

Maine's Learning Results Science and Technology Performance Indicators Content Clarification Crosswalk for Elementary Grades PreK-2

Standard A: Classifying Life Forms

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Project 2061 Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
A1: Identify the differences between living and non-living things	A(K-2)#1 p II-64	Living Environment p 59	5A(K-2) Essay p 102 5A Research p 341	K-4/C Essay p 128	No Maps
A2: Describe characteristics of living things	A(K-2)#2 p II-64	Diversity of Life p 60	5A(K-2) Essay p 102 5A(K-2)2 K-2 Essay p 111 5C(K-2)#2 5E(K-2)#1 6A(K-2)#1 6D(K-2)#1 5A Research p 340-341	K-4/C Essay p 128 K-4/C1a,b,c p 129	Cell Functions Map p 73
A3: Explain, draw, or otherwise demonstrate the life cycle of an organism	A(K-2)#3 p II-64	Human Development pp 73-76	6B(K-2) Essay p 132 6B(K-2)#2 5B(K-2)#2	K-4/C Essay p 128 K-4/C2a p 129	No Maps
A4: Design and describe a classification system for objects	A(K-2)#4 p II-64	Diversity of Life pp 60-61	4D(K-2)#1 5A Research p 340	K-4/C Essay p 128 K-4/B1b p 127 K-4/E3b p 138	Atoms & Molecules Map p55 Conservation of Matter Map p57

Standard B: Ecology

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
B1: Identify ways organisms depend upon their environment	B(K-2)#1 p II-65	Interdependence of Life pp 64-66	5D(K-2) Essay p 116 5D(K-2)#1 5E(K-2) Essay p 119 5E(K-2)#1 5D Research p 342 6A(K-2)#2	K-4/C Essay p 128 K-4/C3a,b,d p 129 K-4/F3 a,b, p 140 K-4/F4 a p 140	Flow of Matter in Ecosystems Map p 77 Flow of Energy in Ecosystems Map p 79

Standard B: Ecology (Continued)

B2: Describe how almost all animal's food can be traced back to plants	B(K-2)#2 p II-65	Flow of Matter and Energy pp 66-67	5D(K-2) Essay p 116 5D(K-2)#1 5E(K-2) Essay p 119 5E(3-5)#1 5D Research p 342	K-4/C Essay p 128 K-4/C3a p 129	Flow of Matter in Ecosystems Map p 77 Flow of Energy in Ecosystems Map p 79
B3: Give examples of how one change in a system affects other parts of the system	B(K-2)#3 p II-65	Systems pp 166-168	5D(3-5) Essay p 116 5D(3-5)#4 11A Essay pp 262-263 11A(K-2) Essay p 264 11A(K-2)#2	K-4/C3b,c,d p 129 K-4/F4b,c p 140	Systems Map p 133 Changing Environment Strand p 83
B4: Describe different ecological systems on Earth	B(K-2)#4 p II-65	Interdependence of Life p 65	5D K-2 Essay p 116 5D(K-2)#2 11A K-2 Essay p 264	K-4/F4a p 140 K-4/C1a p 129	No Map
B5: Describe a familiar local habitat	B(K-2)#5 p II-65	Interdependence of Life p 65	5D K-2 Essay p 128 5D K-2 Essay p 116 5D(K-2)#2	K-4/C3b p 129 K-4/F4a p 140	No Maps

Standard C: Cells

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
C1: Demonstrate that living things are made up of different parts	C(K-2)#1 p II-66	Cells pp 62-64 Basic Functions pp 76-78 Systems p 166	11A K-2 Essay p 264 11A(K-2)#1 6C(K-2)#1 6C Research p 344	K-4/C1b p129	Systems Map p 133 Cell Differentiation Strand p 75
C2: Demonstrate an understanding that plants and animals need food, water, and gases to survive	C(K-2)#2 p II-66	Interdependence of Life p 65	1C(K-2)#3 5C K-2 Essay p 111 5C(K-2)#2 6A K-2 Essay p 128 6A(K-2)#2 5E Research p 342	K-4C1a p129	Basic Needs Strand p 73 Flow of Matter in Ecosystems Map p 77 Flow of Energy in Ecosystems Map p 79
C3: Explore magnifying devices and how they allow one to see in more detail	C(K-2)#3 p II-66	Cells p 62	5C K-2 Essay p 111 5C(K-2)#1	K-4/A1c p 122	Structures Strand pp 73 and 75

Standard C: Cells (continued)

