

TAG - Weather and Climate Learning Targets

Use the table below to keep track of your learning of each of the sub-targets. Place a check mark in the appropriate column. If you do not place a check mark in the “M” column, you should determine what the necessary next step should be to “master” that target (re-read the book/class notes, see the teacher, go to the Point, etc.). ALL sub-targets should have an “X” in the “M” column PRIOR to you taking the quiz/test!

M - Indicates that you have “**m**astered” the learning target.

P - Indicates that you have “**p**artially **m**astered” the learning target, but need to PRACTICE to work toward complete mastery.

NY - Indicates “**n**ot **y**et.” You have not yet addressed the learning target.

You can use the notes section below to write down questions you have, or ideas to help you remember the concepts above.

General Topics: Types of Fronts, Air Masses, Heat Transfer (convection, conduction, and radiation) Sun’s impact on weather, High pressure systems, Low pressure systems, El Niño, La Niña, Ocean Currents, Global Convection Cells and Global wind patterns

M	P	NY	Learning Sub-Targets
			1. I can explain and differentiate between cold, warm, occluded and stationary fronts (10b)
			2. I can describe the type of weather related to high and low pressure systems. (Why does the pressure drop as a cold front approaches? Why is the pressure lower when cold and warm air meet as opposed to warm air by itself) (Read weather maps) (10b)
			3. I understand and can explain how low and high pressure systems allow for various or clear or cloudy weather. (What is air pressure?) (10b)
			4. I can explain how the Sun is the ULTIMATE cause of weather on Earth due to uneven heating of the Earth’s surface, causing wind and ocean currents.(land / sea breezes , specific heat) (10a)
			5. I can describe the differences between the causes and effects of El Niño and La Niña on the United States. (10c)
			6. I can explain convection currents and heat transfer (convection, conduction and radiation)
			7. I can explain how ocean currents can impact weather (hurricanes) and the climate. (10c)
			8. I can explain the characteristics of different air masses and the impact they have on weather. (10b)
			9. I can describe the different type of global convection cells at specific latitudes (Hadley, Ferrell and Polar Cells) and connect these air movements to differing pressure systems. (10b)
			10. I can identify Global wind patterns and differentiate between the trade winds, westerlies and polar easterlies (Coriolis Effect) (10b)
			11. I can explain the rain shadow effect and how a change in elevation impacts, temperature, density (molecular arrangement) and its impact on air pressure. And describe how this impacts the climate on each side of the mountain. What happens to moisture in ground and vegetation as air heats up?
			12. I can thoroughly describe the relationship between global wind patterns, convection cells, the Coriolis Effect and global pressure systems.
			13. I can explain cloud formation relative to air pressure, air temperature, and use my understanding of chemistry to explain why water molecules are less dense than oxygen molecules.

Essential Questions:

How does the Sun's energy affect surface temperatures and in turn impact weather?

What causes winds and fronts?

How does the sun impact pressure and relate to wind?

How do oceans impact weather?

What are the key factors that impact weather?

Notes: