

Learning Objectives:

- I can identify the different types of clouds and what they mean.

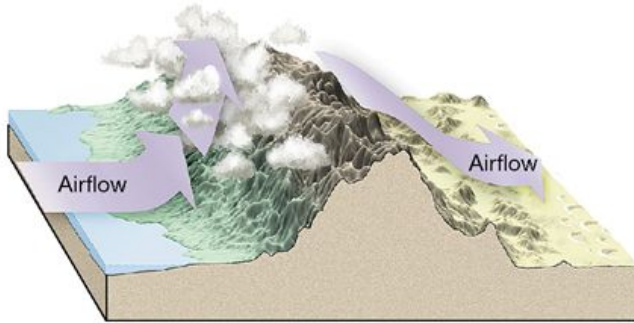
Bellringer Review:

- Why is water so special? You can name some special properties of it.

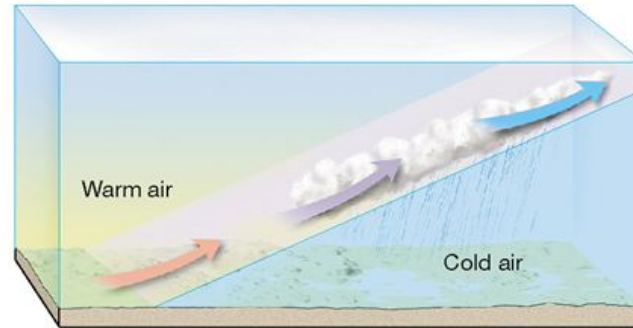
Check for Understanding Questions:

- What kind of weather is expected to happen soon when seeing cumulonimbus clouds?
- Which clouds form the highest? the lowest?

