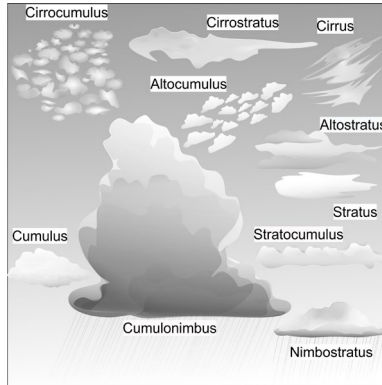


Name \_\_\_\_\_

# Clouds



**In the spaces, below, in the 1<sup>st</sup> Column, write what you already KNOW about clouds. In the 2<sup>nd</sup> column, write what you WANT to learn about clouds. The last column will be completed at the end of the lesson (what you've learned).**

**K**

**W**

**L**

# Clouds



Discuss what you already know about how clouds form.

## Cloud Formation and Classification

Clouds form when water \_\_\_\_\_ in the air condenses. Moist air cools and sticks to solid matter, such as dust or salt particulates, forming water droplets or ice crystals (if very cold).



Clouds form when the \_\_\_\_\_ in the atmosphere reaches its dew point.



The temperature at which the air can no longer hold water is called: (bubble in answer)

- |                                     |                                     |
|-------------------------------------|-------------------------------------|
| <input type="radio"/> water vapor   | <input type="radio"/> humidity stop |
| <input type="radio"/> melting point | <input type="radio"/> dew point     |

Clouds can be an \_\_\_\_\_ of weather to come.



Clouds are classified by their \_\_\_\_\_ and appearance.

The prefixes and suffixes of cloud types can help you to identify the altitude of the cloud and the weather associated with it.

- cirro- : high
- alto- : middle
- strato- : layer (associated with low-level clouds)
- nimbo- and -nimbus: produce precipitation



Draw an arrow to match each prefix with the appropriate meaning.

- |         |                        |
|---------|------------------------|
| cirro-  | layer                  |
| alto-   | high                   |
| strato- | produces precipitation |
| nimbo-  | middle                 |

# Clouds

**Cirrus  
(thin and wispy)**

- located **very high** in the sky, greater than 6,000 m.
- come in a ..... of shapes and sizes and **usually occur in fair weather**
- mainly indicates a ..... in weather **is coming soon**, usually within 24 hours, and can be a precursor to thunderstorms
- most common form of high-level clouds
- originate from the freezing of ..... droplets and are made of ice crystals



Cirrus clouds are made of:  
(bubble in answer)

- |                                      |                            |
|--------------------------------------|----------------------------|
| <input type="radio"/> dust particles | <input type="radio"/> snow |
| <input type="radio"/> ice crystals   | <input type="radio"/> rain |

**Stratus  
(low gray clouds)**



- ....., flat, and cover a large portion of the sky - because of this, they are harder to recognize as clouds
- ..... clouds that can sometimes be precipitation-free or can produce a drizzle or light rain
- similar to ..... except that they do not reach the ground
- do not always remain stratus clouds - possible for them to change and become cumulus clouds
- can bring snow if it is cold

**Fog  
(cloud on the ground)**

- essentially ..... on the ground
- occurs when tiny droplets of water are suspended in the air
- common near bodies of water and in valleys



Circle the correct answer.

Fog only occurs near bodies of water and in valleys.

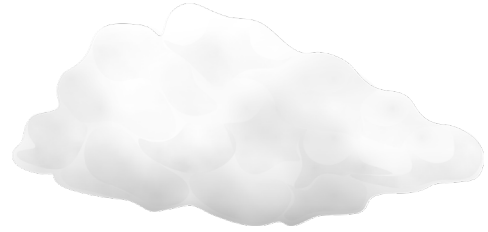
True

False

# Clouds

**Cumulus  
(white, puffy  
clouds)**

- usually means good weather
- look like \_\_\_\_\_ candy
- flat at the bottom and at the top, have rounded towers
- low to mid-level clouds, usually located less than 2,000 m. in altitude
- may appear \_\_\_\_\_, in lines, or in clusters
- often called \_\_\_\_\_ weather clouds
- can grow upward and develop into large cumulonimbus clouds that produce thunderstorms if the air is really unstable



Circle all that apply.

**Cumulus clouds**

are fair weather clouds

can grow upward to cumulonimbus clouds

look like cotton candy

are high-level clouds

**Cumulonimbus  
(thunderstorm  
clouds)**



- also known as **thunderheads**
- associated with \_\_\_\_\_ in the atmosphere that produce thunderstorms
- one end could be shaped like an anvil
- progress from \_\_\_\_\_ clouds
- **largest type of cloud**
- span all the way from low-level to high-level
- can bring **heavy rain, hail, and even tornadoes**