C4: Provide examples of causes of diseases	C(K-2)#4 p II-66	Physical Health pp 80-82	6E(K-2)#3 6E Research pp 345-346	K-4/F1b,d p 140	Disease Map p 87 Conditions for Health Strand p 89
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Standard D: Continuity and Change

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
D1: Explain how fossils show the existence of past life	D(K-2)#1 p II-67	Evolution of Life pp 67-68 Evolution pp 177-78	5F K-2 Essay p 123 5F(K-2)#2	K-4/D1c p 134	Fossil Evidence Strand p 81
D2: Identify characteristics that help organisms live in their environment	D(K-2)#2 p II-67	Evolution pp 68-69	5F (K-2)#1 5F Research p 344	K-4/C Essay p128 K-4/C1 b,c p129	Variation and Advantage Strand p 83
D3: Draw or describe ways in which an organism can change over its lifetime, sometimes in predictable ways	D(K-2)#3 p II-67	Heredity pp 61-62	5B K-2 Essay p 107 6B K-2 Essay p 132 5B(K-2)#1 5B Research p 341 5F Research p 344	K-4/C Essay pp 127-128 K-4/C2a,b,c p129	Variation Strand p 71
D4: Describe ways in which individuals of the same species are alike and different	D(K-2)#4 p II-67	Heredity pp 61-62 Human Identity p 72	5B K-2 Essay p 107 5B(K-2) #1,2 6A(K-2)#1 5B Research p 341	K-4?C Essay p 128 K-4/C2b,c p 129	Natural Selection Map p 83 Variation Strand p 71

Standard E: Structure of Matter

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
E1: Show that large things are made up of smaller pieces	E(K-2)#1 p II-69	Structure of Matter p 47 Systems p 166	4D K-2 Essay p 76 11A K-2 Essay p 264 11A(K-2)#1 4D Research p 337	No related NSES	Invisibly Tiny Pieces Strand p 55 Parts and Wholes Strand p 57 Systems Map p 133

Standard E: Structure of Matter (Continued)

E2: Describe some physical properties of objects	E(K-2)#2 p II-69	Structure of Matter p 47	4D K-2 Essay p 76 4D(K-2)#1 4D Research pp 336-337	K-4/B Essay pp 123,126 K-4/B1a,b,c p127	Atoms and Molecules p 55 Changing vs. Constant Properties Strand p 57 Chemical Reactions p 61
E3: Group objects based on observable characteristics	E(K-2)#3 p II-69	Structure of Matter pp 46-47	4D(K-2)#1,2 4D(K-2)#2	K-4/B Essay pp 123,126 K-4/B1a,b p127	Atoms and Molecules p 55 Conservation of Matter p 57 Chemical Reactions p 61

Standard F: The Earth

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
F1: Describe the way weather changes	F(K-2)#1 p II-70 Snapshot p II-71	The Earth p43	4B K-2 Essay p 67 4B(K-2)#1	K-4/D Essay pp 130,134 K-4/D3b p134 Vignette pp 131-33	No Maps
F2: Analyze the relationships between observable weather patterns and the cycling of seasons	F(K-2)#2 p II-70	The Earth p43	4B K-2 Essay p 67 4B(K-2)#1	K-4/D Essay p 130,134 K-4/D3b p134	No Maps
F3: Observe changes that are caused by water, snow, wind, and ice	F(K-2)#3 p II-70	Processes that Shape the Earth p45	4C K-2 Essay p 72 4C 3-5 Essay p 72 4C(K-2)#2 4C(3-5)#1	K-4/D Essay pp 130, 134 K-4/D3a p 134	Weathering and Erosion Strand p 51

Standard G: The Universe

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
G1: Explain the cycles of day/night and of seasons	G(K-2)#1 p II-72	The Earth p43	K-2 Essay p 62 4A(K-2)#2 4B(K-2)#1 4B(3-5)#2 Research 4B p335	K-4/D Essay p130, 134 K-4/D2a p 134 K-4/D3c p134	Observations of the Sky Strand p 45 and 47

Standard G: The Universe (Continued)

G2: Demonstrate that shadows of objects change based on where light is coming from	G(K-2)#2 p II-72 Snapshot pp II-72	The Earth p 43	11C (K-2) Essay 11C(K-2)#1,2,3,4 4A(K-2)#2 4F Research p338	K-4/D Essay p130 K-4/D2a, 3c p134 K-4/B2b p127	Observations of the Sky Strand p 45 and 47
G3: Demonstrate an understanding that the sun is one of many stars in the universe and is the closest star to earth	G(K-2)#2 p II-72	The Universe p 40	4A(K-2)#1 4A Research p335	K-4/D2a p134	Stars Map p47 Galaxies and the Universe Map p49

