Seventh Grade Science Curriculum Map 2022

Pacing Guide	Standard Code & Indicator	Sample Learning Activities	Assessments	Additional Standards
August-October Unit 1: Nature of Science and Scientific Inquiry Unit 2: Structure and Properties of Matter	MS-PS1-1 Develop models to describe the atomic composition of simple molecules and extended structures. MS-PS1-3 Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. MS-PS1-4 Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.	Lab Safety Science Practices Identify matter, elements, & atoms Determine how combined atoms can form different structures Classify the properties of substances **Instructional Resources:** *TCI NGSS Integrated Science* **Teacher Technology:** Activ View Activ Panel PBS: Physical Science YouTube Videos **Student Technology:** Chromebooks Google Classroom	**Formative Assessments:** Quizzes Homework/Classwork Teacher Observation Student Participation Exit tickets **Summative Assessments**: Completed Labs Projects **Benchmark:** BOY Benchmark Accommodations and Modifications	**Interdisciplinary Standard:** SL 7.1 Students will participate in discussions on energy and matter, using domain specific vocabulary and posing questions to others' responses. **Technology Standard:** 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.

November-January Unit 3: Matter and Energy in Ecosystems Unit 4: Earth's Processes through Geologic Time	MS-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. MS-LS1-7 Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism. MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. MS-LS2-3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or	Identify the parts and functions of the carbon cycle Explain how consumers use stored energy Define food webs & trophic pyramids Investigate rock strata Reconstruct Earth's history Discuss fossils **Instructional Resources:** *TCI NGSS Integrated Science* **Teacher Technology:** Activ View Activ Panel PBS: Physical Science **Student Technology:** Chromebooks Google Classroom	**Formative Assessments:** Quizzes Homework/Classwork Teacher Observation Student Participation Exit tickets **Summative Assessments**: Completed Labs Projects Accommodations and Modifications	**Interdisciplinary Standard:** **L 7.4** Apply various vocabulary strategies to define new words and use them to describe/discuss chemical reactions **Technology Standard:** 8.2.8.ED.3: Develop a proposal for a solution to a real-world problem that includes a model.

February- April Unit 5: Chemical Reactions	MS-PS1-2 Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred. MS-PS1-5 Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved. MS-PS1-6 Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes. MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.	Identify chemical reactions Determine what happens to atoms during a chemical reaction Explain the difference between a exothermic and endothermic reaction Describe how energy is used in chemical reactions Determine the difference between synthetic & natural materials **Instructional Resources:** *TCI NGSS Integrated Science* **Teacher Technology:** Activ View Activ Panel PBS: Physical Science **Student Technology:** Chromebooks Google Classroom	**Formative Assessments:** Quizzes Homework/Classwork Teacher Observation Student Participation Exit tickets **Summative Assessments**: Completed Labs Projects Accommodations and Modifications	**Interdisciplinary Standard:** SL 7.1 Students will participate in discussions on the impact of synthetic materials, using domain specific vocabulary and posing questions to others' responses. **Technology Standard:** 8.2.8.ED.3: Develop a proposal for a solution to a real-world problem that includes a model.

April - June Unit 6: Processes that Shape Earth Unit 7: Natural Hazards/Resources in Ecosystems	MS-ESS2-1 Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. MS-ESS2-2 Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ETS1-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved. MS-ESS3-1 Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes. MS-ESS3-2 Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. MS-ETS1-3 Analyze data from tests to determine similarities and differences among several	Identify patterns that shape the Earth (tectonic plates) Describe the rock cycle Describe the water cycle Explain the different natural resources on Earth Identify interactions among organisms Determine what causes change in an ecosystem's resources Explain particle motion & how it affects states of matter Describe the states of matter & how temperature & heat are related Discuss the causes and impacts of volcanic eruptions, earthquakes, mass wasting, tsunamis, and floods Classify how the loss of one species can impact the ecosystem Determine engineering solutions for protecting ecosystems **Instructional Resources:** *TCI NGSS Integrated Science*	**Formative Assessments:** Quizzes Homework/Classwork Teacher Observation Student Participation Exit tickets **Summative Assessments**: Completed Labs Projects **Benchmark:** EOY Benchmark Accommodations and Modifications	**Interdisciplinary Standard:** SL 7.1 Students will participate in discussions on the impact of synthetic materials, using domain specific vocabulary and posing questions to others' responses. **Technology Standard:** 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.

Alternate Assessments: Completed Labs and presentations, Activities/Worksheets
21st Century Standards: 9.2.8.B.3 and 9.1.8.A.3

21st Century Skills: Critical Thinking, Creativity & Information literacy

Career Ready Practices: CRP2, CRP 4, CRP 5, CRP 6, CRP 7 & CRP 8