2017 STANDARDS ALIGNMENT
FLORIDA DEPARTMENT OF EDUCATION
INSTRUCTIONAL MATERIALS
COURSE STANDARDS/BENCHMARKS (Form IM7)

SUBJECT: Science
GRADE: 6
LEVEL: 2
COURSE TITLE: M/J Earth/Space Science
COURSE CODE: 2001010
SUBMISSION TITLE: : *Issues and Earth Science, Second Edition*
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* * * USERNAME: SEPUPearth PASSWORD: Florida - the first time you link to the activity you will need to login to access the material * * *

BENCHMARK CODE	BENCHMARK	LESSONS WHERE BENCHMARK IS DIRECTLY ADDRESSED IN-DEPTH IN MAJOR TOOL
Select references to evidence of alignment have been linked. Non-linked activities may also be referenced if needed.		
SC.6.E.6.1	Describe and give examples of ways in which Earth's surface is built up and torn down by physical and chemical weathering, erosion, and deposition.	IAES 5, 28[1], 29, 31, 32
SC.6.E.6.2	Recognize that there are a variety of different landforms on Earth's surface such as coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.	IAES 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 37, 42, 45, 47, 48
SC.6.E.7.1	Differentiate among radiation, conduction, and convection, the three mechanisms by which heat is transferred through Earth's system.	IAES 46, 46A

[1] Activity references are linked to the *Teacher's Edition* unless otherwise specified. While specific evidence of alignment may be *within* the activity, links are connected to the first page of the lesson to provide context. Reviewers may find it helpful to simultaneously reference the same activity number in the **Student Book**.

SC.6.E.7.2	Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.	IAES 58, 60, 62
SC.6.E.7.3	Describe how global patterns such as the jet stream and ocean currents influence local weather in measurable terms such as temperature, air pressure, wind direction and speed, and humidity and precipitation.	IAES 57, 58
SC.6.E.7.4	Differentiate and show interactions among the geosphere, hydrosphere, cryosphere, atmosphere, and biosphere.	IAES 5, 19, 38, 53, 57, 62, 66
SC.6.E.7.5	Explain how energy provided by the sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.	IAES 55, 56, 57, 58, 62
SC.6.E.7.6	Differentiate between weather and climate.	IAES 52, 53, 66
SC.6.E.7.7	Investigate how natural disasters have affected human life in Florida.	IAES 30, 50, 52
SC.6.E.7.8	Describe ways human beings protect themselves from hazardous weather and sun exposure.	IAES 30, 50, 52, 53, 87
SC.6.E.7.9	Describe how the composition and structure of the atmosphere protects life and insulates the planet.	IAES 64, 65
SC.6.N.1.1	Define a problem from the sixth grade curriculum, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigation of various types, such as systematic observations or experiments, identify variables, collect and organize data, interpret data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.	SEPUP "Designing Investigation (DI)" activity types call for students to state hypotheses or predictions clearly, design a procedure, collect and analyze data, identify variables, state and defend conclusions. See for example IAES 16, 51, 55, 67, 72
SC.6.N.1.2	Explain why scientific investigations should be replicable.	IAES 1, 4, 55, Science Skills Student Sheet 8, "What is Science?"

SC.6.N.1.3	Explain the difference between an experiment and other types of scientific investigation, and explain the relative benefits and limitations of each.	IAES 1, 53, 68, Science Skills Student Sheet 8, "What is Science?"
SC.6.N.1.4	Discuss, compare, and negotiate methods used, results obtained, and explanations among groups of students conducting the same investigation.	SEPUP "Designing Investigation (DI)" activity types call for students to design a procedure, collect and analyze data, identify variables, state and defend explanations and conclusions. See IAES 16, 51, 52, 55, 67, 72
SC.6.N.1.5	Recognize that science involves creativity, not just in designing experiments, but also in creating explanations that fit evidence.	IAES 16, 41, 51, 52, 55, 62, 67, 72
SC.6.N.2.1	Distinguish science from other activities involving thought.	IAES 1, 2, 41, 42
SC.6.N.2.2	Explain that scientific knowledge is durable because it is open to change as new evidence or interpretations are encountered.	IAES 1, 41, 42
SC.6.N.2.3	Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.	IAES 35, 40, 41, 50, 57, 87
SC.6.N.3.1	Recognize and explain that a scientific theory is a well-supported and widely accepted explanation of nature and is not simply a claim posed by an individual. Thus, the use of the term theory in science is very different than how it is used in everyday life.	IAES 1, 41, 42, Science Skills Student Sheet 8, "What is Science?
SC.6.N.3.2	Recognize and explain that a scientific law is a description of a specific relationship under given conditions in the natural world. Thus, scientific laws are different from societal laws.	IAES 21, 95, 96, Science Skills Student Sheet 8, "What is Science?"
SC.6.N.3.3	Give several examples of scientific laws.	IAES 21, 95, 96, Science Skills Student Sheet 8, "What is

