

Warm Up: 4 Air Masses & Fronts
10-22-18

LT I can explain why clouds form and indicated what type of weather is associated with them.

Q1 What type of air mass has lots of moisture, what kind is dry?

Q2 What are the major types of fronts?

Warm Up: 4 Clouds

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Q1 What type of air mass has lots of moisture, what kind is dry?

Ⓐ1 Maritime is moist
Continental is dry

Q2 What are the major types of fronts?

Ⓐ2 Cold, Warm, Stationary, Occluded,
~~Midlatitude cyclone~~

HW 3 Air Masses & Fronts

Review with your table partners

-2 min

Ask LeMay

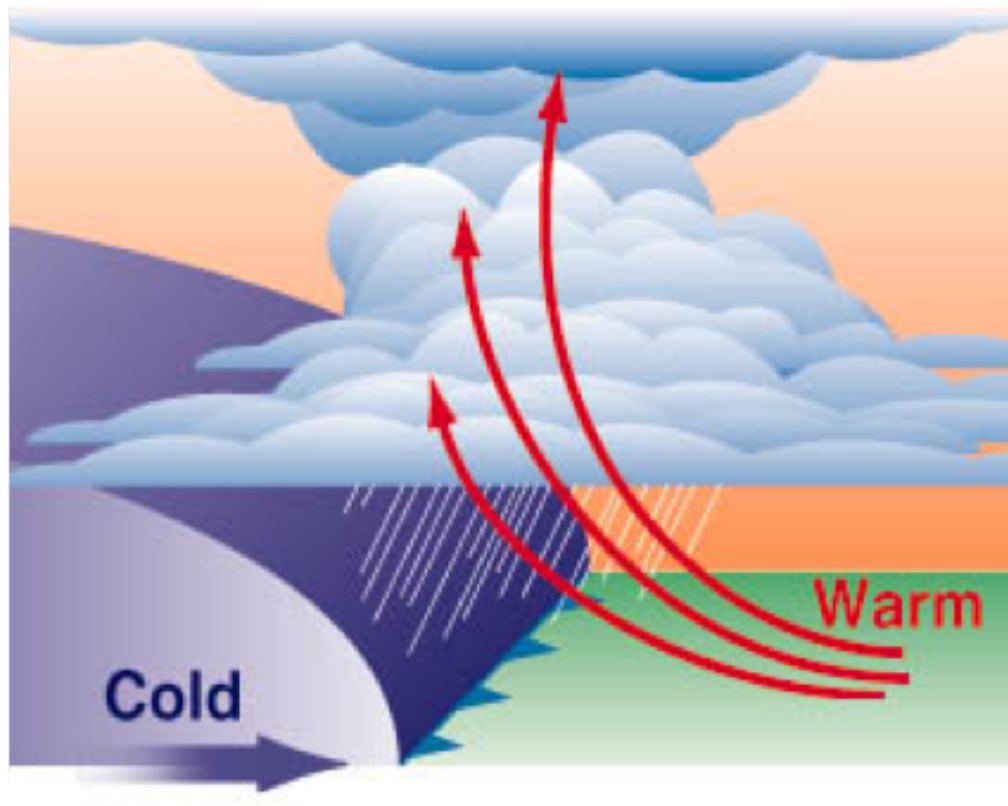
-? Min

Cold Front

Cold fronts occur when heavy cold air pushes lighter warm air upwards.

