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SC.4.E.5.1:	Observe that the patterns of stars in the sky stay the same	Big Ideas Book: 180–181, 184, 196
	although they appear to shift across the sky nightly, and	Science Inquiry and Writing Book: 68–71
	different stars can be seen in different seasons.	Teacher's Edition: T181, T184.
SC.4.E.5.2:	Describe the changes in the observable shape of the moon	Big Ideas Book: 173, 190, 191
	over the course of about a month.	Science Inquiry and Writing Book: 72–75
		Teacher's Edition: T190–T191, T195a–T195d.
SC.4.E.5.3:	Recognize that Earth revolves around the Sun in a year	Big Ideas Book: 172–173, 176–177, 182–183, 196
	and rotates on its axis in a 24-hour day.	Teacher's Edition: T172–T173, T176–T179, T182–T183.
SC.4.E.5.4:	Relate that the rotation of Earth (day and night) and	Big Ideas Book: 170–181, 188–189, 196, 198–200, 202
	apparent movements of the Sun, Moon, and stars are	Science Inquiry and Writing Book: 64, 68–71, 72–75
	connected.	Teacher's Edition: T178–T181, T184, T188, T195a–T195d.
SC.4.E.5.5:	Investigate and report the effects of space research and	Big Ideas Book: 192–195
	exploration on the economy and culture of Florida.	Science Inquiry and Writing Book: 76–79
		Teacher's Edition: T192–T195, T195e–T195h.
SC.4.E.6.1:	Identify the three categories of rocks: igneous, (formed	Big Ideas Book: 213, 216–217, 226–233, 236, 238, 240–247
	from molten rock); sedimentary (pieces of other rocks and	Science Inquiry and Writing Book: 65, 88–91
	fossilized organisms); and metamorphic (formed from heat and pressure).	Teacher's Edition: T212-T213, T226-T233, T235a-T235d, T240-T241, T246-T247
SC.4.E.6.2:	Identify the physical properties of common earth-forming	Big Ideas Book: 210–225, 228–229, 232–236, 239–246
	minerals, including hardness, color, luster, cleavage, and	Science Inquiry and Writing Book: 66, 80–83, 84–87
	streak color, and recognize the role of minerals in the	Teacher's Edition: T209e–T209h, T214–T224.
SC.4.E.6.3:	Recognize that humans need resources found on Earth	Big Ideas Book: 250–276, 279–287
	and that these are either renewable or nonrenewable.	Science Inquiry and Writing Book: 66, 96–99
		Teacher's Edition: T249e–T249h, T252–T255, T258–T263, T275a–T275d.

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SC.4.E.6.4:	Describe the basic differences between physical	Big Ideas Book: 290–314, 318–327
	weathering (breaking down of rock by wind, water, ice,	Science Inquiry and Writing Book: 67, 100–103, 104–107
	temperature change, and plants) and erosion (movement	Teacher's Edition: T290–T297, T304–T311, T313, T320–T323.
	of rock by gravity, wind, water, and ice).	
SC.4.E.6.5:	Investigate how technology and tools help to extend the	Big Ideas Book: 290–314
	ability of humans to observe very small things and very	Teacher's Edition: T225, T229, T235.
	large things.	
SC.4.E.6.6:	Identify resources available in Florida (water, phosphate,	Big Ideas Book: 290–314
	oil, limestone, silicon, wind, and solar energy).	Science Inquiry and Writing Book: 92–95
		Teacher's Edition: T249e–T249h, T256–T257, T262, T265, T271.
SC.4.L.16.1:	Identify processes of sexual reproduction in flowering	Big Ideas Book: 8–9, 14–15, 18–19, 20–21, 24–25, 27, 29, 40–41
	plants, including pollination, fertilization (seed	Science Inquiry and Writing Book: 10, 14–17, 22–25
	production), seed dispersal, and germination.	Teacher's Edition: T5e-T5h, T6-T9, T14-T15, T18-T25, T33e-T33h.
SC.4.L.16.2:	Explain that although characteristics of plants and animals	Big Ideas Book: 30–33, 38–39, 60–67, 78–79
	are inherited, some characteristics can be affected by the	Science Inquiry and Writing Book: 26–29
	environment.	Teacher's Edition: T30–T33, T38, T45e–T45h, T60–T69, T78–T79.
