

**LISBON SCHOOL DEPARTMENT**  
**UNIT DESIGN OUTLINE**

Unit Title: Unit 5: Freshman Science: Earth and Atmosphere

Unit Designers: Jill Denniston

Level(s): Freshmen Time Span: 3 weeks

**Content Area:**

- |  |                                      |  |  |
|--|--------------------------------------|--|--|
| <input type="checkbox"/> Career Prep           | <input type="checkbox"/> Health/PE   | <input type="checkbox"/> M&C Languages             | <input type="checkbox"/> Social Studies      |
| <input type="checkbox"/> English Language Arts | <input type="checkbox"/> Mathematics | <input checked="" type="checkbox"/> Science & Tech | <input type="checkbox"/> Visual & Perf. Arts |

**Summary of Unit:**

In this unit students will understand that the state of the atmosphere is in constant flux, as weather factors such as temperature and pressure vary day by day or hour by hour. Students will understand that climates may also change; however, these changes usually occur in long-term cycles. Students will all so understand how weather affects the health, life and livelihood of everyone on Earth.

**Content Standards/Performance Indicators:**

**D. The Physical Setting:** Students understand the universal nature of matter, energy, force, and motion and identify how these relationships are exhibited in Earth Systems, in the solar system, and throughout the universe.

**D.2.** - Students describe and analyze the biological, physical, energy, and human influences that shape and alter Earth Systems.

- a. Describe and analyze the effect of solar radiation, ocean currents, and atmospheric conditions on the Earth's surface and the habitability of Earth
- b. Describe and analyze the effects of human influences on Earth Systems.

**Key Pre-Requisites:**

**Knowledge:**

Water Cycle

Understanding of elements, compounds, and mixtures

**Skills:**

Interpreting graphs

Making models

Diagramming/drawing

**Enduring Understandings:**

Weather is created by changes in temperature, pressure, and moisture.

Energy is transferred from the sun to earth.

Solar energy powers weather.

Ocean changes can affect the atmosphere worldwide.

**Essential Questions that Guide and Focus This Unit:**

How does the atmosphere behave?  
How do clouds form?  
How the earth's water system affects climate?  
How do winds form and affect weather and climate?  
How does climate affect life on earth?  
How does our oceans effect our atmosphere?

**Key Knowledge and Skills students will acquire as a result of this unit:****Knowledge:**

Understand the three forms of energy transfer  
Earth's wind systems  
Weather fronts and air masses  
Students will be able to read a weather station model.

**Skills:**

Create a weather map from a current weather forecast. D2 a  
Explain the water cycle and how it affects life on earth. D2 a  
Recognize from examples the three forms of energy transfer D2a

**How will students provide evidence of their understandings?**

Homework.  
Lab activities and reports.  
Quizzes and tests.  
Projects.  
Journal entries

**Teaching and Learning experiences used to help students understand:**

Lectures  
Demos  
Labs and activities  
Reading textbook  
Taking notes  
Use of internet for research  
Use of computer-lab probes.

**Provisions for Extending Learning:**

Earth Science CD-Rom  
Video disk – atmosphere

**How will technology be used to increase student achievement?**

Mind jogger Video quiz  
On line quizzes and vocabulary practice activities  
Interactive Chalkboard CD-ROM  
Exam View Pro Test maker.

**Instructional Resources:**

Attach a copy of the unit assessment tool, including criteria for evaluation of student performance/product.

*Our Planet*