**UNIT 1: INTRODUCTION TO ENVIRONMENTAL SCIENCE**

**Chapter 3, Section 2: The Atmosphere**

**Standards: SEV1a, SEV1e**

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| ***What is the atmosphere?*** | * Mixture of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ that surround the Earth.
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| ***What is the composition of the atmosphere?*** | * 78% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ From \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* 21% \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ From \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* 1% various gases: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ From soil, salt, fire ash, pollen, bacteria, aerosols (tiny, liquid droplets)
 |
| ***What are the layers of the atmosphere?*** | * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Closest to earth
	+ Densest layer
	+ Where weather occurs
	+ Temperature decreases as you reach upper levels
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Where ozone layer found
	+ Temperature increases as you reach upper levels
	+ Ozone layer decreases UV radiation that reaches Earth’s surface
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Coldest layer
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	+ Outermost layer
	+ Hottest layer but doesn’t feel hot due to lack of heat transfer between air particles
 |
| ***Why is the atmosphere important?*** | * Helps control \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of planet.
* Without gases in atmosphere it would be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to live here.
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| ***What is “Earth’s Energy Budget”?*** | * Solar energy reaches earth as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_light, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ radiation, and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ light.
* About \_\_\_\_\_\_\_\_ reaches surface of Earth and is absorbed by land and ocean.
* \_\_\_\_\_\_\_ scattered & reflected by clouds
* \_\_\_\_\_\_\_ absorbed by ozone, clouds, gases
* \_\_\_\_\_\_\_ reflected by Earth’s surface (light colored)
 |
| ***How does the atmosphere help control the temperature of Earth?*** | * After Earth’s radiation strikes surface of Earth it re-radiates and is trapped by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in atmosphere.
* Greenhouse gases include: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* Greenhouse effect is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_- without it planet would be too cold!
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ greenhouse gas CAN be bad- planet can get too hot.
 |
| ***How are wind patterns created?*** | * Caused by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of earth’s atmosphere which creates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Convection currents- air heats up and rises; air cools and sinks; repeat
 |
| ***Why are cities usually hotter than rural areas?*** | * Urban Heat Island Effect
	+ Cities have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ surfaces and fewer plants so therefore store \_\_\_\_\_\_\_\_\_\_\_ heat and have \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ temperatures than rural areas.
	+ How can this problem be mitigated (fixed)? Watch video and write down some ideas
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| **Summarize what you learned today:** |

