



2008-2009
Correlation Documentation

Nebraska

Released 8-20-2008

Welcome to OdysseyWare®!

We are excited that you are including OdysseyWare as part of your program of instruction, and we look forward to serving you and your students.

This OdysseyWare Correlation Report provides a quick-reference overview of our course materials, together with corresponding state standards. The report may be helpful in planning instruction using OdysseyWare course materials.

As always, we welcome your feedback.

Thanks for choosing us!

OdysseyWare Curriculum Development Team

Using the Correlation Report

The Correlation Report lists OdysseyWare lessons that target your state standards and has been formatted for ease of use.

Section	Description	OW Lesson ID	Title
State:	MA		
Subject:	Science and Technology/Engineering		
Standard:	Curriculum Frameworks		
Grade:	3-5		
SCT.3-5.1.1	Give a simple explanation of what a mineral is and some examples, e.g., quartz, mica.	SCI05U06C01L03D SCI05U08C01L06D	Igneous Structures Rocks on the Earth's Surface

- 1 Displays the state, subject, standard, and grade.
- 2 Displays the state index code for a particular lesson. Each state assigns its own index code.
- 3 Displays the actual verbiage from the state standards document
- 4 Displays the corresponding OdysseyWare lesson identification code. This unique ID number indicates the following:

Subject and Grade	Unit	Chapter	Lesson	Type
SCI05	U06	C01	L03	D (default lesson) A (alternate assignment)

- 5 Displays the OdysseyWare lesson title.

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Correlations Report



Section	Description	OW Lesson ID	Title
State:	NE		
Subject:	Science		
Standard:	Academic Standards		
Grade:	2-4		
SCI.2-4.4.1.2.A	Use evidence gathered from an investigation to develop a scientific explanation.	SCI03U02C01P02A	Experiment: Study a Stem
		SCI07U01C01L01D	What is Science?
SCI.2-4.4.1.3.A	Describe observable change (e.g., speed, pattern, shape, position, and size).	SCI03U08C01P04D	Experiment: Limestone
		SCI04U03C02P13A	Experiment: Still Water Life
		SCI04U04C01P02A1	Project: Galileo
		SCI07U01C01L01D	What is Science?
SCI.2-4.4.2.1.B	Plan and conduct a simple investigation.	SCI07U01C01L01D	What is Science?
SCI.2-4.4.2.1.C	Use simple equipment and tools (e.g., thermometers and scales) to gather data and extend the senses.	SCI03U06C01P07D	Experiment: Pitch
		SCI03U09C01P03D	Experiment: Water Molecules
		SCI03U10C03P11D	Experiment: Temperature Comparisons
		SCI04U07C02P12A	Project: Thermometers
		SCI04U07C03L11D	Weather Instruments
SCI.2-4.4.2.1.E	Communicate procedures, results, and explanations of an investigation.	SCI03U02C01P02A	Experiment: Study a Stem
		SCI07U01C01L01D	What is Science?
SCI.2-4.4.3.1.B	Compare and contrast characteristics of common materials using tools (e.g., rulers, scales, thermometers, microscopes, and hand lenses).	SCI04U07C03L11D	Weather Instruments

