Course Description:

The 8th grade science program will provide students with a thorough, relevant, and engaging standards-based curriculum that focuses on implementing the scientific and engineering practices as well as the cross-cutting concepts based on the core ideas. This course will emphasize problem-based learning experiences, 21st Century Skills, and engineering design processes in a supportive, challenging environment for all students. Classroom activities will include scientific investigations, application of research, and analyzing and interpreting data.

Title of Unit: Matter and Its Characteristics

Anchor Standard: MS-PS1 - Matter and Its Interactions

Big Ideas:

- In this unit students will investigate the physical and chemical properties and changes in sample substances, determine how new substances are formed from a chemical reaction, explore patterns within the periodic table that will determine how certain elements create bonds.

Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
1. How is density determined? 2. How does density affect floating and sinking of objects in different liquids? 3. How does the change in mass/volume affect density? 4. How are elements classified as metals, nonmetals, and metalloids based on their chemical and physical properties? 5. How are properties of elements related to the arrangement on the periodic table? 6. How does a chemical reaction show the relationship between reactants and products? 7. How has the atomic model evolved over time? 8. How are ions used to determine the product in a chemical reaction? 9. How does the combination of metals and nonmetals create ionic and covalent bonds?	● Density is a ratio of the mass of an object relative to its volume. ● Changes in matter can be classified as chemical or physical ● Elements are classified according to their physical and chemical properties. ● The law of conservation of mass states that mass is conserved when substances undergo physical and chemical changes. ● Balanced chemical reactions demonstrate the law of conservation of mass ● Chemical reactions are classified according to the number of reactants and products and the specific types of compounds involved. ● Ionic bonds form when a metal and nonmetal combine. Covalent bonds form when two nonmetals combine.

Areas of Focus: Proficiencies (Progress Indicators)	Examples, Outcomes, Assessments
MS-PS1-1: **Develop models to describe the atomic composition of simple molecules and extended structures.** **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.*** **Career-Ready Practices** **CRP1: Act as a responsible and contributing citizen and employee.** **CRP2: Apply appropriate academic and technical skills.** **CRP3: Attend to personal health and financial well-being.** **CRP4: Communicate clearly and effectively and with reason.** **CRP5: Consider the environmental, social and economic impacts of decisions.** **CRP6: Demonstrate creativity and innovation.** **CRP7: Employ valid and reliable research strategies.** **CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.** **CRP9: Model integrity, ethical leadership and effective management.** **CRP10: Plan education and career paths aligned to**	Instructional Focus: *<Ex: TSWBAT label the parts of a flower>* TSWBAT:: 1. Analyze and interpret data to determine the difference between chemical and physical properties and changes. 2. Use mathematics and computational thinking to determine how density affects the buoyancy of an object in different liquids. 3. Plan and carry out investigations to determine the product of a chemical reaction when certain reactants are combined. 4. Analyze and interpret the patterns of elements on the periodic table to determine how elements can combine to form chemical bonds. Assessments: ● Calculating Density Quiz ● Physical/Chemical properties/changes Quiz ● Matter and Its Characteristics Test ● Do Now/Exit Tickets ● Class discussions ● Lab Analysis Questions ● CER (Claim, Evidence, Reasoning) Lab Conclusions Projects/Labs: ● Density of Water Lab ● Nine Layer Tower Density Lab ● Mentos and Coke Demo ● Ziploc Bag Chemical Reaction Lab ● Polyurethane Foam Demo ● Properties of Matter Lab ● Bohr Model Lab ● Element Flame Test

personal goals. **CRP11:. Use technology to enhance productivity.** **CRP12: Work productively in teams while using cultural global competence.**	Instructional Strategies ● Interdisciplinary Connections ○ Writing CER lab conclusions ○ Mathematical Calculations of the Density of liquids and objects ○ History of the Atom ● Technology Integration ○ BrainPOP- Ions, Bonding ○ Kahoot - Test/Quiz Review ○ Peardeck - Bohr Model Practice ○ Google Classroom ● Media Literacy Integration ○ Science World Magazines ○ Research of scientists involved in the evolution of the atomic model ● Global Perspectives ○ Periodic table was developed by scientists from different countries. ○ Element names are based off of different languages. ○ Particles of the atom were discovered by scientists from different countries.

