EARTH SCIENCE LITERACY INITATIVE: Alignment to the National Science Education Standards

EARTH SCIENCE LITERACY INITATIVE: Alignment to the National Science Education Standards										
	NSES Elements / BIG IDEAS	1. EARTH SCIENTISTS USE THE SCIENTIFIC METHOD TO EXPLAIN OUR PLANET		3. EARTH IS A COMPLEX SYSTEM OF INTERACTING ROCK, WATER, AIR AND LIFE	4. EARTH IS CONTINUOUSLY CHANGING	5. EARTH IS THE WATER PLANET	6. LIFE EVOLVES ON A DYNAMIC EARTH AND CONTINUOUSLY MODIFIES EARTH	7. HUMANS DEPEND ON EARTH FOR RESOURCES	8. NATURAL HAZARDS POSE RISKS TO HUMANS	9. HUMANS SIGNIFICANTLY ALTER THE EARTH
		1.1 1.2 1.3 1.4 1.5 1.6 1.7	2.1 2.2 2.3 2.4 2.5 2.6 2.7	7 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8	4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9	9 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8	6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9	7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 7.1	0 8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8	9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.9
UNIFYING CONCEPTS AND PROCESSES	1. Systems. Order and Organization 2. Evidence. Models, and Explanation 3. Change. Constancy. and Measurement 4. Evolution and Equilibrium 5. Form and Function	1.1 1.2 1.3 1.4 1.5 1.6 1.7	. 	3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8	41 42 43 44 45 46 47 48 45	5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8	61 62 63 64 65 66 67 68 69	71 72 73 74 75 76 77 78 79 71	0 81 82 83 84 85 86 87 88	91 92 93 94 95 96 97 98 99
EARTH AND SPACE	6. Proporties of Earth Materials 7. Oblects in the Salvy 8. Changes in Earth and Say 9. Structure of the Earth Savatem 10. Earth Salve 10. Earth Salve 10. Earth Salve 10. Earth Salve 10. Changes in Earth Salve 10. Changes in the Earth Salve 10. Changes in the Earth Salve 10. Ordina and Evolution of the Universe									
BON BIOS B & 1	15. Geochemical Cycles 16. Characteristics of Oronaisms 17. Life Cycles of Oronaisms 18. Oronaisms and Environments 18. Oronaisms and Environments 18. Description of Cycles of Oronaisms 18. Structure and Function in Livino Systems 18. Section of Cycles of Cycles of Cycles 18. Structure and Environments 18. Section of Cycles of Cycles of Cycles 18. Interfescendence of Oronaisms 18. Selbavior of Oronaisms 18. Selbavior of Oronaisms 18. Matter, Environ and Oronaiston in Livino Systems 19. Biolocical Evolution 18. Michiella Basis of Heredity 19. The Cell	10 12 13 14 15 15 17	22 23 24 25 26 27 24 25 26 27 25 27 27 27 27 27 27 27 27 27 27 27 27 27		## ## ## ## ## ## ## ## ## ## ## ## ##	35 (52 (53 (54 (55 (55 (57 (55 (55 (55 (55 (55 (55 (55		71 72 73 74 75 76 77 78 79 71 71		00 02 25 04 05 07 07 05 08 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PHYSICAL SCIENCE	30. Procenties of Oblects and Materials 31. Deather and Motion of Oblects 32. Link, Heat, Electricity and Mannetism 32. Link, Heat, Electricity and Mannetism 33. Link, Heat, Electricity and Mannetism 34. Motions and Forces. 35. Transfer of Energy 35. Structure of Adoms 37. Situcture and Properties of Matter 37. Situcture and Properties of Matter 48. Chemical Registron. 48. Conservation in Energy and Increase in Disorder 48. Linkeractions of Energy and Matter									
HISTORY AND NATURE OF SCIENCE	Science as Human Endeavor K-12 Nature of Scientific Knowledge 5-12 History of Science History of Science Historical Perspectives	11 12 13 14 15 16 1.7 • • • • • • • • • • • • • • • • • • •		7 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8	41 42 43 44 45 46 47 48 46 41 42 43 44 45 46 47 48 46	3 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.6 3 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.6 3 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.6		7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 7.1 7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 7.1	0 8.1 8.2 8.3 8.4 8.5 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.6 8.7 8.8 8.8 8.7 8.8 8.8 8.7 8.8 8.8 8.7 8.8 8.8	9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.6 9.1 9.2 9.3 9.4 9.5 9.6 9.7 9.8 9.6
PERSONAL AND SOCIAL PERSPECTIVES	46. Personal Health K-6 46. Personal Health K-6 46. Nurse of Resources 46. Nurse of Resources 46. Nurse of Resources 51. Peopletion Resources 51. Peopletion Resources and Environments 52. Natural Heards 53. Risks and Benefits 63. Risks and Renefits 64. Science and Technology in Society 65. Serious and Community Health 65. Science and Technology in Cocal, National & Global 66. Science and Technology in Local, National & Global 66. Science and Technology in Local, National & Global 66. Science and Technology in Local, National & Global	10 12 13 14 15 16 17								
SCIENCE AND TECHNOLOGY	by Humans (2. Abilities of Technological Design K-12 (3. Understanding About Science & Technology K-12 (4. Abilities of Technological Design K-12 (5. Understanding About Science & Technology K-12 (5. Understanding About Science & Technology K-12 (4. Abilities of Technological Design K-12 (4. Understanding About Science & Technology K-12 (4. Understanding About Science & Technology K-12 (4. Understanding About Science & Technology K-12	11 12 13 14 15 16 17								
SCIENCE S NQUIRY	68. Abilities Necessary to Do Scientific Inquiry K-12	13 13 13 15 16 1.7	2.1 2.2 2.3 2.4 2.5 2.6 2.7	37 37 37 37 38	920 920 920 920 920 927 938 938	3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0	0.0 0.0 0.0 0.0 0.0 0.7 0.8 0.9	13 13 13 13 14 13 13 13	0.1 0.2 0.0 0.4 0.5 0.6 3.7 8.8	9.1 9.2 9.0 9.4 9.5 9.6 9.7 9.8 9.9
4	69. Understanding About Scientific Inquiry K-12 Grades K-4 Grades 5 - 8 Grades 9-12	To download the Earth Science Literacy principles please go to: www.earthscienceliteracy.org. This alignment was completed through the efforts of Nicole LaDue, Jennifer Thompson, and Kirk Beckendorf v. 52209, last modified 52809								