Section	Description	OW Lesson ID	Title
SCI.2-4.4.3.1.C	Demonstrate that materials can change from solid to liquid to gas by heating and from gas to liquid to solid by cooling.	SCI03U09C01L01D	Heat and Temperature
		SCI03U09C01P03D	Experiment: Water Molecules
		SCI04U06C01L03D	Water as a Liquid
SCI.2-4.4.3.2.C	Demonstrate that the position and motion of objects can be changed by pushing or pulling.	SCI04U04C01L01D	Machines: Work
SCI.2-4.4.3.2.D	Demonstrate how sound is produced when objects vibrate.	SCI03U06C01L01D	Sounds are Made
		SCI03U06C01L03D	How Does Sound Travel?
		SCI03U06C01L04D	Properties of Sound
		SCI03U06C01P02D	Experiment: Vibrations
		SCI03U06C01P05D	Experiment: Sound Patterns
		SCI03U06C02L09D	Sounds are Heard
		SCI03U10C03L09D	Sounds and Energy
		SCI03U10C03P10D	Experiment: How Sound Travels
SCI.2-4.4.3.2.E	Change the pitch of sound by changing the rate of vibration.	SCI03U06C01L03D	How Does Sound Travel?
		SCI03U06C01P07D	Experiment: Pitch
		SCI03U06C02L09D	Sounds are Heard
		SCI03U10C03L09D	Sounds and Energy
SCI.2-4.4.3.3.A	Distinguish between reflection and refraction of light.	SCI03U09C01L02D	Movement of Heat Energy
		SCI03U10C03P11D	Experiment: Temperature Comparisons
		SCI04U07C01P04D	Experiment: Temperature
SCI.2-4.4.3.3.B	Identify ways in which heat can be produced (e.g., burning, rubbing, or mixing one substance with another).	SCI03U09C01L01D	Heat and Temperature
		SCI03U09C01L02D	Movement of Heat Energy
		SCI03U10C03P11D	Experiment: Temperature Comparisons

Section	Description	OW Lesson ID	Title
SCI.2-4.4.3.3.C	Demonstrate heat can flow from one object to another by conduction.	SCI03U09C01L01D	Heat and Temperature
		SCI03U10C03L09D	Sounds and Energy
		SCI03U10C03P11D	Experiment: Temperature Comparisons
SCI.2-4.4.3.3.D	Use electricity to produce heat, sound, or magnetic effects.	SCI03U06C01L03D	How Does Sound Travel?
		SCI03U09C01L02D	Movement of Heat Energy
		SCI04U05C02L09D	Magnetism
		SCI04U10C03L09D	Electricity and Magnetism
SCI.2-4.4.3.3.E	Demonstrate electrical circuits require a complete loop through which an electrical current can pass.	SCI04U05C01L04D	Currents and Circuits
		SCI04U05C01L06D	Electrical Use and Safety
		SCI04U05C01P05A1	Experiment: Wet Cell
		SCI04U05C01P05A2	Project: Electric Objects
		SCI04U05C02P11A3	Experiment: Generate Electricity
SCI.2-4.4.3.3.F	Describe the physical properties of magnets.	SCI04U05C02L09D	Magnetism
		SCI04U05C02P10D	Experiment: Use a Magnet
		SCI04U05C02P11A2	Experiment: Testing a Magnet
		SCI04U05C02P11D	Experiment: Make a Magnet
		SCI04U10C03L09D	Electricity and Magnetism
SCI.2-4.4.4.1.A	Describe the differences between plants and animals.	SCI03U03C01P05D	Project: Aquarium
		SCI03U03C04P14D	Project: Marsupials
		SCI04U10C01L02D	Plants and Animals

Section	Description	OW Lesson ID	Title
SCI.2-4.4.4.1.B	Describe the various structures of plants and animals necessary for survival, and reproduction.	SCI03U02C02L04D	Plant Growth
		SCI03U03C01P05D	Project: Aquarium
		SCI03U03C04P14D	Project: Marsupials
		SCI03U10C01L02D	Plants
		SCI04U10C01L02D	Plants and Animals
SCI.2-4.4.4.1.C	Describe how internal stimuli (e.g., hunger) and external stimuli (e.g., changes in the environment) affect behavior of living things.	SCI03U10C01L03D	Animals
		SCI04U03C03L21D	Preservation
SCI.2-4.4.4.2.A	Describe the life cycle of an organism.	SCI03U10C01L03D	Animals
SCI.2-4.4.4.2.B	Identify inherited characteristics of living things (e.g., color and number of eyes).	SCI04U02C02L10D	Inherited and Learned Traits
SCI.2-4.4.4.3.B	Explain how environmental changes affect behavior and survival of living things.	SCI03U10C01L03D	Animals
		SCI04U03C03L21D	Preservation
SCI.2-4.4.5.1.A	Identify characteristics of soils, minerals, rocks, water, and the atmosphere.	SCI03U08C03L12D	Enjoying Rocks
		SCI04U06C01L01D	Water as a Solid
		SCI04U07C01L01D	The Atmosphere
		SCI04U09C01L01D	The Air (Atmosphere)
SCI.2-4.4.5.1.B	List earth materials that are used by humans (e.g., water, fossil fuels, ores, soils).	SCI04U06C01L01D	Water as a Solid
SCI.2-4.4.5.1.C	Select the best earth material for a specific human use (e.g., marble- buildings, clay-pottery, coal-heat).	SCI03U08C03L10D	Building With Rocks
		SCI03U08C03L12D	Enjoying Rocks