SC.4.L.16.3:	Recognize that animal behaviors may be shaped by	Big Ideas Book: 62–63, 66–69
	heredity and learning.	Science Inquiry and Writing Book: 11, 26–29
		Teacher's Edition: T62–T63, T66–T69, T78–T79.
SC.4.L.16.4:	Compare and contrast the major stages in the life cycles of	Big Ideas Book: 24–29, 42–43, 50–59, 76–81
	Florida plants and animals, such as those that undergo	Science Inquiry and Writing Book: 14–17, 18–21, 30–33
	incomplete and complete metamorphosis, and flowering	Teacher's Edition: T14-T15, T24-T29, T33a-T33d, T42-T43, T48-T59, T69a-T69d, T72, T74-T77, T80-T83.
	and nonflowering seed-bearing plants.	
SC.4.L.17.1:	Compare the seasonal changes in Florida plants and	Big Ideas Book: 122–127
	animals to those in other regions of the country.	Science Inquiry and Writing Book: 46–49
		Teacher's Edition: T123, T125–T127, T149a–T149d.
SC.4.L.17.2:	Explain that animals, including humans, cannot make their	Big Ideas Book: 94, 98–99, 104, 109, 110, 114
	own food and that when animals eat plants or other	Teacher's Edition: T85e-T85h, T86-T96, T98-T113.
	animals, the energy stored in the food source is passed to	
	them.	
SC.4.L.17.3:	Trace the flow of energy from the Sun as it is transferred	Big Ideas Book: 98–99
	along the food chain through the producers to the	Science Inquiry and Writing Book: 34–37, 38–41
	consumers.	Teacher's Edition: T98–T103, T103a–T103d, T104–T107.
SC.4.L.17.4:	Recognize ways plants and animals, including humans, can	Big Ideas Book: 18, 22–23, 41, T114–T115, 128–150, 154–164
	impact the environment.	Science Inquiry and Writing Book: 13
		Teacher's Edition: T22-T23, T114-T115, T117e-T117h, T128-T164.

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SC.4.N.1.1:	Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.	Science Inquiry and Writing Book: 22–25, 26–29, 30–33, 34–37, 38–41, 42–45, 46–49. 50–51, 52–59, 68–71, 76–79, 84–87, 88–91, 92–95, 96–99, 100–103, 104–107, 108–109, 110–117, 134–137, 138–141, 142–145, 146–149, 150–153, 154–157, 158–161, 162–165, 166–169, 170–173, 174–177, 178–179, 180–187  Teacher's Edition: T33e–T33h, T69a–T69d, T85e–T85h, T103a–T103d, T117e–T117h, T164a–T164d, T164i–T164l, T195e–T195h, T328q–T328t, T505a–T505d, T516i–T516l
SC.4.N.1.2:	Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.	Science Inquiry and Writing Book: 22–25, 30–33, 38–41, 88–91, 122, 126–129, 166–169, 174–177 Teacher's Edition: T69a–T69d, T103a–T103d, T333e–T333h, T423a–T423d, T449a–T449d, T505a–T505d.
SC.4.N.1.3:	Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence.	Science Inquiry and Writing Book: 60–63 Teacher's Edition: T5e–T5h, T33e–T33h, T45e–T45h, T69a–T69d, T103a–T103d, T164i–T164l, T209i–T209l, T235a–T235d, T333e–T333h, T405e–T405h, T437e–T437h, T461e–T461h.
SC.4.N.1.4:	Attempt reasonable answers to scientific questions and cite evidence in support.	Science Inquiry and Writing Book: 26–29, 30–33, 34–37, 38–41, 42–45, 46–49, 50–51, 52–59, 68–71, 72–75, 80–83, 96–99, 100–103, 104–107, 108–109, 124, 142–145, 154–157, 158–161, 162–165, 166–169, 170–173, 174–177, 178–179 Teacher's Edition: T69a–T69d, T85e–T85h, T103a–T103d, T117e–T117h, T149a–T149d, T164a–T164d, T229, T249e–T249h, T302–T303, T333e–T333h, T373e–T373h, T437e–T437h, T461e–T461h, T493e–T493h, T516i–T516l, T516q–T516t.
SC.4.N.1.5:	Compare the methods and results of investigations done by other classmates.	Science Inquiry and Writing Book: 12, 38–41, 88–91, 124, 126–129, 142–145, 150–153, 166–169, 174–177  Teacher's Edition: T103a–T103d, T235a–T235h, T275a–T275d, T355a–T355h, T423a–T423d, T505a–T505d.
