**Air Masses, Fronts and Wind Unit**

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

**Due Date: April 15**

The Big Idea: Weather Patterns

The essential question: How do air masses form and produce changes in the 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 on the unit calendar. The due dates are listed under ‘Activities’. The unit ends on 4/15, no work will be accepted after that date. The test is on 4/16. \*\***The Review Guide and Independent Work are due on 4/15 and will not be accepted late.\*\***  The activities in bold are required for every student to do. These will help you learn the basics. After you have mastered the basics, move to the Independent Work section for a more challenging activity.  **\*\*It is your responsibility to complete assignments on time according to the due dates listed. By not turning in assignments you will receive a ZERO for that assignment. You have three school days to turn in late assignments (unless the end of the unit is before that). Late assignments will receive a 25% penalty for every school day they are late. \*\*** |
| Objectives | * Investigate the effect of surface temperature on the temperature of the air above the surface. * Hypothesize how heat is transferred between the earth’s surface and the air above it. * Observe and describe the effect of surface temperature on the movement of air above the surface. * Identify the major types of air masses that affect the weather in North America and describe how they move. * Name the main types of fronts. * Explain how wind forms. |
| State Standards  Addressed | INQB Conduct a scientific investigation that is appropriate for the question being asked.  INQD Conduct a controlled experiment to test a hypothesis about 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.  SYSC The output of one system can become the input of another system.  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. |

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| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
|  | **3/17**  Intro Air Masses, Fronts and Winds Unit.  Bill Nye ‘Wind’  Video and Questions | **3/18**  SSR: Why Does the Wind Blow? Reading and Questions.  Make and Label Local and Global Winds Tab Booklet | **3/19**  SLAM  SSR: Read Chapt. 16, Sect 3: pages 552-554 ‘Winds’ in textbook  GLAD and Tab Booklet – Local Winds | **3/20**  **No School** |
| **3/23**  Read Chapt. 16, Sect 3: pages 555-558 ‘Winds’ in textbook  GLAD and Tab Booklet – Global Winds | **3/24**  GLAD and Tab Booklet – Global Winds  Intro: Investigating the Temperature of Air Lab | **3/25**  Grade Why Does the Wind Blow?, and Tab Booklet  Investigating the Temperature of Air Lab | **3/26**  Answer Questions on Investigating the Temperature of Air  Intro: Investigating How Warm and Cold Air Move Lab | **3/27**  Investigating How Warm and  Cold Air Move Lab |
| **3/30**  Spring Break | **3/31**  Spring Break | **4/1**  Spring Break | **4/2**  Spring Break | **4/3**  Spring Break |
| **4/6**  Grade Investigating the Temperature of Air and Investigating How Warm and Cold Air Move Labs  Intro Investigating the Effects of Colliding Air Masses Lab | **4/7**  Investigating the Effects of Colliding Air Masses | **4/8**  Read Chapt. 17, Sect 1: pages 578-581 ‘Air Masses’ in textbook  Air Masses WS | **4/9**  Read Chapt. 17, Sect 1: pages 582-585 ‘Fronts’ in textbook  Corners | **4/10**  Corners  Types of Fronts Flipbook |
| **4/13**  Types of Fronts Flipbook  Grade: Investigating the Effects of Colliding Air Masses | **4/14**  Work Day | **4/15**  Review Guide and Independent Work Due | **4/16**  **TEST** |  |

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| **Activity** | **Points Possible** | **Due Date** | **✓** |
| Why Does the Wind Blow Worksheet | 10 | 3/23 |  |
| Local and Global Winds Tab Booklet | 30 | 3/25 |  |
| Investigating the Temperature of Air Lab | 10 | 3/27 |  |
| Investigating How Warm and Cold Air Move Lab | 15 | 4/6 |  |
| Investigating the Effects of Colliding Air Masses | 15 | 4/9 |  |
| Air Masses Worksheet | 15 | 4/10 |  |
| Types of Fronts Flipbook | 20 | 4/14 |  |
| Review Guide | 10 | 4/15 |  |
| Test | 200 | 4/16 |  |

**Independent Work** (Must be typed unless otherwise noted)

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| Forecasting the Weather Typed | 20 | 4/15 |  |
| Interpreting Weather Map Symbols: Fronts Not Typed | 20 | 4/15 |  |
| Air on the Move Not Typed | 20 | 4/15 |  |
| Occluded Fronts Typed | 20 | 4/15 |  |
| Weather Technology Poster Typed | 20 | 4/15 |  |
| Critical Thinking and Analysis of Real World Issues Typed | 20 | 4/15 |  |
| Contrails Typed | 20 | 4/15 |  |