Section	Description	OW Lesson ID	Title
SCI.2-4.4.5.2.A	Observe and describe how objects move in patterns (e.g., sun, moon, stars, and clouds).	SCI04U08C02L05D	The Sun
		SCI04U08C02L07D	Gravity and Motion
		SCI04U10C01L01D	The Solar System
SCI.2-4.4.5.3.A	Describe how slow processes (e.g., erosion), and rapid processes (e.g., earthquakes), change the earth's surface.	SCI04U09C03L12D	Earth's Land Formations
SCI.2-4.4.5.3.B	Describe and measure changes in weather (e.g., temperature, precipitation, and wind direction and speed).	SCI04U06C01L05D	Water as a Gas
		SCI04U07C01L03D	Temperature
SCI.2-4.4.6.2.B	Identify, investigate, and solve a problem in the home or school.	SCI07U01C01L01D	What is Science?
SCI.2-4.4.7.1.A	Explain how the body uses food and how various foods contribute to health.	SCI03U04C01L01D	Healthy Foods
		SCI03U04C01L02D	Unhealthy Foods
		SCI03U04C02P05A3	Project: Chart Totals
SCI.2-4.4.7.2.B	List examples of resources produced from basic materials (e.g., food, fuel, and building materials).	SCI03U08C03L12D	Enjoying Rocks
SCI.2-4.4.7.2.D	Research and report on the supply of various resources.	SCI04U03C03L19D	Conservation
		SCI04U10C04L14D	Conservation
SCI.2-4.4.7.3.A	Distinguish between natural environmental changes and human influenced environmental changes.	SCI04U03C03L21D	Preservation
SCI.2-4.4.8.1.A	Research and report on the contributions to science and technology throughout history by men and women scientists of diverse cultures.	SCI04U05C01P02D	Project: Thomas Edison

Section	Description	OW Lesson ID	Title
SCI.2-4.4.8.1.C	Research and report on how current scientific discoveries illustrate that science is an ongoing process.	SCI03U07C01P03D	Experiment: Night
		SCI04U04C01P02A1	Project: Galileo
		SCI04U08C01P03A	Project: Astronomy
		SCI04U08C02P06A	Project: Sun Myths
		SCI04U08C02P08A	Project: Isaac Newton

Standard:	Alternative Standards
Grade:	3

SCI.3.S.3.1.2	The student, when given choices, demonstrates an understanding of personal health with prompts.	SCI03U04C03L08D	Exercise
SCI.3.S.3.1.3	The student, when given choices, demonstrates an understanding of personal health.	SCI03U04C03L08D	Exercise
SCI.3.S.3.1.4	The student demonstrates an understanding of personal health with prompts.	SCI03U04C03L08D	Exercise
SCI.3.S.3.1.5		SCI03U04C03L08D	Exercise
SCI.3.S.3.1.6	The student demonstrates an understanding of personal health outside the classroom setting with prompts.	SCI03U04C03L08D	Exercise
SCI.3.S.3.1.7	The student demonstrates an understanding of personal health outside the classroom setting.	SCI03U04C03L08D	Exercise

Standard:	Standards That Are Reported
Grade:	4

SCI.4.4.2.1.a	Ask a question about objects, organisms, and events in their surroundings.	SCI07U01C01L01D	What is Science?
SCI.4.4.2.1.c	Use simple equipment and tools (e.g., thermometers and scales) to gather data and extend the senses.	SCI04U07C02P12A	Project: Thermometers

