**Unit 7: Climate and Weather Study Guide**

1. In the world, why do some places have colder climates and other places have warmer climates? In other words, what things/factors affect an area’s climate?

List the 3 climate zones of the world. Which zone is Atlanta (and most of the United States) part of?

What is the difference between weather and climate?

1. Our atmosphere is 78% \_\_\_\_\_\_\_\_\_\_\_\_ , 21% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and 1% other things like carbon dioxide.

Is air renewable or nonrenewable? Explain your answer.

List ways in which our atmosphere helps us (what are some uses of air?). *Don’t repeat the same thing in 2 different ways.*

1. Heat in the atmosphere moves in 3 ways:
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_=transfer of heat energy through electromagnetic waves called infrared (this is the only way heat can move through space from the sun)
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_=transfer of heat through touching/contact.
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_=transfer of heat due to density differences:
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air rises (creating \_\_\_\_\_\_\_\_\_\_\_ pressure)—causes clouds/precip
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ air sinks (creating \_\_\_\_\_\_\_\_\_\_\_ pressure)—results in sunny days
5. What are the causes and effects of the Greenhouse Effect and Global Warming (and which one is natural)?
6. What causes winds?

What generally causes differences in air pressure on Earth?

What are the 3 global winds, and which one affects most of the United States? Draw a picture labeling where each global wind is located.

What causes the Coriolis Effect, and how does it influence winds?

1. What causes a sea breeze and land breeze? Make a sketch of each below.

Warm air has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pressure because it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dense

Cold air has \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ pressure because it is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dense

1. List 4 types of precipitation. How and when does each form.
2. Define or describe the following air masses:
   1. Continental c. Tropical
   2. Maritime d. Polar
3. List the four types of fronts? Draw what each looks like on a weather map.

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| **Hurricanes**  Causes (2):  Effects (2):  Where they occur most:  Safety Precautions (at least 3): | **Tornados**  Causes (2):  Effects (2):  Where they occur most:  Safety Precautions (at least 3): |
| **Blizzards/Winter Storms**  Causes (2):  Effects (2):  Where they occur most:  Safety Precautions (at least 3): | **Thunderstorms**  Causes (2):  Effects (2):  Where they occur most:  Safety Precautions (at least 3): |

A storm surge is a dangerous part of what storm?

In order for a storm to be considered a “severe thunderstorm”, what must it contain?