Title of Unit: Objects in Motion

Anchor Standard: MS-PS2- Motion and Stability: Forces and Interactions

Big Ideas:

- In this unit students will investigate how different types of forces applied to an object can cause predictable patterns of motion.

Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
1. How are scalars and vectors used to describe motion? 2. How is speed, velocity, and acceleration calculated to describe the motion of an object? 3. How can an object's motion be represented on a graph. 4. What are the types of forces and how do they interact to cause motion. 5. How does Newton's Laws explain and predict how objects move? 6. How is the mass of an object and the force of the object related? 7. Describe the properties of a magnet. 8. How can the strength of an electromagnetic field be determined by the number of coils around an electromagnet?	● Scalars are quantities that are measured using only a numerical value, while vectors include both the numerical value and the direction. ● Speed is a measurement of the distance an object moves over time. ● Velocity is the speed of an object in a certain direction. ● An object's motion can be described on a distance vs. time graph and a velocity vs. time graph . ● For every action, there is an equal and opposite reaction according to Newton's 3rd Law. ● Objects at rest remain at rest unless an unbalanced force acts on it. Similarly, an object in motion remains in motion unless an unbalanced force acts on it. ● The motion of an object is determined by the sum of the forces acting on it. ● The greater the mass, the greater the force needed to achieve motion. ● Different forces, such as friction, air resistance, and an applied force can change how objects move. ● Opposite poles of a magnet attract and like poles repel. ● Magnetic strength is dependent on the distance between the interaction objects. ● The strength of a magnetic field around a current-carrying wire increases when the wire is wound into a coil.

Areas of Focus: Proficiencies (Progress Indicators)	**Examples, Outcomes, Assessments**
Students will: **MS- PS2-1** **Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects** **MS-PS2-2** **Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object** **MS-PS2-3. Ask questions about data to determine the factors that affect the strength of electric and magnetic forces** **MS-PS2-5. Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.** **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** **MS-ETS1-2** **Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.** **MS-ETS1-3** **Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**	Instructional Focus: *<Ex: TSWBAT label the parts of a flower>* TSWBAT: 1. Plan, design, construct, test, and retest a car's restraint and bumper system which will protect an uncooked egg as it accelerates down an incline and collides with a solid object. 2. Develop and use models to determine the cause and effect of forces on an object's motion. 3. Use mathematics and computational thinking to determine the scale, proportion, and quantity of an object's speed, velocity and acceleration. 4. Create and interpret motion graphs. Sample Assessments: ● Do Now/Exit Tickets ● Class discussions ● Lab Analysis Questions ● CER (Claim, Evidence, Reasoning) Lab Conclusions ● Speed, Velocity, Acceleration Quiz ● Objects in Motion Test ● Egg Car Crash Lab Calculations Projects/Labs ● Bubble Gum Physics Lab ● Graphing Motion Lab ● Momentum Lab ● Newton's Laws of Motion 3 Day Rotation Labs ● Egg Car Crash STEM Project

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.** **Career-Ready Practices** **CRP1: Act as a responsible and contributing citizen and employee.** **CRP2: Apply appropriate academic and technical skills.** **CRP3: Attend to personal health and financial well-being.** **CRP4: Communicate clearly and effectively and with reason.** **CRP5: Consider the environmental, social and economic impacts of decisions.** **CRP6: Demonstrate creativity and innovation.** **CRP7: Employ valid and reliable research strategies.** **CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.** **CRP9: Model integrity, ethical leadership and effective management.** **CRP10: Plan education and career paths aligned to personal goals.** **CRP11:. Use technology to enhance productivity.** **CRP12: Work productively in teams while using cultural global competence.**	Instructional Strategies ● Interdisciplinary Connections ○ Self Driving vs. Manual Driving Cars Articles ○ Writing CER conclusions ○ Mathematical Calculations of Speed, Velocity, Acceleration, Momentum, Force ○ Motion Graphs ● Technology Integration ○ BrainPOP- Newton's Laws ○ Kahoot - Test/Quiz Review ○ Quizlet - Test/Quiz Review ○ Google Classroom ● Media Literacy Integration ○ Using evidence from several articles on self driving vs. manual driving cars to engage in argumentation. ● Global Perspectives ○ Looking at car designs from various countries such as Japan and Germany ○ Design of self driving cars in the US vs. other countries

