POLK COUNTY PUBLIC SCHOOLS
STUDENTS FIRST

2020-2021 GRADE 7 ON-LEVEL TRANSITION TO COMPREHENSIVE SCIENCE 1 ACCELERATED HONORS

COURSE NUMBERS: 2002055

The intention of the Learning Map is to provide a consistent scope and sequence for the course across the district. While the instruction and resources will be based on the needs of the students, the expectation is that every student enrolled in the course will learn the benchmarks in each unit. **The standards and benchmarks listed for each unit do not necessarily represent the order those standards and benchmarks are taught.**

To access individual Units, click the name of the unit. ***DRAFT***

Individual Units, Lessons, and included Nature of Science Benchmarks are under revision.

Unit and Quarter	Approximate Dates	Concepts	NGSSS Benchmarks	
			Content (*New*)	Nature of Science
Unit 1 **Claims, Evidence, Reasoning** Quarter 1	Week 1 Aug 24-28 (5)	**Quarter 1 Diagnostic Assessment** (Grade 6 Benchmarks) followed by on-level instruction of new benchmarks and remediation, and/or extension of previous benchmarks Practice of Science • Science safety and classroom conditions • Practice of science through experimental design and analysis Nature of Science • Scientific claims based on evidence and reasoning	Explicit NOS	SC.6.N.1.1 SC.6.N.1.2 SC.6.N.1.3 SC.6.N.1.4 SC.6.N.1.5 SC.6.N.2.1 SC.6.N.2.2 SC.6.N.2.3 SC.6.N.3.1
	Week 2 Aug 31-Sep 4 (5)			
Unit 2 **Foundations in Physics: Energy, Force, and Motion** Quarter 1	Week 3 Sep 8-11 (4)	Energy • Transformation and conservation of energy (potential and kinetic) Force • Types of forces, including contact and non-contact forces • Relationship between gravitational force and the mass of and distance between objects • Relationship between weight and mass Motion • Effects of unbalanced forces on objects' speed and direction • Analysis and interpretation of distance-time graphs for objects moving at constant speed	SC.6.P.11.1 SC.6.P.13.1 SC.6.P.13.2 SC.8.P.8.2 SC.6.P.13.3 SC.6.P.12.1	SC.6.N.1.1 SC.6.N.1.3 SC.6.N.1.4 SC.6.N.3.2 SC.6.N.3.3 SC.6.N.3.4
	Week 4 Sep 14-18 (5)			
	Week 5 Sep 21-25 (5)			
	Week 6 Sep 28-Oct 2 (5)			
Unit 3 **Inter-connectedness of Earth's Spheres** Quarter 1	Week 7 Oct 5-9 (5)	Interconnectedness of Earth's Spheres • Interactions among Earth's spheres • Composition and structure of Earth's atmosphere and its importance in sustaining the biosphere • **Physical science in context**: introduction to density within context of Earth's atmospheric layers (SC.8.P.8.3)	SC.6.E.7.4 ***SC.912.E.7.3*** SC.6.E.7.9	SC.6.N.1.4 SC.6.N.3.4
	Week 8 Oct 12-16 (5)			
	Week 9 Oct 19-22 (4)	Quarter 1 progress monitoring (**1 45-minute period**) followed by data-driven remediation throughout	Quarter 1 Benchmarks	

