**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_\_\_\_**

**Photosynthesis with Lentil Seeds:**

**Materials:**

**Methods:**

1. Observe prepared trays #1-4: All trays started with 10 lentil seeds.
2. #1 contains lentil seeds not exposed to anything (no light and no water).
3. #2 contains lentil seeds soaked in water for 24 hours and placed in the dark (no light provided but water was added as necessary to keep the lentils from drying out).
4. #3 contains lentil seeds placed in the light only (no water).
5. #4 contains lentil seeds soaked in water for 24 hours and placed in the light (water was added as necessary to keep the lentils from drying out).

**Data Table:**

|  |  |  |
| --- | --- | --- |
| **Identity of Trays** | **Conditions Maintained in Trays** | **Observations** |
| **Tray # 1** | Lentils not exposed to light and not exposed to water. |  |
| **Tray # 2** | Lentils soaked in water for 24 hours. No light was provided but the lentils were always moist. |  |
| **Tray # 3** | Lentils were exposed to light only. |  |
| **Tray # 4** | Lentils were soaked in water for 24 hours and placed in a light source. Water was provided to keep the lentils moist. |  |

**Analysis:**

* 1. Write the photosynthetic equation below including energy source.
  2. Why did some lentil seeds grow while others did not?
  3. Why was there so much variation between the seeds that did grow? Include your data to support your statement.
  4. Write the correct answers in the four locations of the processing too.

Processing Tool

What type of What type of

energy entered → energy is in the lentils?

the lentils?

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|  |
| --- |
| **Lentil Seeds**  **Container # 4**  **Scale: Cellular** |

What form of What form of

matter entered → matter is in

the lentil seeds? the lentil seeds?

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* 1. How was the original energy changed? Into what?
  2. In this photosynthetic process, where did the matter come from?

Write the equation for respiration below.

* 1. When people eat lentil soup what type of energy are they getting? Do they get all of the energy? If not, where did the energy go?

Use the processing tool below for reference.

* 1. Write the correct answers in all four locations of the processing tool.

What type of What type of

energy enters → energy leaves the

heterotrophs? heterotrophs?

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|  |
| --- |
| **Consuming lentil seeds**  **Scale: cellular** |

What form of What form of

matter enters → matter leaves

a heterotroph? A heterotroph?

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* 1. Where did the mass of the lentils come from? Use your data to support your answer.
  2. Where did the mass of the lentils go? (Hint: matter and energy are conserved but can change form)