Standard H: Energy

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
H1: Demonstrate an understanding that the sun gives off light and heat energy	H(K-2)#1 p II-73	The Earth pp 42-43 Energy Sources p 114	4E K-2 Essay p 83 4E(K-2)#1 4E 3-5 Essay p 83 4E(3-5)#1	K-4/D2b p134	No Maps
H2: Explain why living things need energy	H(K-2)#2 p II-73	Flow of Matter and Energy p 66	5E(3-5)#2 4E Research p 338 5E Research pp 342-343	K-4/C1a, 3a p129 K-4/F Essay p 139 K-4/F1c p 140	Flow of Energy in Ecosystems Map p 79

Standard I: Motion

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
I1: Develop a variety of ways to describe the motion of an object	I(K-2)#1 p II-74	Motion pp 52-53	2A(K-2)#3 K-2 Essay p 89 4F(K-2)#1	K-4/B Essay pp126-127 K-4/B2a,b p127	Forces and Motion Strand p 63 Vibrations Strand p 65
I2: Demonstrate that the motion of an object can be changed	I(K-2)#2 p II-74	Motion p 53	4F K-2 Essay p 89 4F(K-2)#2 4G K-2 Essay p 94 4G(K-2)#1,2 4F Research p 339	K-4/B2c p127	Forces and Motion Strand pp 43 and 63

Standard J: Inquiry and Problem Solving

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
J1: Make accurate observations using appropriate tools and units of measure	A(All Levels) #1,2,3 p II-22	The Scientific World View pp 2-3 Scientific Inquiry pp 3-4 Manipulation and Observation pp 191-92	1B K-2 Essay p10 1B(K-2)#1,2,3 3A K-2 Essay p 44 3A(K-2)#1 12C Essay p 292 12C(K-2)#4 12C(K-2)#1	K-4/A Essay pp121-122 K-4/A1a,c p122	Evidence and Reasoning in Inquiry Map p 17 Scientific Investigations Map p 19
J2: Ask questions and propose strategies and materials to use in seeking answers to questions.	A(K-2)#1 p II-22	Scientific Inquiry pp 3-7	1A K-2 Essay p 6 1B K-2 Essay p 10 1B(K-2)#1,2 3B(K-2)#1 12A K-2 Essay p 285 12A(K-2)#1	K-4/A Essay pp121-122 K-4/A1a,b,c p122 K-4/A2a,b,c p 123 K-4/E Essay pp 135,137 K-4/E1a,b p 137 K-4/E2a,b p 138	Evidence and Reasoning in Inquiry Map p 17 Kinds of Investigations Strand p 19 Making Sense of Evidence Strand p 21
J3: Use results in a purposeful way, which includes making predictions based on patterns they have observed.	A(All levels)#3 p II-39	Scientific Inquiry pp 3-7	K-2 Essay p 10 1B(K-2)#1 9D K-2 Essay p 227 9D(K-2)#1,2	K-4/A Essay pp121-122 K-4/A1d p122	Evidence and Reasoning in Inquiry Map p 17 Scientific Investigations Map p 19 Prediction Strand p 127
J4: Identify products which were invented to solve a problem.	N/A	Design and Systems pp 28-32	K-2 Essay p 54 3C(K-2)#1	K-4/E3a,b p 138 K-4/E Essay p135	Interaction of Science and Technology Map p 37

Standard K: Scientific Reasoning

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
K1: Examine strengths and weaknesses of simple arguments.	B(K-2)#1 p II-35	Critical Response Skills pp 193-194	K-2 Essay p 232 9E(K-2)#1 12E Essay p 298 12E(K-2)#1	K-4/A1e p 122 K-4/A Essay pp 121-122	Lines of Reasoning Strand p 17

Standard K: Scientific Reasoning (Continued)

