ENERGY LAB STANDARDS ALIGNMENT

Next Generation Science Standards	Energy Lab Components			
The Three Dimensions of the Framework	Using Energy	Finding Alternatives	Managing Energy	Research Challenge
Scientific and Engineering Practices				
1. Asking questions (for science) and defining problems (for engineering)				√
2. Developing and using models				√
3. Planning and carrying out investigations				√
4. Analyzing and interpreting data				√
5. Using mathematics and computational thinking				√
6. Constructing explanations (for science) and designing solutions (for engineering)				√
7. Engaging in argument from evidence				
8. Obtaining, evaluating, and communicating information				
Crosscutting Concepts				
1. Patterns				
2. Cause and effect: Mechanism and explanation	√		√	
3. Scale, proportion, and quantity				
4. Systems and system models		√	√	√
5. Energy and matter: Flows, cycles, and conservation	√	√	√	√
6. Structure and function		√	√	√
7. Stability and change	√		√	√
3 Disciplinary Core Ideas				
Physical Sciences				
– PS1: Matter and its interactions	√	√		
– PS2: Motion and stability: Forces and interactions	√	√		
– PS3: Energy	√	√	√	√
– PS4: Waves and their applications in technologies for information transfer		√		
Life Sciences				
– LS1: From molecules to organisms: Structures and processes		√		
– LS2: Ecosystems: Interactions, energy, and dynamics	√	√		
– LS3: Heredity: Inheritance and variation of traits				
– LS4: Biological evolution: Unity and diversity				
Earth and Space Sciences				
– ESS1: Earth's place in the universe		√		
– ESS2: Earth's systems	√	√		√
– ESS3: Earth and human activity	√	√		√
Engineering, Technology, and Applications of Science				
– ETS1: Engineering design		√	√	√
– ETS2: Links among engineering, technology, science, and society	√	√	√	