Title of Unit: Energy In a Closed System

Anchor Standard: MS-PS3- Energy	
Big Ideas: ● In this unit students will explore the role of energy in the movement of objects.	
Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
1. What is energy? 2. What is the relationship between kinetic and potential energy? 3. What factors determine an object's kinetic energy? 4. What factors determine an object's potential energy? 5. What are the types of kinetic energy? 6. What are the types of potential energy? 7. How can energy be transferred from one type to another?	● Energy is the ability to do work or cause change. ● An object's kinetic energy can be increased by increasing its potential energy. ● Kinetic energy is dependent on the mass and speed of an object. ● Potential energy is dependent on the mass and height of an object. ● Kinetic energy is the energy an object has because of its motion. ● Electrical and mechanical energy are examples of kinetic energy. ● Potential energy is stored energy. ● Gravitational, chemical, and nuclear energy are examples of potential energy. ● Energy is not lost or made, it is transferred to or from an object. ● The total amount of energy is the same before and after any process.

Areas of Focus: Proficiencies (Progress Indicators)	**Examples, Outcomes, Assessments**
Students will: **MS-PS3-1** **Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass and the speed of an object.** **MS-PS3-2. Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.** **MS-PS3-4. Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.** **MS-PS3-5** **Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.** **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** **MS-ETS1-2** **Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.** **MS-ETS1-3** **Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined**	Instructional Focus: *<Ex: TSWBAT label the parts of a flower>* TSWBAT: 1. Manipulate factors that affect kinetic and potential energy to increase and decrease the energy in an object. 2. Design a successful roller coaster using the properties of kinetic and potential energy. 3. Determine the type of energy transformations that occur in a variety of scenarios. Sample Assessments: ● Roller Coaster Design and Engineers Report ● Energy in A Closed System Test ● Do Now/Exit Tickets ● Class discussions ● Whole New Ball Game CER Projects/Labs ● Whole New Ball Game Lab ● Roller Coaster STEM Build ● Energy Conversions Stations Instructional Strategies ● Interdisciplinary Connections ○ Mathematical Calculations of kinetic and potential energy

into a new solution to better meet the criteria for success. **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.** **Career-Ready Practices** **CRP1: Act as a responsible and contributing citizen and employee.** **CRP2: Apply appropriate academic and technical skills.** **CRP3: Attend to personal health and financial well-being.** **CRP4: Communicate clearly and effectively and with reason.** **CRP5: Consider the environmental, social and economic impacts of decisions.** **CRP6: Demonstrate creativity and innovation.** **CRP7: Employ valid and reliable research strategies.** **CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.** **CRP9: Model integrity, ethical leadership and effective management.** **CRP10: Plan education and career paths aligned to personal goals.** **CRP11:. Use technology to enhance productivity.** **CRP12: Work productively in teams while using cultural global competence.**	○ Whole New Ball Game CER conclusion ● Technology Integration ○ Roller Coaster Simulation Website ○ Youtube Videos - energy transformations ○ Kahoot - Test/Quiz Review ○ Quizlet - Test/Quiz Review ○ Google Classroom ● Media Literacy Integration ○ Researching features of different types of roller coasters ● Global Perspectives

Title of Unit: Weather and Climate

Anchor Standard: 1. MS-ESS2- Earth's Systems 2. MS-ESS3- Earth and Human Activity	
Big Ideas: ● In this unit students will analyze how the unequal heating of the Earth by the Sun contributes to the type of weather, climate, and natural weather phenomena that occurs in different parts of the world.	
Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
1. What are the similarities and differences between weather and climate? 2. How does scientific evidence support the phenomena of global climate change? 3. What is the relationship between the atmosphere and the ocean? 4. What is the difference between land and sea breezes? 5. How does the coriolis effect contribute to the global wind patterns? 6. How does the unequal heating of the Earth cause global wind patterns? 7. How does the analysis and interpretation of real time data predict global climate events? 8. How do ocean currents affect the climate on coastal land masses.	● Weather is the minute by minute changes in the atmosphere. ● Climate is the overall weather of a specific location over a long period of time. ● Humans impact the environment in a negative/positive way. ● There are many pieces of evidence that support global climate change. ● Land and sea breezes occur when there is a difference in pressure over the land and sea causing convection currents. ● The coriolis effect, caused by the rotation of the Earth, causes winds and ocean currents to curve. ● Sea surface temperature maps and graphs of ocean currents can be used to predict changes in global climate. ● The unequal heating of the earth creates pressure belts in the atmosphere causing predictable global wind patterns. ● Air always moves from areas of high pressure to low pressure. ● Ocean currents cool or warm air above land masses causing changes in temperature and weather.

