**Weather and atmosphere Portfolio**

A portfolio is a collection of work designed to show that you know about something. The portfolio you put together will be a result of lab experiences, classroom activities, research and reading days to help build your knowledge base. I will also plan “work days” for you to plan, research and organize your portfolio.

**Time Line:**

Four weeks starting December 3rd and ending January 11th. Summative assessment (test) Will be January 11th.

You will continue to use the same binder with dividers. The dividers will separate your work into the following sections.

1. Knowledge map
2. Assessments
3. Class work/Labs

**Requirements:**

1. Take each of the formative assessments (quizzes).
2. Demonstrate knowledge of at least 3 of the self selected assessments. Knowledge is demonstrated by written work however; you may supplement written work with drawings, diagrams, and electronic media such as podcasts or videos (of your own design)
3. Work may be hand written or typed each objective **must be at least a ½ page** final copy quality**.**
4. All notes from research and handouts from labs and class work must be placed in the portfolio.

**Resources:** Much of the work will be done in class, however plan on doing some work on your own at home.

1. Textbook and on-line textbook, especially “visual concepts” in the eActivities section.
2. Knowledge map
3. Resource books used in class.
4. Lessons, videos and labs completed in class
5. Internet resources: specific sites will be added throughout the unit to the “links” section on Mr. Stephens’ page on the school website.
6. **If you use information from an outside source it must be included on the assignment…failure to do so will result in an automatic deduction of 1.5 quality points!**

**Formative assessments:**

About once a week there will be a formative assessment (quiz) on what we have learned since the previous formative assessment.

1. The atmosphere
2. Heating the Earth
3. Local and global winds

Each of the formative assessments will count the same as an objective and you will have two chances to get your best score.

**Self selected assessments:**

The purpose of the objectives is to give you a framework for what is to be learned. Objectives should be numbered in your portfolio as they are below. You MAY NOT combine objectives. If you are substituting electronic media for written work put a short note of explanation in the binder as a placeholder.

1. Get quizzed during advisory or intervention on 6 random statements from # 1-34 and 86-93 on the knowledge map. (Answer all 6 questions right on the first try for a 4, second a 3, third a 2.5)
2. Make flash cards of the vocabulary terms listed on page 4, 10, 14, and 20 (total of 20 words!!) have Mr. Stephens test you on them.
3. Make a study guide for Chapter 1. Must meet ALL of the following criteria: at least 10 multiple choice or matching questions with at least 4 choices, two extended response questions, at least two questions from each of the four sections in the chapter, include one blank copy and a key.
4. Demonstrate you know the three ways the atmosphere is heated (**Conduction,** **Convection and** **Radiation)** and how each of them are connected in moving heat energy through the atmosphere.
5. Explain the process known as the **greenhouse effect** and how it is GOOD and important to life on Earth.
6. Explain what **air pressure** is and how it is measured and how you can tell if it is a high or low pressure just by looking at the sky. In addition explain what pressure has to do with the wind blowing.
7. Local winds are caused by geographical features use that knowledge to explain what “lake effect” snow or rain is.
8. Explain what the **Jet Stream** is and how it effects the weather by moving fronts or air masses.
9. Look at the links below and discuss where the best windmill locations are in Ohio (strongest winds)and why you think the wind is strongest there. Write a two paragraph essay explaining why wind mills to produce electricity might be both beneficial and a problem. Paragraphs should be a minimum of 8 sentences and need both a topic and a concluding sentence.

<http://www.windpoweringamerica.gov/where_is_wind_ohio.asp>

<http://ohiowind.org/PDFs/OH_sp50m.pdf>

<http://en.wikipedia.org/wiki/Wind_power#Distribution_of_wind_speed>

1. Using the two websites below (and others, if you choose), compare how the sailplane and pelagic birds (such as the frigate) use convection currents to gain altitude. **Create a visual** that goes with a two paragraph written explanation.

 <http://www.mansfieldct.org/schools/MMS/staff/hand/flightglider.htm>

 <http://www.aerospaceweb.org/question/nature/q0253.shtml>

**PORTFOLIO ASSESSMENT SHEET**

|  |  |
| --- | --- |
| **SCORE** | **CATEGORY** |
|  | **Formative assessments:** |
|  | Layers of the atmosphere | Heating the atmosphere | Global and local winds |  |  |
| **Formative assessment total:** |  |  |  |  |  |
|  |  |  |  |  |
|  | **Binder (can choose to do an extra self selected instead)** |
|  | 1. Cover page
 |
|  | 1. Notes class work /labs
 |
|  | **Objectives (minimum 3 or 4)** |
| **Objective subtotal** | 1. | 2. | 3. | 4. | 5. |  |
| 6. | 7. | 8. | 9. | 10. |  |
|  | **TOTAL** |
| **average** | TOTAL DIVIDED BY **7 (or 8)**4.0-3.5 = A 3.49-3.0 = B 2.99-2.0 = C 1.99 -1.5=D1.49 and below unacceptable. Correct and resubmit. |

**WEATHER AND ATMOSPHERE**

**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ CLASS: \_\_**