UNIT: ELECTRICAL CIRCUITS

ACT-Based Science: Renewable Energy & Circuit Efficiency (Scientific Evaluation & Experimental Design) Answer Key

**ACT-** **Style Data Analysis Question:**

A student tested how **panel angle affects solar output**. Their data is below:

|  |  |
| --- | --- |
| Panel Angle | Voltage Output (V) |
| 90° (Direct Sunlight) | 4.8V |
| 45° | 3.7V |
| 30° | 2.5V |
| 10° | 1.2V |

* Which conclusion is best supported by the data?

1. The voltage output increases as the panel angle decreases.
2. The voltage output is highest when the panel is perpendicular to sunlight.
3. The voltage output remains the same regardless of angle.
4. Solar panels generate more electricity at lower angles.

**(Correct Answer: B – The panel generates the most voltage when facing direct sunlight.)**