Areas of Focus: Proficiencies (Progress Indicators)	Examples, Outcomes, Assessments
MS-ESS2-6: **Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.** **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-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.** **Career-Ready Practices** **CRP1: Act as a responsible and contributing citizen and employee.** **CRP2: Apply appropriate academic and technical skills.** **CRP3: Attend to personal health and financial well-being.** **CRP4: Communicate clearly and effectively and with reason.** **CRP5: Consider the environmental, social and economic impacts of decisions.** **CRP6: Demonstrate creativity and innovation.** **CRP7: Employ valid and reliable research strategies.** **CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.** **CRP9: Model integrity, ethical leadership and effective management.** **CRP10: Plan education and career paths aligned to personal goals.** **CRP11:. Use technology to enhance productivity.** **CRP12: Work productively in teams while using**	Instructional Focus: *<Ex: TSWBAT label the parts of a flower>* TSWBAT: 1. Develop and use models to represent global wind systems. 2. Engage in argumentation using evidence that supports, strongly supports, or contradicts global climate change. 3. Analyze and interpret data indicating El Nino and La Nina events and communicating the impact on different parts of the world using an infographic. 4. Analyze climographs to determine how ocean currents affect coastal weather. Sample Assessments: ● Do Now/Exit Tickets ● Class discussions ● Global Winds Quiz ● Weather and Climate Test ● El Nino CER paragraph ● El Nino Infographic Projects/Labs ● Weather vs. Climate Skittles Activity ● Coriolis Effect Lab ● Global Winds Diagram ● Interpreting Sea Surface Temperature Maps and Graphs Activity ● NOAA interactive website activity ● El Nino Infographic ● Ocean Currents Water Demo ● Ocean Currents Lab

cultural global competence.	Instructional Strategies ● Interdisciplinary Connections ○ El Nino CER conclusion paragraph ○ Interpreting Sea Surface temperature maps and graphs ○ El Nino NY Times article analysis ● Technology Integration ○ Global Winds Interactive Website ○ NOAA Data in the classroom El Nino interactive website ● Media Literacy Integration ○ Analyzing evidence to engage in argumentation on the topic of global climate change ○ Determining the quality and validity of evidence regarding global climate change from a variety of resources. ○ Research of impacts of El Nino in different countries ● Global Perspectives ○ Effects of El Nino in different countries ○ Differences in global winds depending on the latitude on Earth

Title of Unit: Interactions of the Sun, Earth, and Moon

Anchor Standard: MS-ESS1- Earth's Place in the Universe	
Big Ideas: ● In this unit students will analyze phenomena that occur as a result of the interaction of the sun, earth, and moon.	
Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
1. How does the interaction between the Sun, Earth, and Moon cause the phases of the moon? 2. How does the location of the moon relative to the Earth cause tides? 3. How does the alignment of the sun, Earth and moon cause eclipses? 4. How does the Earth, Sun, and Moon relationship impact humans? 5. How does the tilt of the Earth cause seasonal changes? 6. How does the tilt of the Earth cause changes in the hours of light and darkness throughout the Earth?	● The phases of the moon from Earth and space are determined by the position of the moon relative to the Earth and the Sun. ● The tilt of the Earth causes the seasonal changes. ● The direct alignment of the Sun, Earth and moon causes lunar and solar eclipses. ● The gravitational pull of the sun and the moon cause tides on Earth's surface. ● The angle of insolation from the sun affects the temperature of the Earth's surface at different locations. ● The tilt of the Earth causes hours of light and darkness to increase and decrease depending on the season and time of year.

