Rubric for Pre/Post Assessment (Note: Bolded conceptions are the most commonly endorsed by students.)

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|  | **Multiple-Choice Prompt and Answer (1 pt each)** | **Accurate Explanations****(10 responses, 1 pt each)** | **Possible Misconceptions****(6 responses, 1 pt each)** |
| 1. Plants… C produce carbon dioxide and oxygen
 | * **Cellular respiration creates CO2**
* **Plants do cellular respiration to produce CO2**
* Cellular respiration is a chemical process to break down compounds
* The purpose of cellular respiration is to transform energy
* Plants and animals do cellular respiration at all times
* **Plants do photosynthesis to produce O2**
* **Photosynthesis creates O2**
* Photosynthesis is a chemical process to store energy from sunlight or create energy-rich compounds (i.e., sugar, food)
* **The purpose of photosynthesis is to transform the sun’s energy (e.g. produce sugar molecules, food)**
* **Animals do not do photosynthesis or do not produce O2.**
 | * **Plants do not do cellular respiration or produce CO2**
* Plants do cellular respiration/ produce CO­ only at night
* **The purpose of photosynthesis is to provide us with oxygen and remove CO2**
* **Photosynthesis is the process that provides plants with the energy the need for life’s processes**
* **Animals respire through the lungs and trachea (conflate breathing with cellular respiration)**
* Animals do not do cellular respiration at all times
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| 1. Plants…C perform cellular respiration and photosynthesis
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| 1. Animals… B produce oxygen
 |
| 1. Animals… A perform cellular respiration
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| **Mastered** | 4 | 6 or more | 1 or fewer |
| **Proficient** | 3 | 4-5 | 2  |
| **Needs Improvement**  | 2 or fewer | 3 or fewer | 3 or more |