Section	Description	OW Lesson ID	Title
		SCI04U07C03L11D	Weather Instruments
SCI.4.4.2.1.d	Use data develop reasonable explanations.	SCI04U04C01P02A2 SCI04U04C02P06D	Experiment: Gravity Experiment: Hammer and Nail
SCI.4.4.2.1.e	Communicate procedures, results, and explanations of an investigation.	SCI07U01C01L01D	What is Science?
SCI.4.4.3.1.b	Compare and contrast characteristics of common materials using tools (e.g., rulers, scales, thermometers, microscopes, and hand lenses).	SCI04U07C03L11D	Weather Instruments
SCI.4.4.3.1.c	Demonstrate that materials can change from solid to liquid to gas by heating and from gas to liquid to solid by cooling.	SCI04U06C01L03D	Water as a Liquid
SCI.4.4.3.2.c	Demonstrate that the position and motion of objects can be changed by pushing or pulling.	SCI04U04C01L01D	Machines: Work
SCI.4.4.3.3.a	Distinguish between reflection and refraction of light.	SCI04U07C01P04D	Experiment: Temperature
SCI.4.4.3.3.d	Use electricity to produce heat, sound or magnetic effects.	SCI04U05C02L09D SCI04U05C02P11A3 SCI04U10C03L09D	Magnetism Experiment: Generate Electricity Electricity and Magnetism
SCI.4.4.3.3.e	Demonstrate electrical circuits require a complete loop through which an electrical current can pass.	SCI04U05C01L04D SCI04U05C01L06D SCI04U05C01P05A1 SCI04U05C01P05A2 SCI04U05C02P11A3 SCI04U10C03L09D	Currents and Circuits Electrical Use and Safety Experiment: Wet Cell Project: Electric Objects Experiment: Generate Electricity Electricity and Magnetism

Section	Description	OW Lesson ID	Title
SCI.4.4.3.3.f	Describe the physical properties of magnets.	SCI04U05C02L09D	Magnetism
		SCI04U05C02P10D	Experiment: Use a Magnet
		SCI04U05C02P11A2	Experiment: Testing a Magnet
		SCI04U05C02P11D	Experiment: Make a Magnet
SCI.4.4.4.1.a	Describe the differences between plants and animals.	SCI03U03C04P14D	Project: Marsupials
		SCI04U10C01L02D	Plants and Animals
SCI.4.4.4.1.b	Describe the various structures of plants and animals necessary for survival and reproduction.	SCI03U03C04P14D	Project: Marsupials
		SCI04U10C01L02D	Plants and Animals
SCI.4.4.4.1.c	Describe how internal stimuli (e.g., hunger) and external stimuli (e.g., changes in the environment) affect behavior of living things.	SCI04U03C03L21D	Preservation
SCI.4.4.4.2.b	Identify inherited characteristics of living things (e.g., color and number of eyes).	SCI04U02C02L10D	Inherited and Learned Traits
SCI.4.4.4.3.b	Explain how environmental changes affect behavior and survival of living things.	SCI04U03C03L21D	Preservation
SCI.4.4.4.3.c	Describe how humans and other living things cause both positive and negative changes in their environment.	SCI04U03C03L21D	Preservation
SCI.4.4.5.1.a	Identify characteristics of soils, minerals, rocks, water, and the atmosphere.	SCI04U06C01L01D	Water as a Solid
		SCI04U06C01L03D	Water as a Liquid
		SCI04U06C01L05D	Water as a Gas
		SCI04U06C01P02D	Experiment: Ice
		SCI04U07C01L01D	The Atmosphere
		SCI04U09C01L01D	The Air (Atmosphere)

Section	Description	OW Lesson ID	Title
		SCI04U10C02L05D	Water
SCI.4.4.5.1.b	List earth materials that are used by humans (e.g., water, fossil fuels, ores, soils).	SCI04U06C01L01D	Water as a Solid
SCI.4.4.5.2.a	Observe and describe how objects move in patterns (e.g., sun, moon, stars, and clouds).	SCI04U03C02P13A	Experiment: Still Water Life
		SCI04U08C02L05D	The Sun
		SCI04U08C02L07D	Gravity and Motion
		SCI04U08C02L10D	Our Moon
		SCI04U10C01L01D	The Solar System
		SCI07U01C01L01D	What is Science?
SCI.4.4.5.3.a	Describe how slow processes (e.g., erosion) and rapid processes (e.g., earthquakes) change the earth's surface.	SCI04U03C03L17D	Carelessness
		SCI04U09C03L12D	Earth's Land Formations
		SCI04U10C02L06D	Weather
SCI.4.4.5.3.b	Describe and measure changes in weather (e.g., temperature, precipitation, and wind direction and speed).	SCI04U06C01L05D	Water as a Gas
		SCI04U07C01L03D	Temperature

