**TEACHER:** **DATE:** **PERIOD (S):** **GRADE: 8TH**

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| **Essential Question(s)**: | |  |  |  |  | | --- | --- | --- | --- | |  | Regular |  | Advanced |  Next Generation Science Sunshine State Standards Check Benchmarks that align with weekly lesson plans. Big Idea 1: The Practice of Science  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.N.1.1](#SC8N11" \o "Define a problem from the eighth grade curriculum using appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types, such as systematic observations or experiments, identify variables, ) |  | [SC.8.N.1.4](#SC8N14" \o "Explain how hypotheses are valuable if they lead to further investigations, even if they turn out not to be supported by the data.) | |  | [SC.8.N.1.2](#SC8N12" \o "Design and conduct a study using repeated trials and replication.) |  | [SC.8.N.1.5](#SC8N15" \o "Analyze the methods used to develop a scientific explanation as seen in different fields of science.) | |  | [SC.8.N.1.3](#SC8N13" \o "Use phrases such as \"results support\" or \"fail to support\" in science, understanding that science does not offer conclusive 'proof' of a knowledge claim.) |  | [SC.8.N.1.6](#SC8N16" \o "Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected ev) |  Big Idea 2: The Characteristics of Scientific Knowledge  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.N.2.1](#SC8N21" \o "Distinguish between scientific and pseudoscientific ideas.) |  | [SC.8.N.2.2](#SC8N22" \o "Discuss what characterizes science and its methods.) |  Big Idea 3: The Role of Theories, Laws, Hypotheses, & Models  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.N.3.1](#SC8N31" \o "Select models useful in relating the results of their own investigations.) |  | [SC.8.N.3.2](#SC8N32" \o "Explain why theories may be modified but are rarely discarded.) |  Big Idea 4: Science & Society  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.N.4.1](#SC8N41" \o "Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.) |  | [SC.8.N.4.2](#SC8N42" \o "Explain how political, social, and economic concerns can affect science, and vice versa.) |  Big Idea 5: Earth in Space and Time  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.E.5.1](#SC8P51" \o "Recognize that there are enormous distances between objects in space and apply our knowledge of light and space travel to understand this distance.) |  | [SC.8.E.5.7](#SC8P57" \o "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.) | |  | [SC.8.E.5.2](#SC8P52" \o "Recognize that the universe contains many billions of galaxies and that each galaxy contains many billions of stars.) |  | [SC.8.E.5.8](#SC8P58" \o "Compare various historical models of the Solar System, including geocentric and heliocentric.) | |  | [SC.8.E.5.3](#SC8P53" \o "Distinguish the hierarchical relationships between planets and other astronomical bodies relative to solar system, galaxy, and universe, including distance, size, and composition.) |  | [SC.8.E.5.9](#SC8P59" \o "Explain the impact of objects in space on each other including: 1)the Sun on the Earth including seasons and gravitational attraction, and 2) the Moon on the Earth, including phases, tides, and eclipses, and the relative position of each body.) | |  | [SC.8.E.5.4](#SC8P54" \o "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.) |  | [SC.8.E.5.10](#SC8P510" \o "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.) | |  | [SC.8.E.5.5](#SC8P55" \o "Describe and classify specific physical properties of stars: apparent magnitude (brightness), temperature (color), size, and luminosity (absolute brightness).) |  | [SC.8.E.5.11](#SC8P511" \o "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.) | |  | [SC.8.E.5.6](#SC8P56" \o "Create models of solar properties including: rotation, structure of the Sun, convection, sunspots, solar flares, and prominences.) |  | [SC.8.E.5.12](#SC8P512" \o "Summarize the effects of space exploration on the economy and culture of Florida.) |  Big Idea 8: Properties of Matter  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.P.8.1](#SC8P81" \o "Explore the scientific theory of atoms (also known as atomic theory) by using models to explain the motion of particles in solids, liquids, and gases.) |  | [SC.8.P.8.6](#SC8P86" \o "Recognize that elements are grouped in the periodic table according to similarities of their properties.) | |  | [SC.8.P.8.2](#SC8P82" \o "Differentiate between