6TH GRADE CENTERS ACTIVITY – 1) Populations and Ecosystems, 2) Energy and Matter, 3) Scientific Inquiry

INFORMATION ORGANIZER AND INSTRUCTIONS

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| Center # | Instructions |
| 1 | ***Vocabulary Connections/ Ecosystem Glossary and Sequence Diagram***  ***Populations and Ecosystems FOSS Kit***   1. Familiarize yourself with the list of vocabulary words (Ecosystem Definitions). 2. Working with your partners use your textbook and the Populations and Ecosystems reader to help you define the list of words on your “Ecosystem Glossary” handout. 3. DO NOT copy the definition from the book. 4. Now that you have your words defined, read the article titled “Life is Organized”. Use your highlighter to highlight the words from your Ecosystem Glossary. 5. Using your Ecosystem Glossary and the clues provided from the article you just read, organize the words and their definitions in the sequence diagram. Index Cards are provided to help you organize your ideas before you write on your paper. (Hint: red words are not part of the sequence diagram.) 6. When you are finished ask your teacher to verify that your definitions and sequence are correct. |
|  | Required Materials for Center 1:   * List of vocabulary words (organism, individual, species, population, community, ecosystem, abiotic, biotic) * Ecosystem Glossary handout * Sequence Diagram handout * “Life is Organized” article * Index cards with vocabulary * Highlighters, Textbook, Populations and Ecosystems Reader * Goals and Objectives (6th grade goals 4 and 7, 8th grade goals 3 and 5) |
| 2 | ***Vocabulary Connections / Ecosystem Card Sort***  ***Populations and Ecosystems FOSS Kit***   1. Review the Ecosystem Definitions and make sure you understand what the different vocabulary words mean. Discuss each word with your partners. 2. Using the visual cards provided, sort the cards into different piles on the placemat provided. The piles should represent individuals, populations, communities, ecosystems, and abiotic factors. 3. There is an undecided category in case you are confused. When you are finished with all of your cards go back to the undecided category and try to put those cards in another pile. 4. When you are finished sorting your cards, record each card’s placement on the “Ecosystem Card-Sort Results” handout. Be sure to write your reason why you put each card in a specific category. |
|  | Required Materials for Center 2:   * Ecosystem Definitions * Ecosystem Cards * Placemat Template for categories * Ecosystem Card-Sort Results handout * Goals and Objectives (6th grade goals 4 and 7, 8th grade goals 3 and 5) |
| 3 | ***Science Literacy/ Life in a Community Reflection***  ***Populations and Ecosystems FOSS Kit***   1. On pages 6-7 of the Populations and Ecosystems Reader read the article titled “Life in a Community.” 2. When finished reading the article complete the Life in a Community Reflection Sheet. 3. On the back of your reflection sheet draw a community. Label the following parts of the community: biotic, abiotic, organism, population, decomposer. |
|  | Required Materials for Center 3:   * Populations and Ecosystem Reader * Life in a Community Reflection Sheet * Colored pencils |
| 4 | ***Smart Technology Integration/ Abiotic and Biotic Limiting Factors***   1. Write the word LIMITING FACTOR at the top of an index card. Write the definition of a limiting factor on the same side. (You can use your textbook, Populations and Ecosystems Reader or internet to define the word.) 2. Open the Smart Notebook assignment titled “Biotic and Abiotic Limiting Factors”. 3. With your partners go through the Smart Notebook assignment taking turns interacting with the Smart Board. 4. When you are finished, on the back side of your index card describe the difference between biotic and abiotic limiting factors. You can use visuals to support your description. |
|  | Required Materials for Center 4:   * Populations and Ecosystem Reader * Blank index cards * Smart Board * Smart Notebook Assignment “Biotic and Abiotic Limiting Factors” (retrieved from Smart Exchange: <http://exchange.smarttech.com/search.html?q=species&sort=best%20match&type=all%20types&subject=science&grade=all%20grades&page=6> ) * Goals and Objectives (6th grade goals 4 and 7, 8th grade goals 3 and 5) |
| 5 | ***Common Assessment***   1. Collaborate to read and answer each question. Circle the answer. 2. Highlight any words that you do not understand. 3. Look up those words in the dictionary and write their definition on your test paper. |
|  | Required Materials for Center 5:   * Common Assessment on Populations, Ecosystems, Biotic and Abiotic Factors * Textbook and dictionary * Pencils and highlighters |
| 6 | ***Note-Taking / Energy Transfer***   1. Copy the information from the Energy Transfer notes handout into your own notebook. 2. Highlight the main vocabulary words. 3. Open the Smart Notebook program titled “Energy Flow in an Ecosystem.” 4. Work with your partners to complete the assignment. |
|  | Required Materials for Center 6:   * Energy Transfer Notes handout * Highlighters * Smart Notebook Assignment “Energy in an Ecosystem” (retrieved from Smart Exchange: <http://exchange.smarttech.com/search.html?q=ecosystems> ) * Goals and Objectives (6th grade goals 4 and 7, 8th grade goals 3 and 5) |
| 7 | ***Featured Quick Flick with Quiz / Ecosystems***   1. Visit the following website: <http://magma.nationalgeographic.com/ngexplorer/0403/quickflicks/> 2. Click on “Play the Movie”. Using your headphones watch and listen to the quick flick. 3. When you are finished, click on “Play the Quiz.” 4. Write down each question and the correct answer choice. 5. Discuss with your partner’s the reasons for the correct answer choices. |
|  | Required Materials for Center 7:   * Laptop with access to website * Headphones |
| **ENERGY: Sound and Light** | |
| 8 | ***Exploring Glencoe Ancillary Materials***   1. Work with your partners to discuss how you can use the Glencoe ancillary materials to support instruction on the concepts of energy, sound and light. 2. Record your responses on the chart paper provided. Be specific in your responses. What, Where, Why, How. 3. You may respond to or edit any comments that have already been recorded. |
| 9 | ***Exploring Laboratory Resources***   1. Work with your partners to discuss how you can use various laboratory resources to support instruction on the concepts of energy, sound and light. 2. Consider the laboratory resources that have been provided to you as a part of the science initiative this year as well as other resources you may have access to already or wish to access. 3. Record your responses on the chart paper provided. Be specific in your responses. What, Where, Why, How. 4. You may respond to or edit any comments that have already been recorded. |
| 10 | ***Exploring Smart Technology***   1. Work with your partners to discuss how you can use various forms of technology resources to support instruction on the concepts of energy, sound and light. 2. Consider the technology resources that have been provided to you as part of the science initiative this year as well as other resources that you may have access to already or wish to access. 3. Record your responses on the chart paper provided. Be specific in your responses. What, Where, Why, How. 4. You may respond to or edit any comments that have already been recorded. |
| **SCIENTIFIC INQUIRY** | |
| 11 | ***Scientific Inquiry***   1. Read over the handout provided titled “Essential Features of Classroom Inquiry and Their Variations” and the opposite side titled “Content Standards for Science as Inquiry, Grades 5-8”. 2. Discuss how these two articles relate to your own classroom instruction. 3. Sort the colored cards in order from most important to least important in relation to your perspective on what effective science instruction should look like. Do all the members of your group agree? 4. Work with your group to respond to the “Truth or Myth” statements. Discuss the statements and how they impact your perspective on effective science instruction. 5. Record any significant responses, comments, questions on the chart paper provided. 6. You may respond to or edit any comments that have already been recorded. |
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