

Framework for K-12 Science Education	Module Number									
	1	2	3	4	5	6	7	8	9	10
I. 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	•		•	•	•			•	•	•
II. 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					•	•				
III. Disciplinary Core Ideas										
<i>Physical Sciences</i>										
PS1: Matter and its interactions		•								•
PS2: Motion and stability: Forces and Interactions	•	•		•					•	
PS3: Energy				•					•	
PS4: Waves and their applications in technologies for information transfer										•
<i>Life Sciences</i>										
LS1: From molecules to organisms					•					•
LS2: Ecosystems					•	•				•
LS3: Heredity: Interactions, energy, and dynamics										•
LS4: Biological evolution: Unity and diversity										•
<i>Earth and Space Sciences</i>										
ESS1: Earth's place in the universe										
ESS2: Earth's systems	•				•	•		•	•	•
ESS3: Earth and human activity					•	•		•	•	•
<i>Engineering, Technology, and Applications of Science</i>										
ETS1: Engineering Design	•	•		•				•	•	•
ETS2: Links among engineering, technology, science and society	•	•		•	•			•	•	•