

5E-Learning Cycle for the mock trial case and the daily activity outline

5E Element	Learning Objectives (Students will be able to...)	Instruction
Engage (Day 1)	Identify the variables they could manipulate to make potential tradeoffs associated with this socioscientific issue.	Introduce the Solar panels v. Trees case, the different roles, and the status quo of the solar engineering industry.
Explore (Day 2-4)	Understand the solar science and energy concepts that impact energy harvested by the solar panels before proceeding to intellectual debate.	Day 2-3 Adopt solar energy tutorials in Aladdin to explore concepts and engineering design. Use <i>Optimize It</i> as an example to formatively assess solar energy concepts and engineering design. Day 4 Wrap up <i>Optimize it</i> activity and prompt students to collect evidence using Aladdin (Fig. 5).
Explain (Day 5)	Synthesize data and consider multiple priorities and points of view (financial, environmental, engineering, scientific, social, etc.), construct strong arguments, and present the claims effectively.	Reasoning skill coaching activity to practice four elements of reasoning (purpose, claim, evidence, and inferences).
Elaborate (Day 6-9)	Use scientific evidence obtained from the Aladdin CAD data and the laws that protect personal interests to justify their stance during cross-examination.	Facilitate in the simulated courtroom.
Evaluate (Day 10)	Reflect on their knowledge of science, engineering, and litigation processes.	1. Reveal the verdict for the real-world case and the amendment of the law factoring in the planted time of the trees. 2. Administer a survey to assess a student's conceptual knowledge and attitudes.