		Science?"
SC.6.N.3.4	Identify the role of models in the context of the sixth grade science benchmarks.	Modeling and the use and construction of models, are key components to all SEPUP curricula. One of SEPUP's 10 different activity types is "Modeling" and another is "Computer Simulation." Both focus on the use of different types of models in the science classroom. See IAES 21, 28, 31, 37, 43, 47, 48, 62, 76, 77, 80, 81, 90. In addition, other activities also involve the use of models and "Talking Drawings." See IAES 25, 26, 32, 38, 40, 67, 73, 91, 93.
SC.7.E.6.1	Describe the layers of the solid Earth, including the lithosphere, the hot convecting mantle, and the dense metallic liquid and solid cores.	IAES 38, 42, 46.
SC.7.E.6.2	Identify the patterns within the rock cycle and relate them to surface events (weathering and erosion) and sub-surface events (plate tectonics and mountain building).	IAES 19, 22, 29, 37, 42.
SC.7.E.6.3	Identify current methods for measuring the age of Earth and its parts, including the law of superposition and radioactive dating.	IAES 21, 39.
SC.7.E.6.4	Explain and give examples of how physical evidence supports scientific theories that Earth has evolved over geologic time due to natural processes.	IAES 39, 41, 42, 47.
SC.7.E.6.5	Explore the scientific theory of plate tectonics by describing how the movement of Earth's crustal plates causes both slow and rapid changes in Earth's surface, including volcanic eruptions, earthquakes, and mountain building.	IAES 37, 42, 43, 45, 47, 48.
SC.7.E.6.6	Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.	IAES 30, 36, 49.

SC.7.E.6.7	Recognize that heat flow and movement of material within Earth causes earthquakes and volcanic eruptions, and creates mountains and ocean basins.	IAES 37, 38, 42, 43, 45, 46, 47.
SC.8.E.5.1	Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.	IAES 88, 90.
SC.8.E.5.2	Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.	IAES 86, 87, 88.
SC.8.E.5.3	Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.	IAES 86, 88, 90, 92.
SC.8.E.5.4	Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.	IAES 95, 96.
SC.8.E.5.5	Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).	IAES 86, 87, 88, 92.
SC.8.E.5.6	Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.	IAES 92.
SC.8.E.5.7	Compare and contrast the properties of objects in the Solar System including the Sun, planets, and moons to those of Earth, such as gravitational force, distance from the Sun, speed, movement, temperature, and atmospheric conditions.	IAES 88, 90, 91.
SC.8.E.5.8	Compare various historical models of the Solar System, including geocentric and heliocentric.	IAES 92
SC.8.E.5.9	Explain the impact of objects in space on each other	IAES 75, 76, 77, 82, 96.

	including: the Sun on the Earth including seasons and gravitational attraction, and the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.	
SC.8.E.5.10	Assess how technology is essential to science for such purposes as access to outer space and other remote locations, sample collection, measurement, data collection and storage, computation, and communication of information.	IAES 85, 87, 93, 94.
SC.8.E.5.11	Identify and compare characteristics of the electromagnetic spectrum such as wavelength, frequency, use, and hazards and recognize its application to an understanding of planetary images and satellite photographs.	IAES 87.
SC.8.E.5.12	Summarize the effects of space exploration on the economy and culture of Florida.	IAES 85.
LAFS.6.SL.1.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others ideas and expressing their own clearly. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion. Review the key ideas	SEPUP supports discussion in the science classroom, see for example ● Strategies for Facilitating Group Discussion, TR[2] pg. 49-50, and pg. 80-81. ● Guidelines for Oral Presentations, TR p.82. ● "Talking it Over" activities, IAES 36, 41, 50, 71, 98. ● Discussion Web Student Sheets 11.1, 23.1, 35.1, 36.2, 49.2. ● Communication Skills support for assessment on TR pg. 131. ● Example of Communication Skills prompts: *Teaching Suggestions* in IAES 69 and Literacy Transparency 2, "Oral Presentations."

