



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?
 - A. The voltage output increases as the panel angle decreases.
 - B. **The voltage output is highest when the panel is perpendicular to sunlight.**
 - C. The voltage output remains the same regardless of angle.
 - D. Solar panels generate more electricity at lower angles.

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