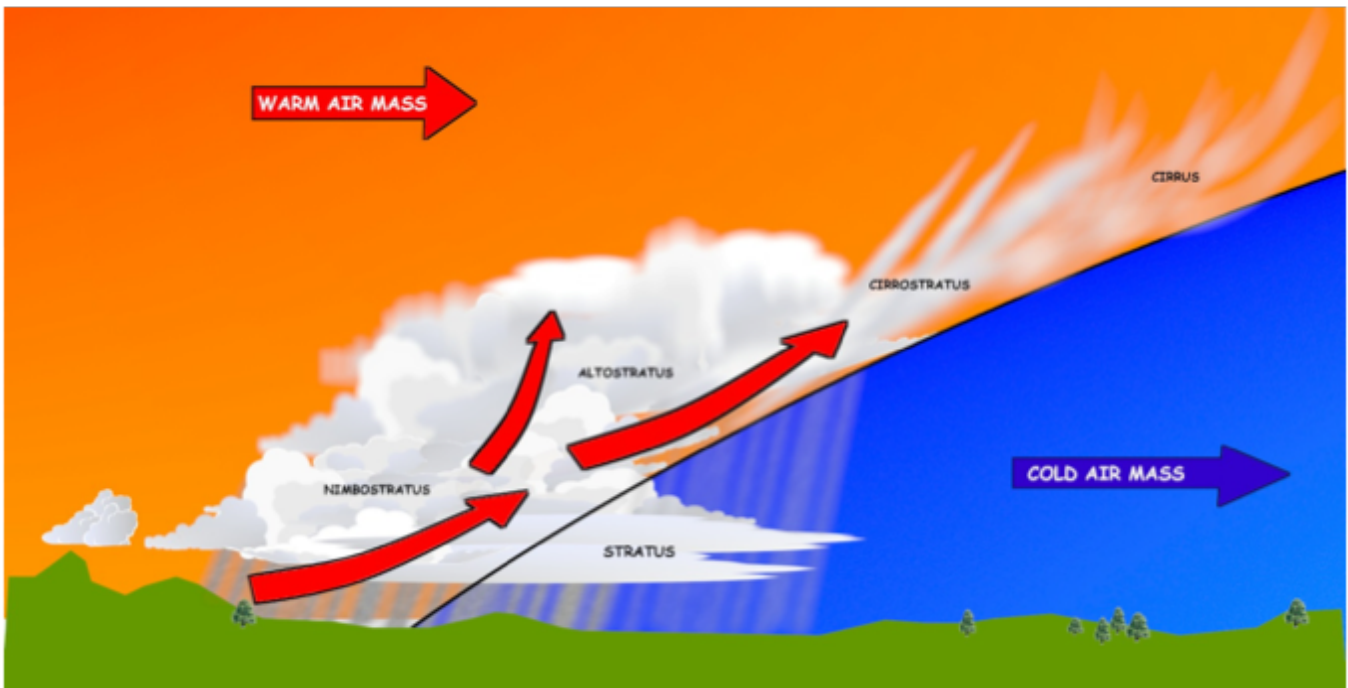
Temperatures drop anywhere from 5 degrees to 15. Winds become gusty and erratic.

Rain, snow, sleet, and hail can occur with a cold front.



Warm Front

- The leading edge of an advancing mass is warm air
- The warm front symbol on a weather map marks the warm-cold boundary at the earth's surface. The circles on the red line point in the direction the warm air is moving.
- As the warm air rises the water vapor condenses into clouds that can produce rain, snow, sleet or freezing rain, often all four.



Q In both cold and warm front, what is causing the formation of clouds and precipitation?

A The warm moist air is pushed up by the more dense cold air. As the air rises, it cools and condenses forming small water droplets that "float" in the air. If enough tiny droplets come together, they will become too heavy to float in the air and fall as rain, hail, or snow.

Q What is needed for liquid water to form?