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	expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.	
LAFS.6.SL.1.2	Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.	SEPUP has ten distinct and different activity types including labs, readings, view and reflect, talking it over, modeling, and more that call for students to process information in different primary formats. See, for example, the **SEPUP approach to literacy** starting on TR[3] pg. 72 which provides an overview of diverse media and formats such as media viewing strategies, talking drawings) and uses a variety of formats such as print based (with literacy supports as noted here), role plays (IAES 8, 35), media viewing and computer simulations (e.g., 42, 47, 64, 76, 81), and Talking It Over activities (23, 41, 50, 70, 71).
LAFS.6.SL.1.3	Delineate a speaker's argument and specific claims, distinguishing claims that are supported by reasons and evidence from claims that are not.	Student progress in this area is assessed using the Recognizing Relevant Evidence scoring guide on TR pg. 130 and the Organizing Scientific Ideas scoring guide on TR pg. 131. Activities that show this skill include IAES 2, 11 (AQ 2[4]), 41 (AQ 3), See also Literacy Student Sheet 1e, "Media Literacy."
LAFS.6.SL.2.4	Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.	SEPUP has activities and assessment scoring guides designed to support communicating scientific information, including oral speaking skills such as enunciation, projection, and eye contact, as well as the ability to logically organize arguments and evidence related to a problem. See: ● Guidelines for Oral Presentations, TR pg .82. ● "Talking it Over" activities, IAES 2, 23, 24, 36, 41, 49… ● Discussion Web Student Sheets 11.1, 23.1, 35.1, 36.2,

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		49.1. ● Communication Skills support for assessment on TR[5] pg. 131. ● Example of Communication Skills prompts: IAES 69 and Literacy Transparency 2, "Oral Presentations".
LAFS.6.SL.2.5	Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.	Besides using print-based sources, SEPUP uses nontraditional formats such as media viewing and computer simulations (see for example IAES 42, 47, 64, 76, 81). We also have many online videos of the labs themselves using our online LABsent® program. See for example, LABsent Activity 46: Convection Currents, Activity 32: Modeling Erosion, and Activity 28: Cutting Canyons and Building Deltas
LAFS.68.RST.1.1	Cite specific textual evidence to support analysis of science and technical texts.	SEPUP has a well-developed approach to supporting literacy that includes analysis of technical texts. See, for example, the SEPUP approach to literacy, especially Directed Activities Related to Text (DART), TR pg. 76-77, and the following strategies: ● *Readings with embedded "Stopping-to-Think" (STT) strategy:* 5, 19, 29, 33, 38, 45, 58, 60, 66, 74, 78, 87, 92, 96 ● *Three-level reading guides:* Student Sheets 15.1, 29.1, 78.1, 87.1 ● *Anticipation guides:* Student Sheets 18.1, 44.1, 55.1, 62.1, 63.1, 74.1.
LAFS.68.RST.1.2	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	SEPUP has a well-developed approach to supporting literacy that includes determining central ideas and conclusions, as well as summarizing informational texts. See, for example,

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		the SEPUP approach to literacy, especially Strategies for Supporting Reading Comprehension, TR[6] pg. 76-77, and the following strategies below. *Readings with embedded "stop-to think" (STT) strategy:* IAES 5, 19, 29, 33, 38, 45, 58, 60, 66, 74, 78, 87, 92, 96 *Three-level Reading Guides are used to analyze literal, interpretive, and applied levels of understanding of texts: See for example,* IAES Student Sheets 15.1, 29.1, 78.1, 87.1 *Directed Activities Related to Text:* IAES Student Sheets 2.2, 19.2, 34.1, 45.1, 53.1.
LAFS.68.RST.1.3	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	SEPUP has ten distinct and different activity types, including labs and investigations (similar approaches but using less "wet" equipment). See for example all "laboratory" type activities: IAES 3, 4, 6, 10, 13, 16, 17, 20, 46, 59, 61, 63, 67, 93.
LAFS.68.RST.2.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.	Key terms and vocabulary words and phrases are introduced in context as described in the **Teacher's Resources for Literacy Support** (see for example, TR pg. 45, 47, 73, 75, 83, 86-87). The TE introduces new words and phrases in bold representing first time use, so teachers can plan effectively. Weather map symbols are introduced in IAES 69 (see for example, AQ 2[7]) and the use of standard weather symbols in the *Student Book*, pg. E-88-89.
LAFS.68.RST.2.5	Analyze the structure an author uses to organize a text, including how the major sections contribute to the	SEPUP has a well-developed approach to supporting literacy that includes analysis of text. See, for example, the SEPUP