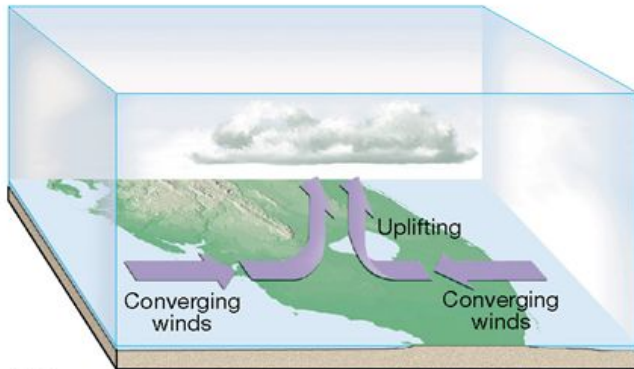
Processes that lift air



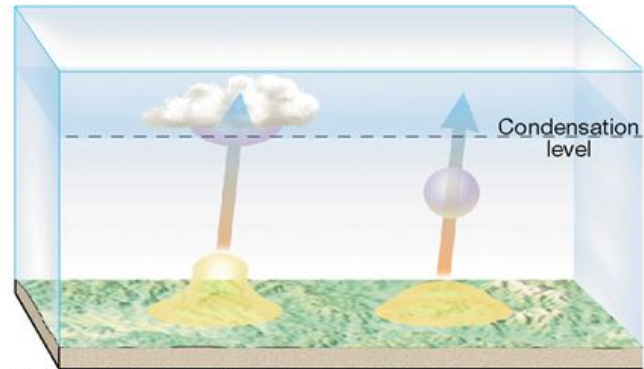
A. Orographic lifting



B. Frontal wedging

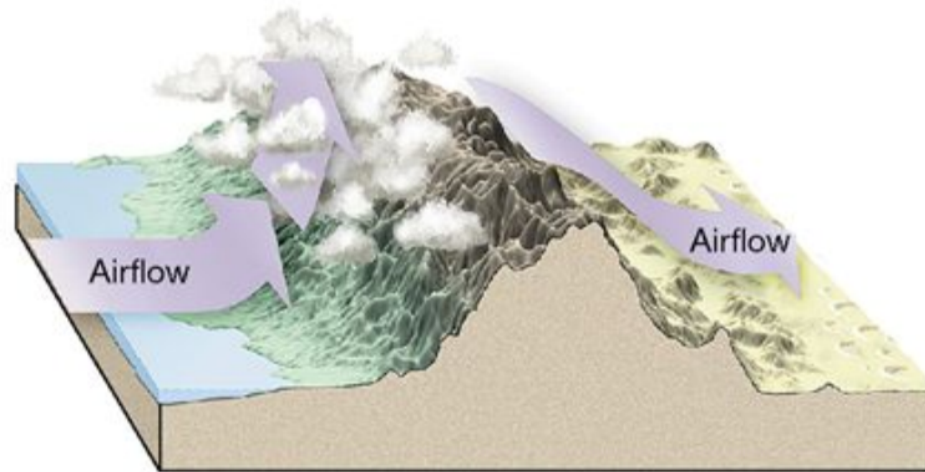


C. Convergence



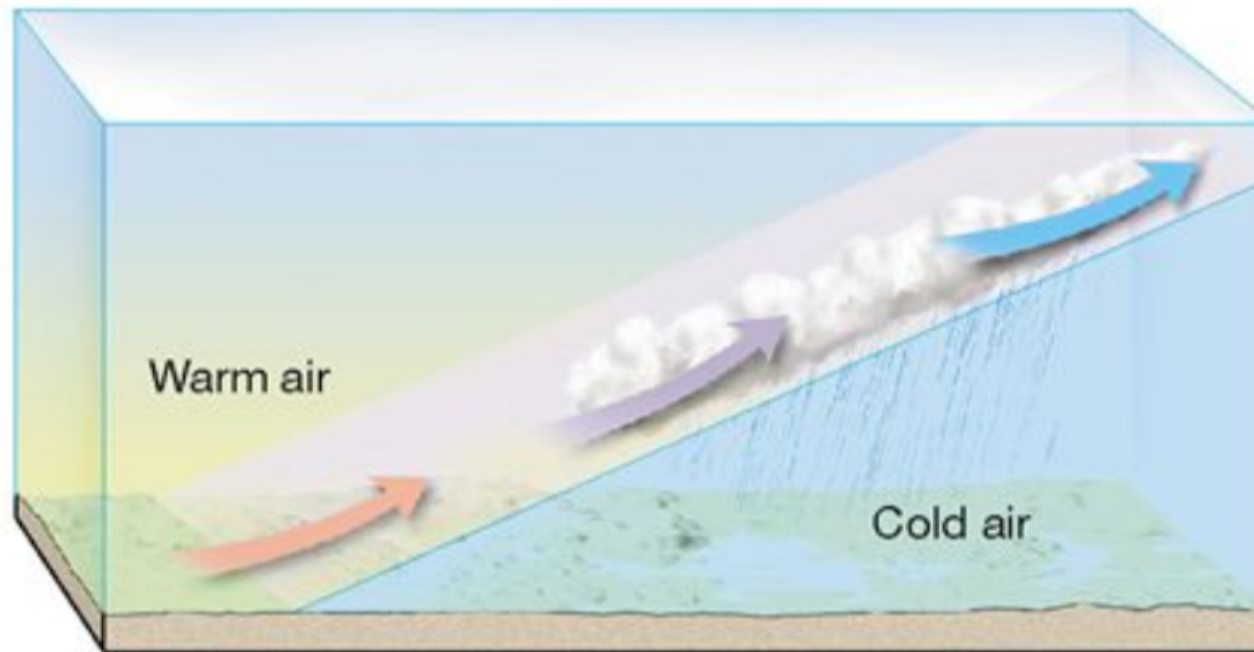
D. Localized convective lifting

Orographic lift occurs when an air mass is forced from a low elevation to a higher elevation as it moves over rising terrain. As the air mass gains altitude it quickly cools down adiabatically, which can raise the relative humidity to 100% and create clouds and, under the right conditions, precipitation.