Areas of Focus: Proficiencies (Progress Indicators)	Examples, Outcomes, Assessments
Students will: **MS-ESS1-1:** **Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.** **Career-Ready Practices** **CRP1: Act as a responsible and contributing citizen and employee.** **CRP2: Apply appropriate academic and technical skills.** **CRP3: Attend to personal health and financial well-being.** **CRP4: Communicate clearly and effectively and with reason.** **CRP5: Consider the environmental, social and economic impacts of decisions.** **CRP6: Demonstrate creativity and innovation.** **CRP7: Employ valid and reliable research strategies.** **CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.** **CRP9: Model integrity, ethical leadership and effective management.** **CRP10: Plan education and career paths aligned to personal goals.** **CRP11:. Use technology to enhance productivity.** **CRP12: Work productively in teams while using cultural global competence.**	Instructional Focus: *<Ex: TSWBAT label the parts of a flower>* TSWBAT: 1. Develop and use models to represent the phases of the moon and eclipses when viewed from space and earth. 2. Develop and use models to show changes in daylight hours and seasons on Earth. 3. Plot tidal data on a graph and analyze cyclic patterns to determine when spring and neap tides occur. Sample Assessments: ● Sun, Earth, Moon Test ● Tides Graphing Activity ● Do Now/Exit Tickets ● Class discussions Projects/Labs ● Moon phases diagrams ● Moon phase “lollipop” activity ● Seasons Globe Demo ● Graphing Tides activity ● Seasons Graph Activity ● Moon Phase Escape Room Activity Instructional Strategies ● Interdisciplinary Connections ○ Plotting points on a graph ○ Interpreting graphs ● Technology Integration

	○ Seasons Interactive websites ○ Moon phases, tides and eclipses interactive websites ○ BrainPoP phases, tides, eclipses ○ YouTube videos of phases, tides, eclipses ○ Hurricane Sandy documentary ○ Peardeck- moon phases ● Media Literacy Integration ○ Hurricane Sandy articles and documentary relating the storm to tides and moon phases. ● Global Perspectives ○ Tidal ranges change depending on the location on Earth. ○ Seasons vary depending on location on Earth. ○ Effects of Hurricane Sandy from its formation in the Gulf of Mexico to its impact on the east coast of US.

Title of Unit: Human Body Systems

Anchor Standard: MS-LS1- From Molecules to Organisms: Structures and Processes	
Big Ideas: ● In this unit students examine how the body consists of interconnected systems that work together to maintain a state of homeostasis in the body.	
Essential Questions *What provocative questions will foster inquiry, understanding, and transfer of learning?*	**Enduring Understandings** *What will students understand about the big ideas?*
1. What are the systems that make up the human body and how are they organized? 2. What are the structures and functions of the circulatory system? 3. What are the structures and functions of the respiratory system? 4. What are the structures and functions of the nervous system? 5. How are the body systems interconnected? 6. What is the role of the brain in interpreting and storing memories. 7. How have scientists attempted to "improve" the human body?	● The human body systems (circulatory, respiratory, nervous, digestive, etc.) are all interconnected and rely on one another. ● Each body system is composed of subsystems that are working together. ● Cells and tissues make up organs that are specialized according to their structure and function. ● Organisms, especially humans, have interacting subsystems made up of specialized structures. ● The nervous system is composed of specialized cells that help transmit messages to the brain. ● Scientists develop drugs and structures to help the body when it loses its natural ability to function properly.

Areas of Focus: Proficiencies (Progress Indicators)	Examples, Outcomes, Assessments
Students will: **MS-LS1-3** **Use argument supported by evidence for how the body is a system interacting subsystems composed of groups of cells.** **MS-LS1-8** **Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.** **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** **Career-Ready Practices** **CRP1: Act as a responsible and contributing citizen and employee.** **CRP2: Apply appropriate academic and technical skills.** **CRP3: Attend to personal health and financial well-being.** **CRP4: Communicate clearly and effectively and with reason.** **CRP5: Consider the environmental, social and economic impacts of decisions.** **CRP6: Demonstrate creativity and innovation.** **CRP7: Employ valid and reliable research strategies.** **CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.** **CRP9: Model integrity, ethical leadership and**	Instructional Focus: *<Ex: TSWBAT label the parts of a flower>* TSWABAT: 1. Analyze the types of systems that make up the human body and explain how they work together to maintain homeostasis. 2. Plan, design, and perform an experiment to test how a stimulus or activity affects heart rate. 3. Create a 2-D model of the body that shows a solution to a disorder/injury related to a specific body system. Sample Assessments: ● Circulatory System Quiz ● Respiratory System Quiz ● Nervous System Quiz ● Heart Rate Lab and CER Projects/Labs ● Body Systems Scavenger Hunt ● Heart Rate Lab and CER ● Modeling the Respiratory System Lab ● Brain Structure and Function Lab Stations ● Build a Better Body 2-D Model