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	whole and to an understanding of the topic.	approach to Literacy**,** especially the Directed Activities Related to Text (DART), TR[8] pg. 76-77, and the following strategies: The Three-level Reading Guide (TLRG) is a built-in literacy strategy in SEPUP that helps student analyze the author's intent The guide contains a series of statements from the three levels of understanding, listed here from lower to higher: *literal, interpretive,* and *applied*. Literal statements guide the student to look for ideas that are explicitly presented in the reading, in some cases using identical words or phrases. Interpretive statements require students to process information and recognize ideas that are often implicit. Applied statements do not have a single correct response, but are there for students to support or dispute based on information found in the reading as well as their own ideas. These applied statements sometimes relate the factual information in the reading to everyday life and may be used as the basis of a class discussion. A template for this strategy can be found on Literacy Student Sheet 3, "Three-level Reading Guide Template," and TLRG can be found in IAES Student Sheets 15.1, 29.1, 78.1, 87.1.
LAFS.68.RST.2.6	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	Three-level Reading Guides are used to infer the author's purpose and to predict meanings not stated explicitly. See IAES Student Sheets 15.1, 87.1.
LAFS.68.RST.3.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).	SEPUP has a well-developed approach to supporting literacy that includes communicating scientific information with supplementary visual formats. See, for example, the SEPUP

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		approach to Literacy Support on *Strategies for Understanding Concepts*, TR[9] pg. 83-86, and the following strategies below. ● Concept Maps: IAES 5, 6, 9, 15, 19, 29, 33, 60, 84 ● Venn Diagrams: IAES 3, 5, 42, 77 ● Talking Drawings: IAES 19, 38, 73, 90, 91 ● Makes/interprets graphs: IAES 27, 51, 52, 55, 70, 75, 93, 95.
LAFS.68.RST.3.8	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	*Discussion Webs* are graphic organizers that help students arrange evidence they have gathered primarily from readings. Literacy Student Sheet 6, "Discussion Web," provides a template for this strategy. Discussion webs support students in engaging with information from text and other sources and then with each other to come to an evidence-based conclusion. Any question or issue that involves two viewpoints or more than one potentially acceptable answer can be explored using this strategy. See for example TR pg. 80-81 and Student Sheets 11.1 (not a typical discussion web, but does promote examination of evidence), 23.1, 35.1, 36.2, 49.1. See also the Recognizing Evidence (RE) scoring guide on TR pg. 130 and the following activities that use it: 34, 70, 97.
LAFS.68.RST.3.9	Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.	SEPUP features ten different activity types to support different student learning styles. Some of these are text-based, such as readings and role plays, and some involve direct experience/hands on learning such as labs, and still others involve other modalities, such as view/reflect or discussions. All provide support for students to experience more than one way to learn. See for example, *SEPUP Supports Multiple Learning Styles*, TR[10] pg. 40-41.

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LAFS.68.WHST.1.1	Write arguments focused on discipline-specific content. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. Establish and maintain a formal style. Provide a concluding statement or section that follows from and supports the argument presented.	SEPUP has activities and assessment procedures that support claims w/evidence arguments, recognizing evidence versus opinion and using evidence to make educated decisions that require trade-offs**.** These are described in more detail on TR pg. 114-117, the RE (recognizing evidence) and ET (evidence/tradeoffs) scoring guides can be found on TR pg. 130**.** The following activities call for students to produce writing samples scored with the RE and ET scoring guides: RE: IAES 34 (AQ1[11]), 70 (AQ 2) ET: 35 (AQ 1), 36 (AQ 2), 49, (AQ 2)…
LAFS.68.WHST.1.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts. Use precise	The SEPUP program requires daily writing in the student science notebook for the purpose of documenting scientific procedures and experiments. See TR pg. 78-79**,** 86 and Literacy Student Sheets 1a and 1b. This writing is assessed from time to time using the Communicating Skills (CS) and Organizing Scientific Ideas (SI) scoring guides, described on TR pg. 131. Designing Investigation Activity types call for students to write their own procedures. Examples of SI prompts: IAES 41 (AQ 3[12]), 62 (AQ 4). Examples of CS prompts: 69**,** 84 (SB Procedures). Examples of DI

