Franklin Special School District
2020-2021
Grade 7 Science

Instructional pacing guides for English Language Arts, Mathematics, Science, and Social Studies are available online at the FSSD website, which conveys detailed information by quarter. Please access these instructional resources at *{put link here once it is ready}.*

FSSD Syllabus for Science 7th Grade		
First Quarter Standards and Objectives		
	Science and Engineering Practices	1. Asking Questions 2. Developing and using models 3. Planning and carrying out controlled investigations 4. Analyzing and Interpreting data 5. Using mathematics and computational thinking 6. Constructing explanations and designing solutions 7. Engaging in argument from evidence 8. Obtaining, evaluating and communicating information.
7.PS.1.1	**Matter and its Interactions**	Develop and use models to illustrate the structure of atoms, including the subatomic particles with their relative positions and charge.
7.PS.1.2	**Matter and its Interactions**	Compare and contrast elemental molecules and compound molecules.
7.PS.1.3	**Matter and its Interactions**	Classify matter as pure substances or mixtures based on composition.
7.PS.1.6	**Matter and its Interactions**	Create and interpret models of substances whose atoms represent the states of matter with respect to temperature and pressure.
7.PS.1.5	**Matter and its Interactions**	Use the periodic table as a model to analyze and interpret evidence relating to physical and chemical properties to identify a sample of matter.

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First Quarter Standards and Objectives (continued)	
Topics Covered: ● Science and Engineering Practices ● Matter ● Solids, Liquids, Gases ● Atoms and Bonding ● Chemical Reactions	**Major Assessments:** ● Standards-Based Unit Assessment ● Extended Activity ● Additional reading and/or projects may be assigned for honors classes
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Second Quarter Standards and Objectives		
7.PS.1.4	**Matter and its Interactions**	Analyze and interpret chemical reactions to determine if the total number of atoms in the reactants and products support the Law of Conservation of Mass.
7.ESS.3.1	**Earth and Human Activity**	Graphically represent the composition of the atmosphere as a mixture of gases and discuss the potential for atmospheric change.
7.ESS.3.2	**Earth and Human Activity**	Engage in a scientific argument through graphing and translating data regarding human activity and climate.
7.LS.2.1	**Ecosystems: Interactions, Energy and Dynamics**	Develop a model to depict the cycling of matter, including carbon and oxygen, including the flow of energy among biotic and abiotic parts of an ecosystem.
7.LS.1.1	**From Molecules to Organisms: Structures and Processes**	Develop and construct models that identify and explain the structure and function of major cell organelles as they contribute to the life activities of the cell and organism.
Topics Covered: ● Introduction to Cells ● Cell Processes and Energy		**Major Assessments:** ● Standards-Based Unit Assessment ● Extended Activity ● Additional reading and/or projects may be assigned for honors classes
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Third Quarter Standards and Objectives		
7.LS.1.3	**From Molecules to Organisms: Structures and Processes**	Evaluate evidence that cells have structural similarities and differences in organisms across kingdoms.
7.LS.1.2	**From Molecules to Organisms: Structures and Processes**	Conduct an investigation to demonstrate how the cell membrane maintains homeostasis through the process of passive transport.
7.LS.1.8	**From Molecules to Organisms: Structures and Processes**	Construct an explanation demonstrating that the function of mitosis for multicellular organisms is for growth and repair through the production of genetically identical daughter cells.
7.LS.1.9	**From Molecules to Organisms: Structures and Processes**	Construct a scientific explanation based on compiled evidence for the processes of photosynthesis, cellular respiration, and anaerobic respiration in the cycling of matter and flow of energy into and out of organisms.
7.LS.1.4	**From Molecules to Organisms: Structures and Processes**	Diagram the hierarchical organization of multicellular organisms from cells to organism.
7.LS.1.5	**From Molecules to Organisms: Structures and Processes**	Explain that the body is a system comprised of subsystems that maintain equilibrium and support life through digestion, respiration, excretion, circulation, sensation (nervous and integumentary), and locomotion (musculoskeletal).
7.LS.1.7	**From Molecules to Organisms: Structures and Processes**	Evaluate and communicate evidence that compares and contrasts the advantages and disadvantages of sexual and asexual reproduction.
7.LS.3.2	**Heredity**	Distinguish between mitosis and meiosis and compare the resulting daughter cells.

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Third Quarter (continued)	
Topics Covered: ● Animal Life Processes ● Introduction to the Human Body ● Controlling Body Processes ● The Atmosphere ● Climate Change	**Major Assessments:** ● Standards-Based Unit Assessment ● Extended Activity ● Additional reading and/or projects may be assigned for honors classes
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Fourth Quarter Standards and Objectives		
7.LS.1.6	**From Molecules to Organisms: Structures and Processes**	Develop an argument based on empirical evidence and scientific reasoning to explain how behavioral and structural adaptations in animals and plants affect the probability of survival and reproductive success.
7.LS.3.1	**Heredity**	Hypothesize that the impact of structural changes to genes (i.e., mutations) located on chromosomes may result in harmful, beneficial, or neutral effects to the structure and function of the organism.
7.LS.3.3	**Heredity**	Predict the probability of individual dominant and recessive alleles to be transmitted from each parent to offspring during sexual reproduction and represent the phenotypic and genotypic patterns using ratios.
7.ETS.2.1	**Links Among Engineering, Technology, Science, and Society**	Examine a problem from the medical field pertaining to biomaterials and design a solution taking into consideration the criteria, constraints, and relevant scientific principles of the problem that may limit possible solutions.
6.ESS.3.1	**Earth and Human Activity**	Differentiate between renewable and nonrenewable resources by asking questions about their availability and sustainability.
6.ESS.3.2	**Earth and Human Activity**	Investigate and compare existing and developing technologies that utilize renewable and alternative energy resources.
6.ESS.3.3	**Earth and Human Activity**	Assess the impacts of human activities on the biosphere including conservation, habitat management, species endangerment, and extinction.
Topics Covered: ● Genetics: The Science of Heredity ● DNA: The Code of Life ● Plants		Major Assessments: ● Standards-Based Unit Assessment ● Extended Activity ● Additional reading and/or projects may be assigned for honors classes

Procedures for Parental Access for Instructional Materials:
1) Many instructional materials can be accessed digitally via the FSSD website (fssd.org) using your student's unique username and password. a. Student Resources : FSSD website > Parents & Students > Parent Information > Online Resources > Student b. Parent Resources: FSSD website > Parents & Students > Parent Information > Online Resources > Parent 2) If additional information is needed regarding instructional materials, a written request may be submitted to your child's teacher. Instructional material review is included in Board Policy 4.400.