SC.4.N.1.6:	Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.	Science Inquiry and Writing Book: 14–17, 18–21, 34–37, 52–59, 188–191 Teacher's Edition: T45e–T45h, T85e–T85h, T373e–T373h, T437e–T437h, T516q–T516t.
SC.4.N.1.7:	Recognize and explain that scientists base their explanations on evidence.	Big Ideas Book: 37, 102, 106–107, 316–317 Science Inquiry and Writing Book: 60–63, 188–191 Teacher's Edition: T37, T117e–T117h, T164i–T164l, T209i–T209l, T316–T317, T391a–T391d, T516q–T516t.
SC.4.N.1.8:	Recognize that science involves creativity in designing experiments.	Big Ideas Book: 107 Science Inquiry and Writing Book: 60–63 Teacher's Edition: T164i–T164i, T449a–T449d, T505a–T505d.
SC.4.N.2.1:	Explain that science focuses solely on the natural world.	Teacher's Edition: T33a-T33d.

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SC.4.N.3.1:	Explain that models can be three dimensional, two	Science Inquiry and Writing Book: 100–103, 118–121
	dimensional, an explanation in your mind, or a computer	Teacher's Edition: T195a-T195d, T328q-T328t.
SC.4.P.8.1:	Measure and compare objects and materials based on	Big Ideas Book: 334–353, 356, 359–360, 365, 367
	their physical properties including: mass, shape, volume,	Science Inquiry and Writing Book: 122, 126–129, 130–133, 134–137
	color, hardness, texture, odor, taste, attraction to	Teacher's Edition: T54, T333e–T333h, T339–T348, T350–T353, T355a–T355h.
	magnets.	
SC.4.P.8.2:	Identify properties and common uses of water in each of	Big Ideas Book: 376–383, 392, 400–401, 403
	its states.	Science Inquiry and Writing Book: 123, 138–141
		Teacher's Edition: T373e–T373h.
SC.4.P.8.3:	Explore the Law of Conservation of Mass by demonstrating	Big Ideas Book: 349
	that the mass of a whole object is always the same as the	Science Inquiry and Writing Book: 132–135
	sum of the masses of its parts.	Teacher's Edition: T349, T355e–T355h.
SC.4.P.8.4:	Investigate and describe that magnets can attract	Big Ideas Book: 344–345, 356, 438–450, 453–455, 458–459
	magnetic materials and attract and repel other magnets.	Science Inquiry and Writing Book: 124, 154–157, 158–161
		Teacher's Edition: T344–T345, T357, T437e–T437h, T438–T448, T449a–T449d.
SC.4.P.9.1:	Identify some familiar changes in materials that result in	Big Ideas Book: 374–375, 384–392, 399, 402
	other materials with different characteristics, such as	Science Inquiry and Writing Book: 142–145
	decaying animal or plant matter, burning, rusting, and cooking.	Teacher's Edition: T374–T375, T384–T391, T391a–T391d.
SC.4.P.10.1:	Observe and describe some basic forms of energy,	Big Ideas Book: 470, 472–473, 475–482, 484–490, 492–499, 502, 504, 506–507, 514, 518–523
	including light, heat, sound, electrical, and the energy of	Science Inquiry and Writing Book: 162–165, 170–173, 174–177
	motion.	Teacher's Edition: T461e-T461h, T464-T479, T505a-T505d.
SC.4.P.10.2:	Investigate and describe that energy has the ability to	Big Ideas Book: 470, 472, 474–477, 482, 486–487, 490, 494–496, 499
	cause motion or create change.	Science Inquiry and Writing Book: 124, 162–165
		Teacher's Edition: T461e-T461h, T464-T467.
SC.4.P.10.3:	Investigate and explain that sound is produced by	Big Ideas Book: 496–503, 506, 508, 510–511, 513–514
	vibrating objects and that pitch depends on how fast or	Science Inquiry and Writing Book: 125, 170–173, 174–177
	slow the object vibrates.	Teacher's Edition: T493e-T493h, T496-T503, T505a-T505d.
SC.4.P.10.4:	Describe how moving water and air are sources of energy	Big Ideas Book: 478–479, 486–491, 494–499
	and can be used to move things.	Teacher's Edition: T478–T479, T486-T487–T490-T491.