Standard: Alternative Standards

Grade: 5

SCI.5.S.5.1.5	The student demonstrates an understanding of the earth in the solar system.	SCI05U08C01L01D	Features of the Earth
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Standard: Standards That Are Reported

Grade: 5

SCI.5.5.2.1.a	Identify questions that can be examined in a scientific investigation.	SCI07U01C01L01D	What is Science?
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Section	Description	OW Lesson ID	Title
SCI.5.5.2.1.c	Choose appropriate tools to make accurate observations and measurement of variables.	SCI05U01C02P06A2	Experiment: Onion Cells
		SCI05U08C01P03A	Experiment: Orange
		SCI07U01C01L01D	What is Science?
SCI.5.5.5.1.a	Investigate and describe the crust, mantle, and core of the earth.	SCI05U06C01L02D	Internal Structures
		SCI05U08C01L04D	Layers of the Earth
		SCI05U08C01L05D	Layers of the Earth (Part 2)
SCI.5.5.5.1.b	Investigate and describe the rock cycle.	SCI05U06C02L07D	Earth Changes
Standard: Academic Standards			
Grade: 5-8			
SCI.5-8.8.1.1.B	Analyze and predict the interactions within a system and between systems.	SCI06U03C02L09D	Plants: Tropisms (Part 2)
SCI.5-8.8.1.1.C	Create and use classification schemes.	SCI06U05C01P03D	Experiment: Solid, Liquid, Gas
SCI.5-8.8.1.1.D	Interpret cause and effect relationships within and between systems.	SCI06U05C03P16A	Project: Cause and Effect
SCI.5-8.8.1.2.A	Collect, manipulate, and analyze data from an experiment.	SCI05U01C02P06A1	Experiment: Beans
		SCI05U04C01P07A2	Project: Build a Terrarium
		SCI05U05C04P17A2	Experiment: Sunlight
		SCI05U07C02L16D	Scientific Inquiry
		SCI06U05C01P03D	Experiment: Solid, Liquid, Gas
		SCI08U03C01P02D	Experiment: Determining Volume
		SCI08U03C02P05D	Experiment: Mass of Gas

Section	Description	OW Lesson ID	Title
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
SCI.5-8.8.1.2.B	Observe and develop models (e.g., physical, mathematical, mental, and computer simulations).	SCI05U02C01P03A1	Project: Draw Flowers
		SCI05U07C01P02D	Experiment: Fossils
		SCI06U02C02P11A	Project: Heart
		SCI06U04C01P04A	Experiment: Embryo Formation
		SCI07U01C01L01D	What is Science?
		SCI07U01C01P02D	Project: Make a Model
SCI.5-8.8.1.2.C	Interpret and explain results of experimentation.	SCI05U01C02P06A1	Experiment: Beans
		SCI05U04C01P07A2	Project: Build a Terrarium
		SCI05U05C04P17A2	Experiment: Sunlight
		SCI05U07C02L16D	Scientific Inquiry
		SCI06U05C01P03D	Experiment: Solid, Liquid, Gas
		SCI08U03C01P02D	Experiment: Determining Volume
		SCI08U03C02P05D	Experiment: Mass of Gas
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
SCI.5-8.8.1.2.D	Analyze whether or not investigative procedures and conclusions are reasonable.	SCI07U01C01L01D	What is Science?
SCI.5-8.8.1.3.C	Apply English and metric systems of measurements.	SCI08U02C01L01D	Measurement: The Metric System
		SCI08U02C01L02D	Measurement: Size and Distance
		SCI08U02C01L03D	Measurement: Area
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
		SCI08U10C01L02D	Measurement