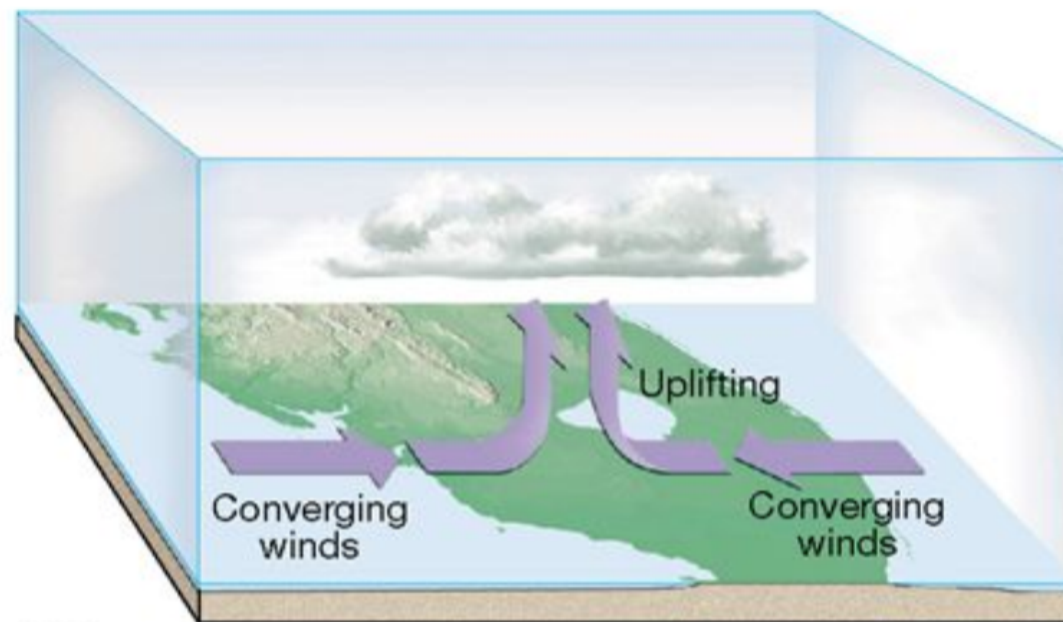
A. Orographic lifting

Lifting also occurs along frontal boundaries, which separate air masses of different density. In the case of a cold front, a colder, denser air mass lifts the warm, moist air ahead of it. As the air rises, it cools and its moisture condenses to produce clouds and precipitation.



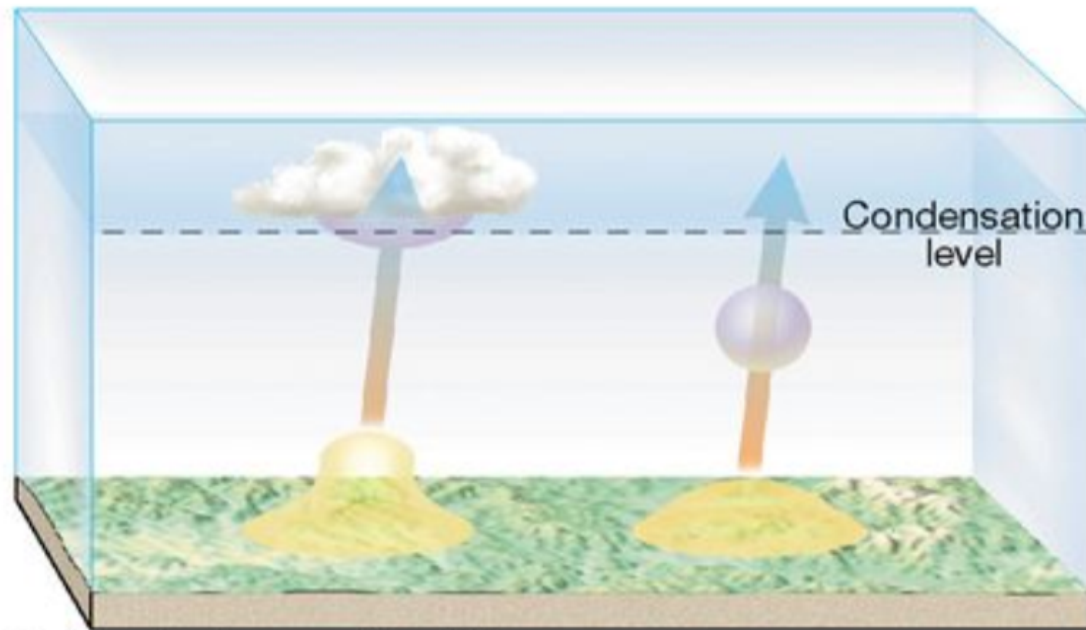
B. Frontal wedging

Convergence is an atmospheric condition that exists when there is a horizontal net inflow of air into a region. When air converges along the earth's surface, it is forced to rise since it cannot go downward.