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	language and domain-specific vocabulary to inform about or explain the topic. Establish and maintain a formal style and objective tone. Provide a concluding statement or section that follows from and supports the information or explanation presented.	prompts can be seen in the SB Procedures for IAES 16, 55, 67. Three types of Writing Frames are provided, see the discussion on TR[13] pg. 78-79 and Literacy Student Sheets 4 and 5. Note the SEPUP Vocabulary Approach.
LAFS.68.WHST.2.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	The SEPUP program requires daily writing in the student science notebook for the purpose of documenting scientific procedures and experiments. See TR pg. 78 and TR pg. 86 and Literacy Student Sheets 1a and 1b. This writing is assessed from time to time using the Communication Skills (CS) and Organizing Scientific Ideas (SI) scoring guides, shown on TR pg.131. Designing Investigation Activity types call for students to write their own procedures. Examples of SI prompts: IAES 41 (AQ 3[14]), 62 (AQ 4), 83, 98. Examples of CS prompts: 35, 69, 84. Examples of DI prompts can be seen in the Procedures for IAES 55 and 67. Three types of Writing Frames are provided, see the discussion on TR pg. 78-79 and Literacy Student Sheets 4 and 5. Note the SEPUP Vocabulary Approach.
LAFS.68.WHST.2.5	With some guidance and support from peers and adults,	SEPUP has a well-developed approach to supporting literacy

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	develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	that includes analysis of text. See, for example, the SEPUP Support for Literacy, and the following strategies below. *Writing Frame*- IAES 11, 16, 36, 41, 55, 83 *Writing Review (used for peer review of writing samples)* – please see Literacy Student Sheet 5 in the TR[15].
LAFS.68.WHST.2.6	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	SEPUP has a well-developed approach to supporting literacy that includes supporting student writing including revision of existing drafts. See, for example, the SEPUP Support for Literacy, and the following strategies below. *Writing Frame*- IAES 11, 16, 36, 41, 55, 83 *Writing Review (used for peer review of writing samples)* – please see Literacy Student Sheet 5 in the TR.. Using these supports in conjunction with a classroom science blog can be a great asset for helping increase your students' literacy skills. A brief blog tutorial is included in the TR pages as Literacy Student Sheet 12.
LAFS.68.WHST.3.7	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	IAES 52
LAFS.68.WHST.3.8	Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for	See for example IAES TR Literacy Student Sheets 1d, Guidelines for Using and Citing Information from Internet Sources, and Media Literacy, Student Sheet 1e. IAES 52, 89

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	citation.	
LAFS.68.WHST.3.9	Draw evidence from informational texts to support analysis reflection, and research.	Two of the distinct SEPUP activity types involve gathering information from informational texts: ● In "Reading" type activities, students extract important science content from passages of formal science writing. The concluding analysis items ask students to describe, explain, and reflect upon the information presented. See for example, IAES 5, 15, 19, 29, 33, 38, 45 ● In "Talking It Over" type activities, students read less formal text related to, and extending, topics covered by and observations made in, preceding labs and investigations. Students use this additional information and the accompanying analysis items to reflect upon and help analyze their previously acquired data. See for example, IAES 2, 23, 24, 36, 49, 50 Three Level Reading Guides call for students to further analyze informational text, see for example IAES Student Sheets 15.1, 29.1, 78.1, 87.1. Additionally, several activities include Discussion Sheets which present a shorter text passage with concluding questions designed for small and large group discussion. See, for example, IAES Student Sheets 1.1, 30.1, 63.1, 85, 87.
LAFS.68.WHST.4.10	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.	The built-in Support for Literacy (TR[16] pg. 72-112) supports short- and long-form student writing in a variety of contexts, from daily entries in the student lab notebook, to long form report writing. A short summary of these strategies are