Section	Description	OW Lesson ID	Title
SCI.5-8.8.1.4.A	Demonstrate how the design of an object makes it possible for that object to perform a specialized task (e.g., a bicycle or an artificial heart).	SCI06U02C02P11A	Project: Heart
		SCI07U04C02L09D	Organs
SCI.5-8.8.2.1.A	Identify questions and form hypotheses that can be examined through scientific investigations.	SCI07U01C01L01D	What is Science?
		SCI07U01C01L04D	Observation and Questioning
		SCI08U03C02P05D	Experiment: Mass of Gas
SCI.5-8.8.2.1.C	Use appropriate tools and techniques to gather, analyze, and interpret data.	SCI06U03C01P06D	Experiment: Trial and Error
		SCI08U03C01P02D	Experiment: Determining Volume
SCI.5-8.8.2.1.D	Given evidence, develop descriptions, explanations, predictions, and models.	SCI06U02C02P11A	Project: Heart
		SCI06U03C02L09D	Plants: Tropisms (Part 2)
		SCI07U01C01P02D	Project: Make a Model
SCI.5-8.8.2.1.F	Recognize and analyze alternative explanations and predictions.	SCI06U03C02L09D	Plants: Tropisms (Part 2)
SCI.5-8.8.2.1.H	Use mathematics in scientific inquiry.	SCI07U01C01L01D	What is Science?
SCI.5-8.8.3.1.A	Investigate and demonstrate that characteristic properties of substances (e.g., density, boiling point, and solubility) do not depend on the amount of the substance.	SCI08U03C03L07D	Density
		SCI08U10C02L04D	Weight, Mass, and Density
SCI.5-8.8.3.1.B	Observe, describe, and measure physical and chemical properties of matter	SCI05U09C01L02D	Matter: Properties of Matter (Part 2)
		SCI08U04C03P12D	Experiment: Specific Gravity

Section	Description	OW Lesson ID	Title
		SCI08U04C03P13D	Experiment: Gravity
		SCI08U10C01L02D	Measurement
SCI.5-8.8.3.1.C	Explain that all matter is composed of elements which may combine in a variety of ways to form compounds.	SCI06U05C01L04D	Atoms and Elements
		SCI06U05C01P06A	Experiment: Limewater
		SCI06U05C01P06D	Experiment: Make a Compound
		SCI06U05C02L08D	Chemical Symbols
		SCI06U05C02L10D	The Periodic Table
		SCI06U05C03L13D	Electron Arrangement
		SCI06U10C03L15D	Matter
		SCI07U02C01L01D	Atoms, Molecules, and Compounds
		SCI07U02C01L02D	Elements
		SCI07U02C01P03D	Project: Elements
		SCI07U02C04L16D	Review
		SCI08U01C01L01D	Structure of Matter
SCI.5-8.8.3.1.D	Investigate and explain that in chemical reactions new properties are created and total mass is conserved.	SCI05U09C01L02D	Matter: Properties of Matter (Part 2)
		SCI07U02C03L12D	Chemical Reactions
		SCI07U02C03L14D	Chemical Application
		SCI07U02C04L16D	Review
		SCI07U03C02L09D	Energy Transformation
		SCI07U03C03L15D	Gravity
SCI.5-8.8.3.2.A	Investigate and describe the motion of an object by its position, direction of motion, and speed.	SCI07U03C03L12D	Motion
SCI.5-8.8.3.2.B	Investigate and demonstrate that the speed and/or direction of an object changes when a force is applied to that object.	SCI06U07C01L01D	Force
		SCI06U07C01P03D	Project: Calculating Work