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Unit 4 **Heat Transfer and Earth's Weather and Climate** Quarter 2	Week 10 Oct 26-30 (5)	**Quarter 2 Diagnostic Assessment** (Grade 6 Benchmarks) followed by on-level instruction, remediation, and/or extension Heat Transfer through Earth's Spheres • Sun's influence on global patterns of atmospheric movement and temperature differences among air, water and land • **Physical science in context**: distinction between radiation, conduction, and convection of heat through Earth systems • **Physical science in context**: Influence of density (conceptual) on atmospheric and oceanic circulation Weather Patterns and Climate • Influence of the cycling of water between the hydrosphere and atmosphere (driven by heat from the sun) on weather patterns and climate • **Physical science in context**: distinction between the states of matter in terms of energy, particle motion, and phase transitions within the hydrologic cycle • Influence of global patterns such as the jet stream and ocean currents on local weather • Distinction between weather and climate	SC.6.E.7.5 ***SC.912.E.5.4*** SC.6.E.7.1 ***SC.8.P.8.3*** SC.6.E.7.2 ***SC.8.P.8.1*** ***SC.912.P.8.1*** ***SC.912.P.10.4*** SC.6.E.7.3 SC.6.E.7.6	SC.6.N.1.1 SC.6.N.1.2 SC.6.N.1.4 SC.6.N.3.4
	Week 11 Nov 2-6 (5)			
	Week 12 Nov 9-13 (4)			
	Week 13 Nov 16-20 (5)			
Unit 5 **Physical and Chemical Change at Earth's Surface** Quarter 2	Week 14 Nov 30-Dec 4 (5)	Physical and Chemical Change at Earth's Surface • Building up and tearing down of Earth's surface by physical and chemical weathering, erosion, and deposition • **Physical science in context**: effects of gravitational force on weathering, erosion, and deposition • **Physical science in context**: distinction between physical and chemical change resulting from weathering, erosion, and deposition • Relationship between Earth's landforms and those found in Florida	SC.6.E.6.1 SC.6.P.13.1 ***SC.912.P.8.2*** SC.6.E.6.2	SC.6.N.3.4
	Week 15 Dec 7-11 (5)			
	Week 16 Dec 14-18 (5)			
	Week 17 Jan 5-8 (4)			
	Week 18 Jan 11-15 (5)	Semester 1 progress monitoring followed by data-driven remediation throughout (**2 45-minute periods**)	Quarters 1 and 2 Benchmarks	

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Unit 6 **Foundations in Chemistry: Properties of Matter** Quarter 3	Week 19 Jan 19-22 (4) Week 20 Jan 25-29 (5) Week 21 Feb 1-5 (5)	**Quarter 3 Diagnostic Assessment** (Grade 6 Benchmarks) followed by on-level instruction, remediation, and/or extension Classification of Matter through Characteristic Physical Properties • Calculation of density based on measured mass and volume • Classification of substances based on characteristic physical properties (e.g. properties independent of amount) Patterns in Properties of Matter • Scientific theory of atoms – an atom as the smallest unit of an element, composed of subatomic particles • Grouping of elements in the periodic table according to similarities in physical properties	***SC.8.P.8.3*** ***SC.8.P.8.4*** ***SC.8.P.8.7*** ***SC.8.P.8.6***	SC.6.N.1.1 SC.8.N.1.2 SC.8.N.1.3 SC.8.N.1.4 SC.8.N.1.6 SC.6.N.3.4
Unit 7 **Foundations in Chemistry: Organization of Matter** Quarter 3	Week 22 Feb 8-12 (5) Week 23 Feb 16-19 (4) Week 24 Feb 22-26 (5)	Hierarchical Organization of Matter • Combination of a finite number of elements (types of atoms) to produce a multitude of compounds that make up all matter • Classification of compounds, including acids, bases, and salts • Distinction between mixtures (including solutions) and pure substances	***SC.8.P.8.5*** ***SC.912.P.8.7*** ***SC.8.P.8.8*** ***SC.8.P.8.9***	SC.6.N.1.1 SC.8.N.1.2 SC.8.N.1.3 SC.8.N.1.4 SC.8.N.1.6 SC.6.N.3.4
Unit 8 **Organization of Life: Body Systems** Quarter 3	Week 25 Mar 1-5 (5) Week 26 Mar 8-12 (5) Week 27 Mar 15-19 (5)	Hierarchical Organization of Life • Patterns in the hierarchical organization of organisms: atoms, molecules, cells, tissues, organs, organ systems, and organisms • **Physical Science in Context**: hierarchical organization of all matter (e.g. atoms and compounds), including within living things Maintenance of Homeostasis – System Interactions • Maintenance of homeostasis through interactions of the major human body systems • Comparison of infectious agents that may affect the human body	SC.6.L.14.1 SC.8.P.8.7 SC.8.P.8.5 SC.6.L.14.5 SC.6.L.14.6 HE.7.C.1.3 HE.7.C.1.7	SC.6.N.3.4
	Week 28 Mar 29-Apr 1 (4)	Quarter 3 progress monitoring followed by data-driven remediation throughout (**2 45-minute class periods**)	Quarters 1and 2 Benchmarks	