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		provided here, and more information can be found in Section II of the Teacher's Resources[17]. Science Notebook Writing Guidelines. (Literacy Student Sheets 1a and 1b). As with most science classes, students keep a science notebook throughout the IAES course, making entries per the instructions in the Student Book that ask them to record data, observations, hypotheses, conclusions, and other information. Keeping a notebook helps students process ideas, keep track of data, and build scientific observation and scientific writing skills. *Writing Frame*- IAES 11, 16, 36, 41, 55, 83 *Writing Review (used for peer review of writing samples)* – please see Literacy Student Sheet 5 in the TR.
MAFS.6.EE.3.9	Use variables to represent two quantities in a real-world problem that change in relationship to one another; write an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable. Analyze the relationship between the dependent and independent variables using graphs and tables, and relate these to the equation. For example, in a problem involving motion at constant speed, list and graph ordered pairs of distances and times, and write the equation d = 65t to represent the relationship between distance and time.	IAES **95** See also "Bar Graphing Checklist," Science Skills Student Sheets 3a and 3b and, Science Skills Student Sheets 4a and 4b, "Scatterplot and Line Graphing Checklist".

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MAFS.6.SP.2.4	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	SEPUP supports working with data sets generated by students and from other sources. See, for example, IAES 27, 51, 55, 75, 95. See also Science Skills Student Sheets 3a and 3b, "Bar Graphing Checklist," and Science Skills Student Sheets 4a and 4b, "Scatterplot and Line Graphing Checklist," and Student Sheet 4c, "Interpreting Graphs". Support for calculating the interquartile range (IQR) and boxplots with sample and student-generated data can be found in the Measures of Central Tendency Resource in the TR.
MAFS.6.SP.2.5	Summarize numerical data sets in relation to their context, such as by: Reporting the number of observations. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.	SEPUP provides support for students working with numerical data sets, including reporting nominal information such as nature and units of measurement, and which measure of central tendency is best used. See, for example, IAES 21, 27, 51, 54, 82. Support for calculating the interquartile range (IQR) and boxplots with sample and student-generated data can be found in the Measures of Central Tendency Resource in the TR[18].
ELD.K12.ELL.SC.1	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.	SEPUP provides ELL students with rich opportunities for written and oral communication for social and instructional purposes at school. This is accomplished through the use of

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		the following strategies: ● The complete student book is presented also in Spanish language format. ● Vocabulary is introduced with operational definitions that connect concepts to learning experiences. (See TR[19] pg. 86-89) ● 4-2-1 cooperative groupings encourage student interactions in an unthreatening environment (see TR pg. 3). ● Strategies for facilitating Group Discussion (see TR pg. 80). This includes informal, pair talk and formal presentations. ● Discussion Webs (TR pg. 80-81), graphic organizers that help students think ahead about what they want to say about what they have done or read. As seen in IAES Student Sheets 11.1, 23.1, 35.1, 36.2, 49.2. ● Oral Presentation (TR pg. 82), guidelines for formal oral communication. Walking Debates (TR pg. 82-83), tools that allow students to express their opinions about issues by moving from one area of the room to another. This can be used with Discussion Web formats as well as other opportunities for students to share opinions or ideas.
ELD.K12.ELL.SI.1	English language learners communicate for social and instructional purposes within the school setting.	SEPUP provides ELL students with rich opportunities for written and oral communication for social and instructional purposes at school. This is accomplished through the use of the following strategies: ● The complete student book is presented also in Spanish language format.

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		• Vocabulary is introduced with operational definitions that connect concepts to learning experiences. (See TR[20] pg. 86-89) • 4-2-1 cooperative groupings encourage student interactions in an unthreatening environment (see TR pg. 3.) • Strategies for facilitating Group Discussion (see TR pg. 80). This includes informal, pair talk and formal presentations. • Discussion Webs (TR pg. 80-81), graphic organizers that help students think ahead about what they want to say about what they have done or read. As seen in IAES Student Sheets 11.1, 23.1, 35.1, 36.2, 49.2. • Oral Presentation (TR pg. 82), guidelines for formal oral communication. Walking Debates (TR pg. 82-83), tools that allow students to express their opinions about issues by moving from one area of the room to another. This can be used with Discussion Web formats as well as other opportunities for students to share opinions or ideas.
HE.6.C.1.3	Identify environmental factors that affect personal health.	IAES 30, 36, 49.

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