C. Convergence

Lifting by Convection: upward moving thermals. In meteorology, convection refers primarily to atmospheric motions in the vertical direction. As the earth is heated by the sun, bubbles of hot air (called thermals) rise upward from the warm surface.



D. Localized convective lifting



Types of Clouds

Cirrus - (*cirrus* = a curl of hair) clouds are high, white, and thin. They can occur as patches or as delicate veil-like sheets or extended wispy fibers that often have a feathery appearance.



Cumulus - (*Cumulus* = a pile) clouds consist of rounded individual cloud masses. Normally, they have a flat base and the appearance of rising domes or towers. These clouds are frequently described as having a cauliflower structure.



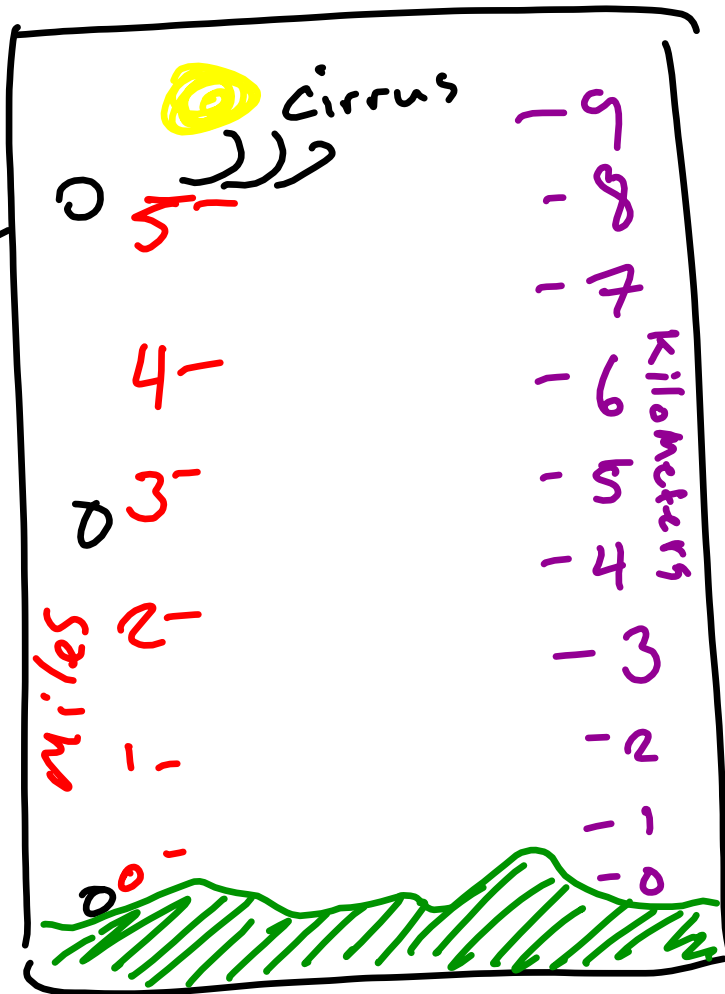
Stratus - (*stratum* = a layer) clouds are best described as sheets or layers that cover much or all of the sky. While there may be minor breaks, there are no distinct individual cloud units.



