses meet at _____, the _____ in density and _____ create _____ pressure areas.



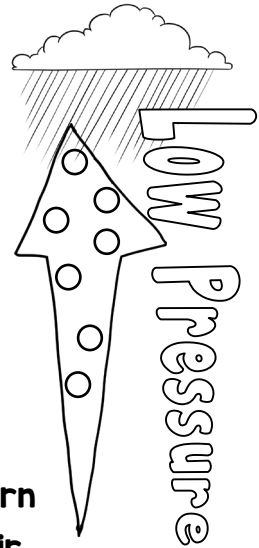
Weather maps show these areas using an "____" to represent _____ pressure and a "____" to represent _____ pressure.

As these Highs and Lows _____ across the country, they bring _____ in weather.



Low pressure systems rotate _____ (in the Northern Hemisphere) and contain _____ air.

Winds blow _____ the center of a _____ pressure system. Air _____ up higher in the atmosphere. Water _____ in the rising air cools and _____, forming _____ above. Generally, low pressure areas bring _____ or snowy weather, depending on the _____.





WEATHER SYSTEMS

SUM IT UP

1. Use the word bank to complete the sentences:

continental	maritime	Arctic
Tropical	air mass	Polar

An _____ is a large body of air in the lower atmosphere with specific temperature and moisture characteristics. There are two types of air masses: _____ air masses form over land and _____ air masses form over water. There are three source regions over which air masses develop: Tropical, Polar, and _____. Air masses on Earth are named for whether they develop over land or water and their source regions. For example, a cool, dry air mass is named _____ (cP) and a warm, moist air mass is named _____ (mT).

2. Label each picture or phrase below with the correct type of weather front that it represents:

Cold Front	Warm Front	Stationary Front
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_____ violent thunderstorms

_____ many days of clouds and light rain

sunny
 rainy
 snowy

3. Use the word bank to complete the sentences:

low pressure	rising	sunny
sinking	snowy	high pressure

Air masses are _____ systems. When air masses meet at fronts, low pressure systems are formed. High pressure systems contain _____, dry air and bring fair weather and clear, _____ skies. _____ systems contain moist, _____ air and bring rainy or _____ weather, depending on the temperature.

How are you feeling about the basics of Weather Systems?
Circle one:

I've got this!

I think I get it.

I don't get it.