**Ecosystems in Action Game Design Project**

**Your Mission:**

Individually or in pairs, design and explain an active game (for outdoor or PE class) that incorporates ideas from Science class about relationships between organisms and their environment in ecosystems. Be sure to include information about energy transfer through food chains / webs and ecological pyramids, as well as abiotic factors that would affect the ecosystem.

**Knowledge and Understanding:**

* demonstrates knowledge of ecosystem components in game explanation, including: producers, consumers (carnivore, omnivore, herbivore, scavenger, decomposer), predators, prey, biotic and abiotic factors.
* applies this knowledge to create a game that demonstrates the energy transfer in ecosystems (direction, amounts at leach level, cycles)

**Design Process:**

* creates a written plan which includes materials, steps to follow, safety considerations, and detailed diagrams.
* completes reflection questions after presenting / playing game

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|  | 1 | 2 | 3 | 4 |
| **Design Process:** written plans |  |  |  |  |
| **Knowledge and Understanding:** explanation |  |  |  |  |
| **K&U:**  application to show energy transfer |  |  |  |  |

***Ecosystems in Action - Reflection Questions: Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_***

After presenting or playing your game / others games, complete the following questions:

1. What is one change you would make to your game to make it more informative or engaging? Explain with specific details.
2. Imagine that 2 ‘humans’ were added as extra players in your game.
3. How would they impact or affect the populations of each biotic component? Explain with details.
4. How might humans impact the abiotic components?
5. Can you think of one positive impact humans might have?
6. How could you include information about the habitats or adaptations of the organisms in your game? Explain with specific details for one organism from your game.