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Unit 9 **Organization of Life: Cells** Quarter 4	Week 29 Apr 5-9 (5)	**Quarter 4 Diagnostic Assessment** (Grade 6 Benchmarks) followed by on-level instruction, remediation, and/or extension Maintenance of Homeostasis – Cellular • Relationship between the components of cell theory • Maintenance of homeostasis through cellular processes, including cellular division • Relationship between the structure and function of plant and animal cell organelles • Distinction between prokaryotic and eukaryotic cell structure and function	SC.6.L.14.2 SC.6.L.14.3 ***SC.912.L.16.14*** SC.6.L.14.4 ***SC.912.L.14.2*** ***SC.912.L.14.3***	SC.6.N.2.1 SC.6.N.2.2 SC.6.N.2.3 SC.6.N.3.1 SC.6.N.3.4
	Week 30 Apr 12-16 (5)			
	Week 31 Apr 19-23 (5)			
	Week 32 Apr 26-30 (5)			
Unit 10 **Classification of Life** Quarter 4	Week 33 May 3-7 (5)	Classification of Life • Classification of organisms at a cellular level according to Domains • Relationship between the Linnaean classification system and the concept of Domains	SC.6.L.15.1 ***SC.912.L.14.3***	SC.8.N.1.5
	Week 34 May 10-14 (5)			
Unit 11 **Science, Technology, Society, and the Environment** Quarter 4	Week 35 May 17-21 (5)	Project-based Learning – Planning for Hazardous Weather Preparedness • Effects of natural disasters on human life in Florida • Protection from hazardous weather and sun exposure • Prediction of weather conditions based on present observations and conceptual models • Formation of severe weather • **Physical science in context**: transformation and conservation of energy through Earth's spheres	SC.6.E.7.7 SC.6.E.7.8 HE.7.C.1.3 ***SC.912.E.7.5*** ***SC.912.E.7.6*** SC.6.P.11.1	SC.6.N.1.1
	Week 36 May 24-27 (4)			
	Week 37 June 1-4 (4)			
	Week 38 June 7-9 (3)	Final exam (school-based; **2 45-minute class periods**)	Quarters 3 and 4 Benchmarks	

Revised August 12, 2020

Interdisciplinary Connections

In addition to the science content benchmarks listed, English Language Development, Literacy, and Mathematics standards are to be purposefully integrated and assessed continually throughout the progression of the course. ***These standards reinforce the skills that our students require for the constructive acquisition of science content in the classroom as well as the successful navigation of science issues in society.*** Collaborative discussion, integration of multiple sources of media, and support of claims with evidence are but a few skills emphasized by the standards

English Language Development Standards: Please see the Florida ELD Performance Definitions and Descriptors for Science for remarks and clarifications (http://www.cpalms.org/uploads/docs/standards/eld/SC.pdf).	
ELD.K12.ELL.SC.1	English language learners communicate information, ideas and concepts necessary for academic success in the content area of Science.
ELD.K12.ELL.SI.1	English language learners communicate for social and instructional purposes within the school setting.

Literacy Standards	
LAFS.7.SL.1.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly.
LAFS.7.SL.1.2	Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.
LAFS.7.SL.1.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and the relevance and sufficiency of the evidence.
LAFS.7.SL.2.4	Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.
LAFS.7.SL.2.5	Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.
LAFS.68.RST.1.1	Cite specific textual evidence to support analysis of science and technical texts.
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.
LAFS.68.RST.1.3	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
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.
LAFS.68.RST.2.5	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
LAFS.68.RST.2.6	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.
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).
LAFS.68.RST.3.8	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
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.
LAFS.68.WHST.1.1	Write arguments focused on *discipline-specific content.*
LAFS.68.WHST.1.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
LAFS.68.WHST.2.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

LAFS.68.WHST.2.5	With some guidance and support from peers and adults, 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.
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.
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.
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 citation.
LAFS.68.WHST.3.9	Draw evidence from informational texts to support analysis reflection, and research.
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.

Mathematics Standards	
MAFS.7.SP.2.4	Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. *For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book.*
MAFS.7.SP.3.5	Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event.
MAFS.8.SP.1.4	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*