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| Image result for ecosystem | Ecosystems Inquiry Lab Write-up |

Name:

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| **Section 1: PURPOSE**  What was the big question of this inquiry? |

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| **Section 2: MATERIALS**  Make a list of the materials needed to make an ecosystem.  1. |

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| **Section 3: PROCEDURE**   * How did you build the ecosystem? * What did you include? Why?   Which organisms were producers, consumers, detritivores, decomposers? *(make a chart)*   |  |  |  |  | | --- | --- | --- | --- | | Producers | Consumers | Detritivores | Decomposers | |  |  |  |  |  * How did you set up to get ready to observe your ecosystem? (*data sheet*) * What do you need to do once the set-up is complete? |

**Section 4: DATA AND OBSERVATION**

**Chart & Graph 1: Roles and Relationships**

* Identify the roles (niches), relationships and interactions of at least 4 organisms in the ecosystem.

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| **Roles and Relationships** | | | |
| Organism | Niche (role) | Relationship to Abiotic elements | Data/Evidence |
| *1.* |  |  |  |
| *2.* |  |  |  |
| *3.* |  |  |  |
| *4.* |  |  |  |
| Graph: | | | |
| Graph Analysis and Explanation: | | | |

**Chart & Graph 2: Changes and Contributing Factors**

* Describe 4 or more changes (2 you made and 2 that happened on their own) you observed in the ecosystem.
* To the best of your ability, explain why they happened and whether it beneficial or detrimental to the overall health of the

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| **Changes and Contributing Factors** | | |
| **Additions/ removals/ Change / Observation** | **Reason** | **Impact of change** |
|  |  |  |
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|  |  |  |
|  |  |  |
| Graph: | | |
| Graph Analysis and Explanation: | | |

**Chart & Graph 3: Evidence of Energy Transfer**

* Describe how energy was transferred through your ecosystem*.* ***(include at least 3 several specific examples with explanations and supporting data)***

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| **Energy Transfer** | |
| **Evidence (data)** | **Explanation** |
| 1. |  |
| 2. |  |
| 3. |  |
| Graph: | |
| Graph Analysis and Explanation: | |

**Section 5: CONCLUSIONS**

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| 1. What makes a good ecosystem? |
| 1. Would you consider your ecosystem a good ecosystem for the organisms in it? Did it meet the needs of all organisms? Explain in detail using data collected to support you opinion. |
| 1. How did you affect the ecosystem? Were your actions helpful or hurtful to the ecosystem overall? Explain. |
| 1. Do you think your ecosystem was better for your organisms or worse for them than their natural environment? Include at least 3 examples with explanations. |

**Section 6: SOURCES OF ERROR & IMPROVEMENT**

Describe at least 5 ***sources of error & improvement*** - this is an analysis of what may have caused the results to be different or inaccurate

* Make a chart to organize you thinking
* How could the experiment be changed or modified in order to make it better? Include 3 or more hypothesis statements with an explanation (**Use hypothesis statements: If….then...)**

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| **Sources of Error** | |
| **Source of Error** | **Explanation** |
| **1.** |  |
| **2.** |  |
| **3.** |  |
| **4.** |  |
| **5.** |  |
| **Improvements** | |
| **Hypothesis Statement** | **Explanation** |
|  |  |
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**Questions:**

***Use examples to help you answer and explain the following questions. Answer in complete detailed paragraphs.***

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| 1. Use an organism in your ecosystems to show your understanding of natural selection and evolution. Consider the following questions to help you:    1. How do adaptations influence natural selection?    2. Why do some animals have better chance of survival?    3. Why do animals change over missions of years? |
| 1. How does natural selection and the fact that there are so many different ecosystems in the world help explain the diversity of life on earth? |
| 1. Do you think ecosystems are fragile, stable, or adaptable? **Why**? |
| 1. What can happen when a new population is introduced into an ecosystem? |
| 1. Why can organisms in an ecosystem share the same habitat but not the same niche? |
| 1. How can humans effect ecosystems? Provide at least two positive effects and two negative effects and explain. |

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| **Extras:** *Do some research to formulate your own opinion, then answer the following:* |
| 1. Why should we be concerned with biodiversity vs monoculture? |
| 1. Why is it important to preserve natural ecosystems around the world? |
| 1. What are the competing forces that are endangering tropical rain forests? |