**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. |
| ***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. |
| ***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 |
| **Summarize what you learned today:** | |