effective management. **CRP10: Plan education and career paths aligned to personal goals.** **CRP11:. Use technology to enhance productivity.** **CRP12: Work productively in teams while using cultural global competence.**	Instructional Strategies ● Interdisciplinary Connections ○ Research on disorders of body systems ○ Heart Rate CER ● Technology Integration ○ Creating graphs and data tables using Google Sheets ○ BrainPoP ○ YouTube Videos ○ Google Classroom ● Media Literacy Integration ○ Library research on disorders of human body systems ● Global Perspectives ○ Scientists from all over the world have created solutions to improve the body when it can not function properly.

Supports for English Language Learners		
Sensory Supports	**Graphic Supports**	**Interactive Supports**
Real life objects	Charts	In pairs or partners
Manipulatives	Graphic Organizers	In triands or small groups
Pictures	Tables	In a whole group
Illustrations, diagrams & drawings	Graphs	Using cooperative group
Magazines & Newspapers	Timelines	Structures
Physical activities	Number lines	With the Internet / Software
Videos & Film		In the home language
Broadcasts		With mentors
Models & Figures		

Intervention Strategies		
Accomodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/expectations
Repeat/confirm directions	Increase task structure (e.g. directions, checks for understanding, feedback	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding	Individualized assessment tools based on student need
Audio Books	Utilize pre reading strategies and activities previews, anticipatory guides, and	Modified assessment grading

	semantic mapping	

Curricular Addendum

Career-Ready Practices **CRP1**: Act as a responsible and contributing citizen and employee. **CRP2**: Apply appropriate academic and technical skills. **CRP3**: Attend to personal health and financial well-being. **CRP4**: Communicate clearly and effectively and with reason. **CRP5**: Consider the environmental, social and economic impacts of decisions. **CRP6**: Demonstrate creativity and innovation. **CRP7**: Employ valid and reliable research strategies. **CRP8**: Utilize critical thinking to make sense of problems and persevere in solving them. **CRP9**: Model integrity, ethical leadership and effective management. **CRP10**: Plan education and career paths aligned to personal goals. **CRP11**:. Use technology to enhance productivity. **CRP12**: Work productively in teams while using cultural global competence.	**Interdisciplinary Connections** ● Close Reading of works of art, music lyrics, videos, and advertisements ● Use Standards for Mathematical Practice and Cross-Cutting Concepts in science to support debate/inquiry across thinking processes **Technology Integration** Ongoing: ● Listen to books on CDs, Playaways, videos, or podcasts if available. ● Use document camera or overhead projector for shared reading of texts. Other: ● Use Microsoft Word, Inspiration, or SmartBoard Notebook software to write the words from their word sorts. ● Use available technology to create concept maps of unit learning.

Instructional Strategies:
Supports for English Language Learners:

Sensory Supports	Graphic Supports	Interactive Supports
Real-life objects (realia)	Charts	In pairs or partners
Manipulatives	Graphic organizers	In triads or small groups
Pictures & photographs	Tables	In a whole group
Illustrations, diagrams, & drawings	Graphs	Using cooperative group
Magazines & newspapers	Timelines	structures
Physical activities	Number lines	With the Internet (websites) or software programs
Videos & films		In the home language
Broadcasts		With mentors
Models & figures		

from https://wida.wisc.edu

Media Literacy Integration

- Use multiple forms of print media (including books, illustrations/photographs/artwork, video clips, commercials, podcasts, audiobooks, Playaways, newspapers, magazines) to practice reading and comprehension skills.

Global Perspectives

- The Global Learning Resource Library

Differentiation Strategies:

Accommodations	Interventions	Modifications
Allow for verbal responses	Multi-sensory techniques	Modified tasks/ expectations
Repeat/confirm directions	Increase task structure (e.g., directions, checks for understanding, feedback)	Differentiated materials
Permit response provided via computer or electronic device	Increase opportunities to engage in active academic responding (e.g., writing, reading aloud, answering questions in class)	Individualized assessment tools based on student need
Audio Books	Utilize prereading strategies and activities: previews, anticipatory guides, and semantic mapping	Modified assessment grading