K2: Distinguish between important and unimportant information in simple arguments.	C(K-2)#1 p II-36	Critical Response Skills pp 193-194	K-2 Essay p 232 9E(K-2)#1 12E Essay p 298 12E(K-2)#1	K-4/A Essay pp 121-122 K-4/A1d p 122	Lines of Reasoning Strand p 17
K3: Make observations.	A(All levels)#1 p II-22	Observation and Manipulation pp 191-92	12A(K-2)#1	K-4/A1a p122 K-4/A2d p 122	Observations and Evidence Strand p 17 Scientific Investigations Map p 19
K4: Participate in brainstorming activities.	B(All levels)#1 p II-35	Communication 192-193	No relevant Benchmarks	K-4/A2a p 123	No Maps
K5: Use various forms of simple logic.	A (All levels) p II-34	Reasoning pp 140-141 Critical Response Skills pp 193-194	9E Essay p 231 9E(K-2)#1 12E(K-2)#1	K-4/A1d p 122 K-4/A2d p 123	Lines of Reasoning Strand p 17
K6: Discover relationships and patterns.	A(All levels)#1 p II-34	Patterns of Change pp 174-175 Symbolic Relationships pp 132-133	9B K-2 Essay p 217 9B(K-2)#1	K-4/A1d p 122	Describing Change Map p 121

Standard L: Communication

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
L1: Describe and compare things in terms of number, shape, texture, size, weight, color, and behavior.	A(K-2)#1 p II-27	Communication pp 192-193	12D Essay p 295 12D(K-2)#1	K-4/B1a p 127 K-4/A1e p 122	Observation and Evidence Strand p 17 Scientific Investigations Map p 19 Description and Comparison Strand p 119 Comparing Groups Strand p 123
L2: Read and write instructions to be followed or instructions which explain procedures.	A(K-2)3,4 p II-27	Communication pp 192-193	12D(3-5)#1	K-4/A1e p 123 K-4/A2e p 123 K-4/E1e p 138	No Maps

Standard L: Communication (Continued)

L3: Ask clarifying questions.	A(All levels)#6 p II-27 B(All levels)#2 p II-28	Communication p 193	12A(K-2)#1	K-4/A1a p 122	No Maps
L4: Explain problem-solving processes using verbal, pictorial, and written methods.	C(K-2)#1,3 p II-28	Communication pp 192-193 Symbolic Relationships pp 132-33	12D (K-2)#2 <u>12D(3-5)#1,2</u>	<u>K-4/A1e</u> p 122 <u>K-4/E1d</u> p 138	Evidence and Reasoning in Inquiry Map p 17
L5: Make and read simple graphs.	C(K-2)#2 p II-28	Symbolic Relationships pp 132-33 Communication p 193	9A K-2 Essay p 211 <u>9A(K-2)#4</u>	K-4/A1 d,e p 122	Graphic Representation Map p 115
L6: Make objects and pictures to represent scientific and technological ideas.	C(K-2)#3 p II-28	Symbolic Relationships pp 132-33 Communication p 193	<u>12D(K-2)#2</u> 12D(3-5)#2	K-4/A1e p 122 K-4/E1d p 138	Observation and Evidence Strand p 17 Scientific Investigations Map p 19

Standard M: Implications of Science and Technology

Maine's Learning Results	Maine's Curriculum Framework	Science for All Americans	Benchmarks for Science Literacy	National Science Education Standards	Project 2061 Atlas of Science Literacy
M1: Describe how legends, stories, and scientific explanations are different ways in which people attempt to explain the world.	E(K-2)#1 p II-30 A(K-2)#1 p II-47	Historical Perspectives pp 147-163	No relevant Benchmarks	K-4/G Essay p 141 K-4/G1a p 141	No Maps
M2: Describe at least two inventions, what they do, how they work, and how they have made life easier.	A(K-2)#1 p II-47	The Nature of Technology pp 25-27	3C(K-2)#1	K-4/E Essay p 135 K-4/F5a p 140	Interaction of Science and Technology Map p 37
M3: Identify commonly used resources, their sources, and where waste products go.	C(K-2)#1 p II-44	Materials pp 111-113 The Earth p 44	5E(K-2)#2 8B K-2 Essay p 188 8B(K-2)#4 8C(K-2)#2	K-4/F Essay pp 138-139 <u>K-4/F3a,b</u> p 140	No Maps

Standard M: Implications of Science and Technology (Continued)

M4: Demonstrate some practices for recycling and care of resources.	C(K-2)#1 p II-44	The Earth p 44	5E(K-2)#2 8B(K-2)#4	K-4 Essay pp 139-140 K-4/F3c p 140	No Maps
M5: Explain how their lives would be different without specific inventions or scientific knowledge.	C(K-2)#1 p II-48 D(K-2)#1 p II-50	The Nature of Science p 1 The Nature of Technology 25	3A(K-2)#1 3C(K-2)#1	K-4/F5a,b pp140-41	Interaction of Technology and Society Map p 37

* For an explanation of the codes used in this document, please refer to the coding guide.