NSES Elements / Key Ocean Concepts	Earth: one big ocean, many features								Ocean shapes Earth					Influence on weather & climate							Habitable		Ocean supports great diversity of life & ecosystems										Interconnectedness							Ocean is unexplored					
UNIFYING CONCEPTS AND PROCESSES	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
1. Systems, Order and Organization	x	x	x	x	x	x	x	x						x	x	x	x	x	x	x	x	x											x	x	x	x	x	x	x						
2. Evidence, Models, and Explanation														x	x	x	x	x	x	x	x	x																			x	x	x	x	x	x
3. Change, Constancy, and Measurement	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x						
4. Evolution and Equilibrium	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x													
5. Form and Function	x	x	x	x	x	x	x	x													x	x	x	x	x	x	x	x	x	x	x	x													
EARTH AND SPACE	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
6. Properties of Earth Materials	x			x	x				x			x									x						x	x					x							x				
7. Objects in the Sky				x										x	x																													
8. Changes in Earth and Sky		x	x	x	x	x	x		x	x	x	x	x	x	x	x	x		x	x													x					x			x	x	
9. Structure of the Earth System	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x			x									x							x	x			x	
10. Earth's History		x	x	x		x	x		x	x	x	x	x			x			x	x	x	x			x			x	x				x										x	
11. Earth in the Solar System			x	x		x								x	x		x		x																										
12. Energy in the Earth System	x	x	x	x										x	x	x		x	x	x																				x		x	x		
13. Origin and Evolution of the Earth System	x	x	x	x		x			x	x	x		x	x	x	x	x	x	x	x	x	x																		x		x	x	x	
14. Origin and Evolution of the Universe																																													
15. Geochemical Cycles	x		x		x	x		x	x					x				x	x		x																						x	x		
LIFE SCIENCE	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
16. Characteristics of Organisms	x					x	x							x		x	x		x	x	x	x	x		x	x			x		x		x							x					
17. Life Cycles of Organisms																								x			x					x														
18. Organisms and Environments	x		x	x			x		x				x		x	x		x	x	x	x	x	x	x		x	x	x	x	x	x	x					x		x		x	x			
19. Structure and Function in Living Systems																							x	x																					
20. Reproduction and Heredity																								x	x		x																		
21. Regulation and Behavior																																													
22. Populations and Ecosystems	x		x	x				x								x	x	x						x		x		x	x	x	x	x	x	x			x				x			
23. Diversity and Adaptations of Organisms										x			x						x	x		x	x	x	x	x		x	x	x	x													
24. Interdependence of Organisms			x					x			x							x	x	x	x			x		x		x		x								x		x			x		
25. Behavior of Organisms																											x	x																
26. Matter, Energy and Organization in Living Systems	x		x	x		x		x							x			x	x	x								x	x	x	x	x												
27. Biological Evolution	x							x														x	x	x	x	x		x	x	x	x									x					
28. Molecular Basis of Heredity																																													
29. The Cell																		x			x			x																					
PHYSICAL SCIENCE	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
30. Properties of Objects and Materials		x		x	x	x			x			x					x																											
31. Position and Motion of Objects			x	x							x	x																																	
32. Light, Heat, Electricity and Magnetism																																												
33. Properties and Changes of Properties in Matter			x		x	x																																					
34. Motions and Forces		x	x				x			x		x								x																								
35. Transfer of Energy	x		x	x	x								x	x	x	x		x	x	x	x			x		x				x	x													
36. Structure of Atoms																																												
37. Structure and Properties of Matter					x	x												x																									
38. Chemical Reactions																														x													
39. Motions and Forces			x		x								x																															
40. Conservation in Energy and Increase in Disorder				x		x									x	x			x	x																								
41. Interactions of Energy and Matter		x	x	x	x						x	x	x																																
HISTORY AND NATURE OF SCIENCE	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
41. Science as Human Endeavor K-12																																		x	x	x			x	x	x	x	x	x	x
42. Nature of Scientific Knowledge 5-12																x			x															x						x	x		x	x	x
43. History of Science													x																						x								x			x
44. Historical Perspectives													x																	x													x			x
PERSONAL AND SOCIAL PERSPECTIVES	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
45. Personal Health K-8															x				x		x												x	x	x			x			x	x				
46. Characteristics and Changes in Populations																																				x										
47. Types of Resources								x									x				x												x	x	x		x		x		x	x			
48. Changes in Environments				x			x	x			x	x				x			x	x																x	x	x	x		x	x			x
49. Science and Technology in Local Challenges													x			x														x						x		x					x	x	x
50. Populations, Resources and Environments								x																										x			x					x			
51. Natural Hazards		x		x							x	x	x	x	x	x			x																x	x	x				x		x	
52. Risks and Benefits																																						x	x	x				x	x	
53. Science and Technology in Society														x		x																		x			x		x	x	x	x	x	x	x

last modified 4/21/20056:25 PM

54. Personal and Community Health																x																			x			x	x	x						
55. Population Growth								x																											x		x	x					x			
56. Natural Resources								x																										x	x	x	x	x				x	x			
57. Environmental Quality						x	x	x						x	x						x							x			x		x	x			x		x		x	x			x
58. Natural and Human-Induced Hazards				x							x	x	x	x		x			x															x			x	x		x	x	x			
59. Science and Technology in Local, National & Global Challenges				x							x	x	x			x			x															x			x	x	x	x	x	x	x	x	x
SCIENCE AND TECHNOLOGY	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
60. Abilities to Dist Between Natural Objects & Objects																																					x								
61. Abilities of Technological Design K-12																																								x			x	x	
62. Understanding About Science & Technology K-12																																								x	x	x	x	x	x
63. Abilities of Technological Design K-12																																								x			x	x	
64. Understanding About Science & Technology K-12																																								x	x	x	x	x	x
65. Abilities of Technological Design K-12																																								x			x	x	
66. Understanding About Science & Technology K-12																																								x	x	x	x	x	x
SCIENCE AS INQUIRY	1a	1b	1c	1d	1e	1f	1g	1h	2a	2b	2c	2d	2e	3a	3b	3c	3d	3e	3f	3g	4a	4b	5a	5b	5c	5d	5e	5f	5g	5h	5i	5j	6a	6b	6c	6d	6e	6f	6g	7a	7b	7c	7d	7e	7f
67. Abilities Necessary to Do Scientific Inquiry K-12																																			x					x	x		x		x
68. Understanding About Scientific Inquiry K-12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x