SC.4.P.11.1:	Recognize that heat flows from a hot object to a cold	Big Ideas Book: 473, 482–485, 490, 498
	object and that heat flow may cause materials to change	Science Inquiry and Writing Book: 166–169
	temperature.	Teacher's Edition: T474–T477.
SC.4.P.11.2:	Identify common materials that conduct heat well or	Big Ideas Book: 476–477
	poorly.	Science Inquiry and Writing Book: 166–169
		Teacher's Edition: T476–T477.

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SC.4.P.12.1:	Recognize that an object in motion always changes its	Big Ideas Book: 406–413, 424, 430, 432–433
	position and may change its direction.	Science Inquiry and Writing Book: 123, 146–149
		Teacher's Edition: T405e-T405h, T410-T413.
SC.4.P.12.2:	Investigate and describe that the speed of an object is	Big Ideas Book: 406, 409, 414–424, 426–435
	determined by the distance it travels in a unit of time and	Science Inquiry and Writing Book: 150–153
	that objects can move at different speeds.	Teacher's Edition: T414–T417, T422–T423, T423a–T423d.
LAFS.4.RI.1.3:	Explain events, procedures, ideas, or concepts in a	Teacher's Edition: T5e-T5h, T33e-T33h, T45e-T45h, T85e-T85h, T103a-T103d, T117e-T117h, T149a-T149d, T169e-T169h,
	historical, scientific, or technical text, including what	T209e-T209h, T209i-T209l, T249e-T249h, T275a-T275d, T313a-T313d, T333e-T333h, T373e-T373h, T391a-T391d, T423a-
	happened and why, based on specific information in the	T423d, T437e-T437h, T461e-T461h, T493e-T493h
	text.	
LAFS.4.RI.2.4:	Determine the meaning of general academic and domain-	Big Ideas Book: p. 11, 14, 15, 18, 24, 30, 54-56, 60, 94-98, 130, 141, 144, 176, 182, 191, 215-217, 226, 228, 232, 254, 266,
	specific words or phrases in a text relevant to a grade 4	268, 294, 298, 304, 338, 346, 350, 378, 380, 382, 410-412, 414, 415, 442, 444, 446, 466, 470, 472, 474, 498, 500
	topic or subject area.	Teacher's Edition: T6-T9, T46-T49, T86-T89, T118-T121, T170-T173, T210-T213, T250-T253, T290-T293, T334-T337, T374-
LAFS.4.RI.4.10:	By the end of year, read and comprehend informational	Big Ideas Book: p. 5-154, 169-318, 333-486
	texts, including history/social studies, science, and	Teacher's Edition: T10-T33, T34-T44, T44a, T50-T69, T70-T84, T84a, T90-T103, T104-T116, T116a, T122-T149, T174-T195,
	technical texts, in the grades 4–5 text complexity band	T196-T208, T208a, T214-T235, , T236-T248, T254-T275, T276-T288, T288a, T294-T313, T314-T328, T328a, T338-T355, T356-
	proficiently, with scaffolding as needed at the high end of	T372, T372a, T378-T391, T392-T404, T404a, T410-T423, T424-T436, T442-T449, T450-T460, T466-T481, T482-T492, T498-
	the range.	T505, T506-T516
LAFS.4.SL.1.1:	Engage effectively in a range of collaborative discussions	Teacher's Edition: T12, T23, T35, T44, T53, T62, T71, T84, T101, T105, T116, T125, T129, T151, T164, T193, T197, T208,
	(one-on-one, in groups, and teacher-led) with diverse	T237, T248, T269, T277, T288, T289g, T306, T315, T328, T346, T350, T357, T372, T373e, T393, T404, T425, T436, T451,
	partners on grade 4 topics and texts, building on others'	T460, T481c, T483, T492, T493g, T505c, T507, T516
	ideas and expressing their own clearly.	
	a. Come to discussions prepared, having read or studied	Teacher's Edition: T12, T23, T35, T44, T53, T62, T71, T84, T101, T105, T116, T125, T129, T151, T164, T193, T197, T208,
	required material; explicitly draw on that preparation and	T237, T248, T269, T277, T288, T289g, T306, T315, T328, T346, T350, T357, T372, T373e, T393, T404, T425, T436, T451,
	other information known about the topic to explore ideas	T460, T481c, T483, T492, T493g, T505c, T507, T516
	under discussion.	
