Name: _____ **Date:** _____

Section: _____

Electron Jumper Activity

Journey of an Electron

Phase 1: ENGAGE (3 minutes)

Getting Started: Open peebedu.com and navigate to Electron Jumper

Play through the introduction.

The Big Question: How does sunlight become energy that living things can use? _____

First Thought: In this game, you're an electron. Where do you think electrons come from in photosynthesis? _____

Phase 2: EXPLORE (10 minutes)

Play and Observe

As you play each level, note what you see:

Level 1: Starting Point

- Your electron begins in: _____

- What gas is released? _____

Level 2: The Transport Chain

- Your path goes: UP / DOWN / STRAIGHT

Level 3: Second Energy Boost

- Similar to Level 1? YES / NO

Level 4-5: Final Destination

- Your electron helps make: _____

Phase 3: EXPLAIN (8 minutes)

Understanding the Process

Energy Flow: Draw the path with simple arrows:

Sunlight → _____ → _____ → Chemical Energy

Important Locations: Match the game level to the real structure:

- Level 1 happens in: _____
- Level 5 happens in: _____

Pattern Recognition: What pattern do you notice about when electrons gain energy? _____

Phase 4: ELABORATE (3 minutes)

Connections

Oxygen We Breathe: Based on Level 1, where does the oxygen we breathe come from? _____

Energy for Life: The glucose made at the end provides energy for:

Without Light: What would happen to this process in complete darkness? _____

Phase 5: EVALUATE (1 minute)

Quick Assessment

Complete the flow chart:

Water → (+ light) → _____ → Electron Transport → _____ → NADPH → _____

Key Understanding: Light energy is converted to _____ energy, which is stored in _____.

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Exit Question: Why can't plants just use light directly? Why do they need this complex electron journey? _____