weight and mass recognizing that weight is the amount of gravitational pull on an object and is distinct from, though proportional to, mass.) |  | [SC.8.P.8.7](#SC8P87" \o "Explore the scientific theory of atoms (also known as atomic theory) by recognizing that atoms are the smallest unit of an element and are composed of sub-atomic particles (electrons surrounding a nucleus containing protons and neutrons).) | |  | [SC.8.P.8.3](#SC8P83" \o "Explore and describe the densities of various materials through measurement of their masses and volumes.) |  | [SC.8.P.8.8](#SC8P88" \o "Identify basic examples of and compare and classify the properties of compounds, including acids, bases, and salts.) | |  | [SC.8.P.8.4](#SC8P84" \o "Classify and compare substances on the basis of characteristic physical properties that can be demonstrated or measured; for example, density, thermal or electrical conductivity, solubility, magnetic properties, melting and boiling points, and know that th) |  | [SC.8.P.8.9](#SC8P89" \o "Distinguish among mixtures (including solutions) and pure substances.) | |  | [SC.8.P.8.5](#SC8P85" \o "Recognize that there are a finite number of elements and that their atoms combine in a multitude of ways to produce compounds that make up all of the living and nonliving things that we encounter.) |  |  |  Big Idea 9: Changes in Matter  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.P.9.1](#SC8P91" \o "Explore the Law of Conservation of Mass by demonstrating and concluding that mass is conserved when substances undergo physical and chemical changes.) |  | [SC.8.P.9.3](#SC8P93" \o "Investigate and describe how temperature influences chemical changes.) | |  | [SC.8.P.9.2](#SC8P92" \o "Differentiate between physical changes and chemical changes.) |  |  |  Big Idea 18: Matter & Energy Transformation  |  |  |  |  | | --- | --- | --- | --- | |  | [SC.8.L.18.1](#SC8L181" \o "Describe and investigate the process of photosynthesis, such as the roles of light, carbon dioxide, water and chlorophyll; production of food; release of oxygen.) |  | [SC.8.L.18.3](#SC8L183" \o "Construct a scientific model of the carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment.) | |  | [SC.8.L.18.2](#SC8L182" \o "Describe and investigate how cellular respiration breaks down food to provide energy and releases carbon dioxide.) |  | [SC.8.L.18.4](#SC8L184" \o "Cite evidence that living systems follow the Laws of Conservation of Mass and Energy.) |   **Advanced Science Benchmarks**   |  |  |  |  | | --- | --- | --- | --- | |  | [SC.912.E.5.4](#SC912E54" \o "Explain the physical properties of the Sun and its dynamic nature and connect them to conditions and events on Earth: Describe the physical properties of the Sun (sunspot cycles, solar flares, prominences, layers of the Sun, coronal mass ejections, and nuc) |  | [SC.912.P.8.2](#SC912P82" \o "Differentiate between physical and chemical properties and physical and chemical changes of matter: Discuss volume, compressibility, density, conductivity, malleability, reactivity, molecular composition, freezing, melting and boiling points. Describe simp) | |  | [SC.912.L.18.7](#SC912L187" \o "Identify the reactants, products, and basic functions of photosynthesis.) |  | [SC.912.P.8.4](#SC912P84" \o "Explore the scientific theory of atoms (also known as atomic theory) by describing the structure of atoms in terms of protons, neutrons and electrons, and differentiate among these particles in terms of their mass, electrical charges and locations within t) | |  | [SC.912.L.18.8](#SC912L188" \o "Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.) |  | [SC.912.P.8.5](#SC912P85" \o "Relate properties of atoms and their position in the periodic table to the arrangement of their electrons: Use the periodic table and electron configuration to determine an element's number of valence electrons and its chemical and physical properties. Exp) | |  | [SC.912.L.18.9](#SC912L189" \o "Explain the interrelated nature of photosynthesis and cellular respiration.) |  | [SC.912.P.8.7](#SC912P87" \o "Interpret formula representations of molecules and compounds in terms of composition and structure: Write chemical formulas for simple covalent (HCl, SO2, CO2, and CH4), ionic (Na(+) +  Cl(-) = NaCl) and molecular (O2, H2O) compounds. Predict the formulas ) | |  | [SC.912.P.8.1](#SC912P81" \o "Differentiate among the four states of matter: Differentiate among the four states of matter (solid, liquid, gas and plasma) in terms of energy, particle motion, and phase transitions. (Note: Currently five states of matter have been identified.)) |  | [SC.912.P.8.11](#SC912P811" \o "Relate acidity and basicity to hydronium and hydroxyl ion concentration and pH: Use experimental data to illustrate and explain the pH scale to characterize acid and base solutions. Compare and contrast the strengths of various common acids and bases.) |   **LAFs/MAFs**   |  |  |  |  | | --- | --- | --- | --- | |  | [LACC.8.SL.1.1](#LACC8SL11" \o "Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others’ ideas and expressing their own clearly. A)Come to discussions prepared, havi) |  | [LACC.68.RST.4.10](#LACC68RST410" \o "By the end of grade 8, read and comprehend science/technical texts in the grades 6–8 text complexity band independently and proficiently.) | |  | [LACC.8.SL.1.2](#LACC8SL12" \o "Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.) |  | [LACC.68.WHST.1.1](#LACC68WHST11" \o "Write arguments focused on discipline-specific content: A) 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. B) Support claim(s) with logi) | |  | [LACC.8.SL.1.3](#LACC8SL13" \o "Delineate a speaker’s argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.) |  | [LACC.68.WHST.1.2](#LACC68WHST12" \o "Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. ) | |  | [LACC.8.SL.2.4](#LACC8SL24" \o "Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.) |  | [LACC.68.WHST.2.4](#LACC68WHST24" \o "Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.) | |  | [LACC.8.SL.2.5](#LACC8SL25" \o "Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.) |  | [LACC.68.WHST.2.5](#LACC68WHST25" \o "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.) | |  | [LACC.68.RST.1.1](#LACC68RST11" \o "Cite specific textual evidence to support analysis of science and technical texts.) |  | [LACC.68.WHST.2.6](#LACC68WHST26" \o "Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.) | |  | [LACC.68.RST.1.2](#LACC68RST12" \o "Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.) |  | [LACC.68.WHST.3.7](#LACC68WHST37" \o "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.) | |  | [LACC.68.RST.1.3](#LACC68RST13" \o "Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.) |  | [LACC.68.WHST.3.8](#LACC68WHST38" \o "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 st) | |  | [LACC.68.RST.2.4](#LACC68RST24" \o "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.) |  | [LACC.68.WHST.3.9](#LACC68WHST39" \o "Draw evidence from informational texts to support analysis reflection, and research.) | |  | [LACC.68.RST.2.5](#LACC68RST25" \o "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.) |  | [LACC.68.WHST.4.10](#LACC68WHST410" \o "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.) | |  | [LACC.68.RST.2.6](#LACC68RST26" \o "Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.) |  | [MAFS.8.F.2.5](#MAFS8F15" \o "Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been de) | |  | [LACC.68.RST.3.7](#LACC68RST37" \o "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).) |  | [MAFS.8.G.3.9](#MAFS8G39" \o "Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.) | |  | [LACC.68.RST.3.8](#LACC68RST38" \o "Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.) |  | [MAFS.8.SP.1.4 (ADV)](#MAFS8SP14" \o "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 fr) | |  | [LACC.68.RST.3.9](#LACC68RST39" \o "Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.) | |
| Monday **Objective(s):**    **Activity Description:**  **Assignment/Assessment:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Writing | Inquiry | Collaboration | Organization | Reading | |
| Tuesday **Objective(s):**  **Activity Description:**    **Assignment/Assessment:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Writing | Inquiry | Collaboration | Organization | Reading | |
| Wednesday **Objective(s):**  **Activity Description:**  **Assignment/Assessment:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Writing | Inquiry | Collaboration | Organization | Reading | |
| Thursday  Objective:  **Activity Description:**        **Assignment/Assessment:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Writing | Inquiry | Collaboration | Organization | Reading | |
| Friday **Objective(s):**        **Activity Description:**  **Assignment/Assessment:**   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Writing | Inquiry | Collaboration | Organization | Reading | |