	b. Follow agreed-upon rules for discussions and carry out	Teacher's Edition: T12, T23, T35, T44, T53, T62, T71, T84, T101, T105, T116, T125, T129, T151, T164, T193, T197, T208,
	assigned roles.	T237, T248, T269, T277, T288, T289g, T306, T315, T328, T346, T350, T357, T372, T373e, T393, T404, T425, T436, T451,
	c. Pose and respond to specific questions to clarify or	Teacher's Edition: T12, T23, T35, T44, T53, T62, T71, T84, T101, T105, T116, T125, T129, T151, T164, T193, T197, T208,
	follow up on information, and make comments that	T237, T248, T269, T277, T288, T289g, T306, T315, T328, T346, T350, T357, T372, T373e, T393, T404, T425, T436, T451,
	contribute to the discussion and link to the remarks of	T460, T481c, T483, T492, T493g, T505c, T507, T516
	others.	
	d. Review the key ideas expressed and explain their own	Teacher's Edition: T12, T23, T35, T44, T53, T62, T71, T84, T101, T105, T116, T125, T129, T151, T164, T193, T197, T208,
	ideas and understanding in light of the discussion.	T237, T248, T269, T277, T288, T289g, T306, T315, T328, T346, T350, T357, T372, T373e, T393, T404, T425, T436, T451,
		T460, T481c, T483, T492, T493g, T505c, T507, T516

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LAFS.4.W.3.8:	Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.	Each lesson gives opportunity to use prior knowledge. For Example: Teacher's Edition: T16, T23, T40, T50, T59, T67, T92, T97, T127, T152, T175, T176, T187, T198, T242, T264, T275, T305, T312, T316, T354, T355a, T359, T384, T395, T423, T426, T453, T478, T484
LAFS.4.W.3.9:	Draw evidence from literary or informational texts to support analysis, reflection, and research.  a. Apply grade 4 Reading standards to literature (e.g., "Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text [e.g., a character's thoughts, words, or actions].").	Big Ideas Book: p. 5-154, 169-318, 333-486 Teacher's Edition: T10-T33, T34-T44, T44a, T50-T69, T70-T84, T84a, T90-T103, T104-T116, T116a, T122-T149, T174-T195, This objective is not directly addressed at this grade level of National Geographic Science.
	b. Apply grade 4 Reading standards to informational texts (e.g., "Explain how an author uses reasons and evidence to support particular points in a text").	Big Ideas Book: p. 5-154, 169-318, 333-486 Teacher's Edition: T10-T33, T34-T44, T44a, T50-T69, T70-T84, T84a, T90-T103, T104-T116, T116a, T122-T149, T174-T195, T196-T208, T208a, T214-T235, , T236-T248, T254-T275, T276-T288, T288a, T294-T313, T314-T328, T328a, T338-T355, T356-
MAFS.4.MD.1.1:	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36),	Teacher's Edition: T33a-T33b, T355a-T355d, T355e-T355h
MAFS.4.MD.2.4:	Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot find and interpret the difference in length between the longest and shortest specimens in an insect collection.	Teacher's Edition: T33a-T33b
ELD.K12.ELL.SC.1:	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.	Teacher's Edition: T3, T11, T15, T21, T27, T37, T53, T55, T59, T67, T73, T86, T93, T101 T123, T133, T143, T153, T169g, T180, T183, T190, T206, T215, T219, T223, T228, T239, T255, T261, T265, T269, T271, T279, T295, T305, T309, T317, T333G, T339, T343, T345, T351, T378, T385, T398, T411, T428, T443, T453, T467, T471, T478, T485, T494, T503, T509
ELD.K12.ELL.SI.1:	English language learners communicate for social and instructional purposes within the school setting.	Teacher's Edition: T3, T11, T15, T21, T27, T37, T53, T55, T59, T67, T73, T86, T93, T101 T123, T133, T143, T153, T169g, T180, T183, T190, T206, T215, T219, T223, T228, T239, T255, T261, T265, T269, T271, T279, T295, T305, T309, T317,
HE.4.C.1.5:	Identify the human body parts and organs that work together to form healthy body systems.	This objective is not directly addressed at this grade level of National Geographic Science.