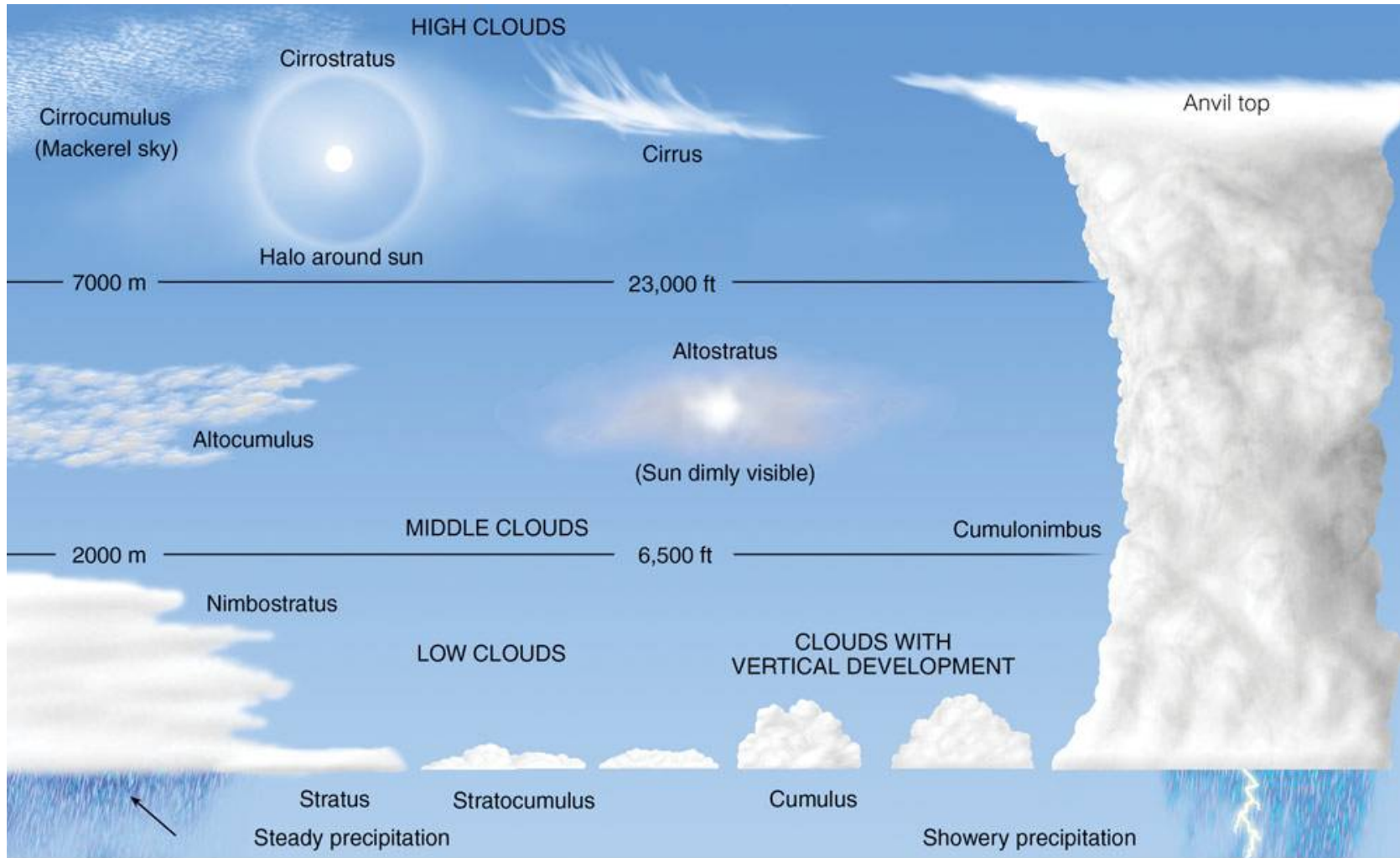
ACTIVITY:

1. Draw a landscape scene at the bottom of your notebook page.
2. walk around learning about each of the cloud types.
3. Draw each one where it would belong.

Set up
your page
like this



draw in
Each cloud
type and
label it.



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Check for Understanding Questions:

- What kind of weather is expected to happen soon when seeing cumulonimbus clouds?
- Which clouds form the highest? the lowest?

Learning Objectives: Did you accomplish them?

- I can identify the different properties of water.

Self-Evaluation

- How well did you understand the material today?
(1-Lost, 2- understand, 3-can teach it)
- How well did you and your team members participate in class?
(1-didn't do anything, 2-Bare minimum, 3-fully participated)

