

Appendix A - Alignment with Three Dimensions of Science Learning - Next Generation Science Standards (NGSS)

NGSS Dimension	Number	Activity 1 Gravity	Activity 2 Sound	Activity 3 Magnetism	Activity 4 Engineer I	Activity 5 Engineer II	Activity 6 Bones
Scientific & Engineering Practices	1 Asking questions & defining problems	^	^	^	^	^	^
	2 Developing and using models	X	X		X	X	X
	3 Planning and carrying out investigations	X	X	X	X	X	X
	4 Analyzing and interpreting data	X	X	X	X	X	X
	5 Using mathematics and computational thinking	X	X	X	X	X	X
	6 Constructing explanations & designing solutions	X	X	X	X	X	X
	7 Engaging in argument from evidence	X	X	X	X	X	X
	8 Obtaining, evaluating, and communicating information	X	X	X	X	X	X
Cross-Cutting Concepts	1 Patterns	X	X	X	X	X	X
	2 Cause and effect: mechanism and explanation	X	X	X	X	X	X
	3 Scale, proportion, and quantity	X	X	X	X	X	X
	4 Systems and system models	X	X	X	X	X	X
	5 Energy and matter: flows, cycles, and conservation	X	X	X	X	X	X
	6 Structure and function	X	X	X	X	X	X
	7 Stability and change	X	X	X	X	X	X
DCI Physical Science	PS1 Matter and its interactions	X	X	X	X	X	X
	PS2 Motion and stability: forces and interactions	X	X	X	X	X	X
	PS3 Energy	X	X	X	X	X	X
	PS4 Waves and their applications in technologies for information transfer		X				
DCI Life Sciences	LS1 From molecules to organisms: structures and processes						X
	LS2 Ecosystems: interactions, energy, and dynamics						
	LS3 Heredity: inheritance and variation of traits						X
	LS4 Biological evolution: unity and diversity						X
DCI Earth/Space Science	ESS1 Earth's place in the universe	X					
	ESS2 Earth's systems	X		X			
	ESS3 Earth and human activity						
DCI Engineering Technology Applications	ETS1 Engineering design					X	
	ETS2 Links among engineering, technology, science, society				X	X	

^All Snapshot Science Club Activities are guided inquiry in which students further their *Understandings about the Nature of Science*. Students are guided in inquiry, using the Snapshot Science Club activity template, which includes the question/problem being tested in the experiment.