**The Weather Factor Unit**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_

**Due Date: January 22**

**The Big Idea: Transfer of Energy**

**What factors interact to produce changes in weather?**

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| --- | --- |
| Directions | Examine the activities you can do to learn the unit objectives. All of the activities and the dates we are doing them are listed below. They are due at the latest on January 22. No work will be accepted after January 22 unless you are absent that day.  The activities in bold are required for every student to do. These will help you learn the basics of the unit. After you have mastered the basics, move to section B and then section A for more challenging activities. You must demonstrate knowledge for each level before moving on to the next section.  When you complete an activity, you must turn it in to receive feedback. **YOU MAY NOT TURN IN MORE THAN ONE LATE ACTIVITy PER DAY.** Including the last day of the unit.  As always, if you have questions ask or email. |
| Objectives | * State in what form energy travels from the sun to Earth. * Explain what happens to the sun’s energy in the atmosphere and at Earth’s surface. * Describe how temperature is measured. * Identify three ways in which heat is transferred. * Explain how heat is transferred in the troposphere. |
| State Standards  Addressed | INQB Conduct a scientific investigation that is appropriate for the question being asked.  INQC Communicates results using graphic displays.  INQD Conduct a controlled experiment to test a hypothesis aout a relationship between two variables.  INQE Use the model to explore the relationship between two variables and point out how the model is similar to or different from the actual phenomenon.  INQF Generate a scientific conclusion from an investigation using inferential logic and clearly distinguish between results and conclusions.  ES2B Connect the uneven heating of Earth’s surface by the Sun.  PS3B Use everyday examples of conduction, radiation, and convection to illustrate the heat energy from warmer objects to cooler ones, until the objects reach the same temperature. |

**Vocabulary**

Greenhouse Effect Temperature Thermometer

Heat Radiation Conduction

Convection Convection Current

**Calendar**

Use the calendar to document your progress each day. The suggested dates are for a letter grade of a C. If you chose to earn a B or an A, you must adjust your schedule to allow extra time to complete B grade and A grade assignments.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
|  |  | **12/18**  **Intro to Weather**  **Factor Unit**  **Lab Prep** | **12/19**  **Greenhouse**  **Effect Lab** | **12/20**  **Heating Your Home – Home School Connection** |
| **12/23 – 1/3**  **Winter Break** |  |  |  |  |
| **1/6**  **Greenhouse**  **Effect Lab** | **1/7**  **Greenhouse**  **Effect Lab** | **1/8**  **Source of Earth’s**  **Heat Reading and**  **Worksheet**  **Lab Prep** | **1/9**  **Heating the**  **Earth’s Surface**  **Lab** | **1/10**  **Heating the**  **Earth’s Surface**  **Lab** |
| **1/13**  **Heating the**  **Earth’s Surface**  **Lab** | **1/14**  **Heating the**  **Earth’s Surface**  **Lab** | **1/15**  **Vocabulary** | **1/16**  **GLAD Heat**  **Transfer**  **Read Chapt. 1**  **Sect 2 pg. 548-551**  **Heat Transfer**  **Worksheet** | **1/17**  **NO SCHOOL** |
| **1/20**  **NO SCHOOL** | **1/21**  **Convection**  **Currents** | **1/22**  **Go over Review Guide**  **ALL C, B, A WORK DUE** | **1/23**  **TEST** | **1/24** |

**C Activities**

Practice Layer

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Topic | Activity | Points  Possible | Due Date | **✓** |
|  | **Heating Your Home – Home School Connection** | 10 | 1/16 |  |
| Greenhouse Effect | **Greenhouse Effect Lab** | 15 | 1/9 |  |
| Greenhouse Effect | **Greenhouse Effect Lab Reflections** | 10 | 1/9 |  |
| Source of Earth’s Heat | **Source of Earth’s Heat Worksheet** | 10 | 1/10 |  |
| Heating Earth’s Surface | **Heating Earth’s Surface Lab** | 15 | 1/15 |  |
| Heating Earth’s Surface | **Heating Earth’s Surface Lab Reflections** | 10 | 1/15 |  |
| Heating Earth’s Surface | **Heating Earth’s Surface Lab Graph** | 10 | 1/15 |  |
| Vocabulary | **Vocabulary** | 10 | 1/16 |  |
| Energy Transfer | **Heat Transfer Worksheet** | 10 | 1/21 |  |
| Energy Transfer | **Convection Currents Process** | 10 | 1/22 |  |
|  | **Review Guide** | 10 | 1/22 |  |

**B Activity (Choose one)**

|  |  |  |  |
| --- | --- | --- | --- |
| * Plastic Bag: Does a Plastic Bag Trap Heat? Lab (May be handwritten) * Heat Transfer Lab (May be handwritten) * Reflection of Solar Radiation (Typed) | 20 | 1/22 |  |

**A Activity (Choose one)**

|  |  |  |  |
| --- | --- | --- | --- |
| * Temperature and Height Lab (May be handwritten) * Heat and Human Health (Typed) * Renewable Energy Writing Assignment (Typed) | 20 | 1/22 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Test | 240 | 1/23 |  |