A Condensation Nuclei



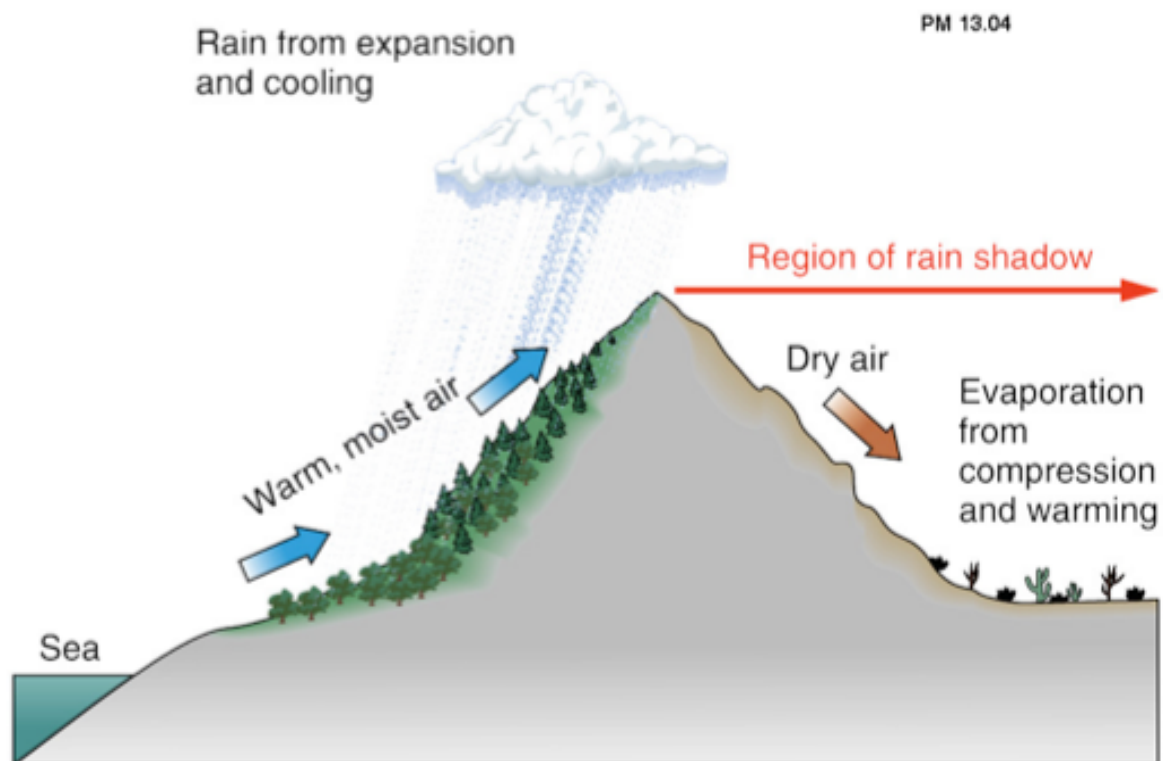
- Exhaust from Airplanes leave a trail of condensation nuclei that causes a trail of clouds

Q Is there another way for warm moist air to be pushed up so it cools?

A Mountain Ranges

Dry area on the leeward side of a mountain range

Water vapor cools and condenses and precipitates as it passes over high elevation





How Clouds form?

<http://www.youtube.com/watch?v=E8AvfXar9zs>



Stratus

Latin root: layer

Ice crystal clouds

High elevation

Indicates weather change

Cirrostratus

Nimbostratus



-- Photograph by Ronald L. Holle --
-- U. of Illinois Cloud Catalog --

Cumulus

Latin root: Heap

Can be present on fair weather days (fair weather cumulus)



Cumulus clouds form and usually grow into thunderstorms (cumulonimbus)

Nimbus=rain



Cirrus

Latin root: curl of hair
Ice crystal clouds

High elevation

Fair weather; point in the direction
of prevailing winds

Cirrostratus

stratus=layer



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Q2 What are the major types of fronts?

Q3 How do clouds form?

Q4. What are the three main types of clouds, what name is added when there is going to be precipitation?

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LT I can explain why clouds form and indicated what type of weather is associated with them.

Q3 How do clouds form?

A3 Water vapor cools, comes into contact with condensation nuclei and condenses into liquid water. The particles are so small that they "float" in the air.

Q4. What are the three main types of clouds, what name is added when there is going to be precipitation?

A4 Stratus, Cumulus, Cirrus. Numbo or Numbus means rain, so if these are added to the 3 main names we have precipitation.

Date	Lecture	Warm Ups	Notes/ Vocab	HW	Quiz/ Project
5-13-16	4 clouds	4 clouds		4 Cloud Formation	