**Cloud Formation and Air Masses Guided Notes**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the temperature at which air must be cooled to reach saturation. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the phase change from gas to liquid; it only occurs when the air reaches saturation. The \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (LCL) is the point at which condensation occurs.

2. How clouds form:

Air masses of different temperatures \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The less dense, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass rises over the more dense, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air mass. As the warm air rises, it cools, and once it reaches the LCL, water vapor will condense around \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ nuclei to become a cloud, if the density of condensation nuclei is great enough. Condensation nuclei are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the air around which cloud droplets can form.

3. Draw a picture of cloud formation:

4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs when cloud droplets collide and join together to form a larger droplet. When the droplet becomes too heavy to be held aloft, gravity takes over and it falls to Earth as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5. In \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the air mass is forced to lift due to topography, cooling down quickly in the process, causing condensation and cloud formation.



6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the current state of the atmosphere, while \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ describes the average weather over a long period of time. EX:

7. Air masses are a large body of air with similar \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

8. If the source of the air mass is over land the air mass will be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. If the sources of the air mass is over water the air mass with be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

9.

|  |  |  |
| --- | --- | --- |
| **DESCRIPTION** | **CONDITION** | **LOCATION FORMED** |
| Maritime  |  |  |
| Continental |  |  |
| Tropical |  |  |
| Polar |  |  |

10. If we combine temperature and humidity, we can create \_\_\_ types of air masses:

11.

12. Air masses move by prevailing \_\_\_\_\_\_\_\_\_\_\_\_\_. The winds cause the air masses to move over \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. As the air masses move, they change. This is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. The air masses becomes more like the \_\_\_\_\_\_\_\_\_\_\_ it is moving over… and at the same time, the area the air mass is moving over becomes more like the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.