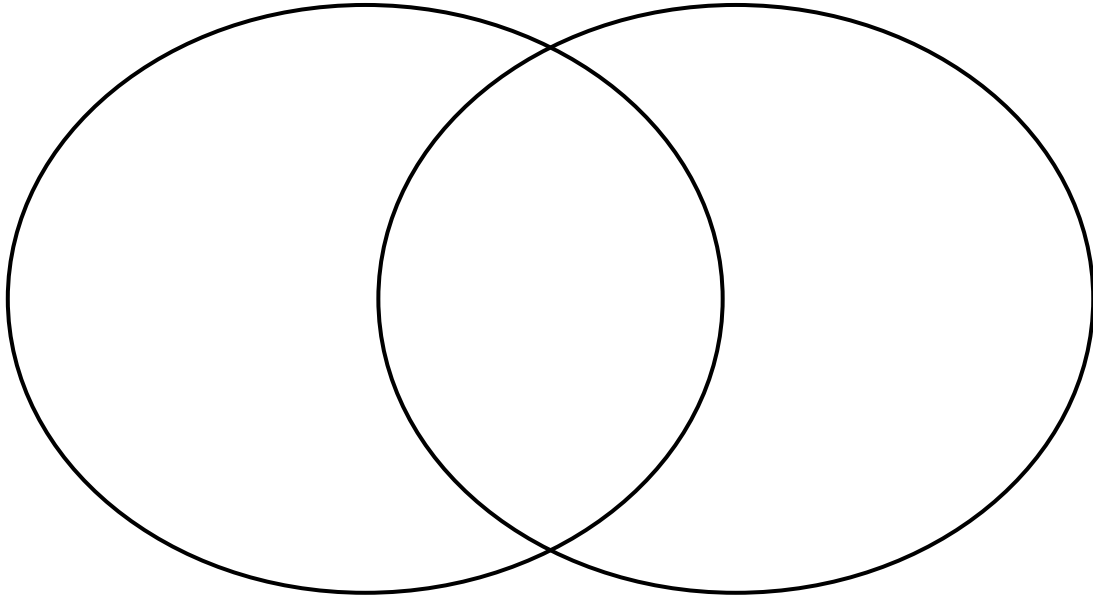
# Clouds



In the diagram below, compare cumulus and cumulonimbus clouds.

cumulus

cumulonimbus



**Alto cumulus**  
(white, gray  
puffy masses)

- \_\_\_\_\_ cloud fragments that usually are associated with changing weather
- considered to be a **warning cloud**, meaning they are associated with potential rain or thunderstorm formation
- see these clouds on a summer morning; can predict that there is a high chance for an afternoon thunderstorm
- usually white with gray shading



**Cirrocumulus**  
(small, white  
masses)



- \_\_\_\_\_ in the sky and consist of small white masses that are found in groups
- made of a tiny amount of **liquid water droplets**
- generally occur at higher altitudes than alto cumulus clouds
- do not produce rain but can be a \_\_\_\_\_ that rain is approaching soon
- usually seen in winter in fair weather
- tropical areas: could indicate an approaching hurricane

# Clouds



Circle the correct answer.

**Cirrocumulus clouds can be a predictor that rain could be approaching soon.**

True

False

**Stratocumulus  
(large, dark rounded masses)**

- rain usually does ..... come from these; however, nimbostratus clouds are formed from them (produce rain)
- may see **light drizzle**
- form in rows, and you can see the ..... in between them
- view of sky expands, and weather improves
- **low clouds** and are a combination of stratus and cumulus clouds



**Cirrocumulus  
(very thin, made of ice crystals)**

- often covers the ..... sky
- **smooth sheets** of ice crystal
- if spread over the sky - could mean that a ..... is approaching
- **usually appear 12-24 hours before rain or a storm**
- Sun or Moon can shine through and appear to have a halo



**Altostratus  
(gray to bluish-green sheet)**

- usually cover the ..... sky
- Sun or Moon may appear blurry behind them
- **usually form before a continuous rain or snow, but sometimes rain will fall**
- if rain makes it to the ground, cloud is called .....
- made of ice crystals and water droplets



# Clouds



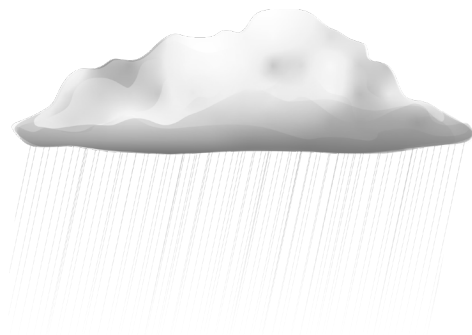
Altostratus clouds are considered:  
(bubble in answer)

**\*Hint\*:** Look at the prefix.

- low-level clouds       high-level clouds  
 mid-level clouds       multi-level clouds

**Nimbostratus**  
(dark, grey,  
featureless)

- usually thick enough to \_\_\_\_\_  
**out the sunshine**
- produce **steady rain or snow**
- often associated with fronts
- rain from these clouds can bring  
**hours of precipitation**
- no lighting and thunder are  
associated
- common in \_\_\_\_\_ latitudes



**Explain how clouds can help predict the weather.**

**Write in the weather associated with each cloud type.**

Type of Cloud	Weather Associated
cirrus	
stratus	
fog	
cumulus	
cumulonimbus	
altocumulus	
cirrocumulus	
stratocumulus	
cirrostratus	
altostratus	
nimbostratus	

# Clouds



**DON'T FORGET TO REVISIT THE KWL CHART!**

**SUMMARY**