Section	Description	OW Lesson ID	Title
		SCI06U10C02L12D	Work and Force
		SCI07U03C03L12D	Motion
SCI.5-8.8.3.3.B	Investigate and demonstrate how energy is transferred using simple machines.	SCI06U07C02L13D	Machines and Motion
		SCI06U09C02L08D	Energy Conversion
		SCI07U03C04L19D	Review
SCI.5-8.8.3.3.C	Investigate and describe how heat is transferred from a warmer object to a cooler object until both reach the same temperature.	SCI05U05C04P17A2	Experiment: Sunlight
		SCI06U09C02L08D	Energy Conversion
		SCI07U03C01L02D	Heat
		SCI07U03C04L19D	Review
SCI.5-8.8.3.3.D	Investigate and describe the properties and transfer of sound energy.	SCI05U05C02L05D	Work From Energy
		SCI05U10C03L16D	Order: Energy
		SCI06U09C02L08D	Energy Conversion
		SCI07U03C02L06D	Sound
		SCI07U03C04L19D	Review
SCI.5-8.8.3.3.E	Investigate and describe the transfer of energy from electrical and magnetic sources to different energy forms (e.g., heat, light, sound, and chemical).	SCI05U05C04P17A2	Experiment: Sunlight
		SCI06U09C02L08D	Energy Conversion
		SCI07U03C02L06D	Sound
		SCI07U03C04L19D	Review
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
SCI.5-8.8.4.1.A	Investigate and describe the levels of organizations: cells,	SCI05U01C02L08D	Structure and Function of Cells: Animals

Section	Description	OW Lesson ID	Title
SCI.5-8.8.4.1.A	tissues, organs, organ systems, whole organisms, and ecosystems.		Structure and Function of Cells: Animals
		SCI05U01C02L10D	Structure and Function of Cells: Tissue
		SCI05U10C01P05A	Project: Organs and Tissues
		SCI07U04C02L07D	Plant Tissue
		SCI07U04C02L08D	Animal Tissue
		SCI07U04C02L09D	Organs
		SCI07U04C04L17D	Review
		SCI07U07C01L01D	Ecosystems
		SCI07U07C01P02D	Project: Local Ecosystem
		SCI07U07C04L18D	Review
SCI.5-8.8.4.1.B	Investigate and demonstrate that all living things are composed of cells.	SCI05U01C01L01D	Living Units
		SCI05U01C01L03D	General Cell Composition
		SCI05U01C02L05D	Structure and Function of Cells: Plants
		SCI05U01C02P11A1	Project: Be Creative
SCI.5-8.8.4.1.C	Investigate and explain how cells sustain life through functions (e.g., growth and nutrition).	SCI05U01C01L01D	Living Units
		SCI05U01C02P11A1	Project: Be Creative
		SCI07U05C03L14D	Healthy Living
SCI.5-8.8.4.1.D	Investigate and describe the specialized function performed by specialized cells (e.g., muscular and skeletal) in multi cellular organisms.	SCI05U01C01L01D	Living Units
		SCI05U01C02P11A1	Project: Be Creative
SCI.5-8.8.4.1.F	Investigate and explain how disease affects the structure and/or function of an organism.	SCI07U05C02L06D	Chronic Diseases
		SCI07U05C02L08D	Degenerative Diseases
		SCI07U05C04L17D	Review

Section	Description	OW Lesson ID	Title
SCI.5-8.8.4.2.A	Investigate and describe how all organisms reproduce through sexual or asexual reproduction.	SCI05U02C02P09A	Project: Walking Fern
		SCI07U04C04L17D	Review
		SCI07U06C01L03D	Asexual Reproduction
		SCI07U06C01L04D	Sexual Reproduction
		SCI07U06C04L17D	Review
SCI.5-8.8.4.2.B	Investigate and describe that in many species, offspring receive hereditary information from the female (eggs) and male (sperm).	SCI06U04C03L13D	DNA
SCI.5-8.8.4.2.C	Investigate and explain that chromosomes contain genes which influence heredity.	SCI06U04C02L10D	Dominance and Multiple Genes
		SCI06U04C03L13D	DNA
		SCI07U06C01L01D	Genetic Basics
		SCI07U06C04L17D	Review
SCI.5-8.8.4.2.D	Investigate and describe the effects of inherited traits and environmental influences on an organism's characteristics.	SCI06U04C02L06D	Inheritance
		SCI06U04C02P07D	Project: Traits
		SCI07U06C01L01D	Genetic Basics
		SCI07U06C02L09D	Patterns of Inheritance
		SCI07U06C04L17D	Review
SCI.5-8.8.4.3.A	Investigate and explain how organisms' behaviors enhance their abilities to obtain and use resources, grow, and reproduce.	SCI05U04C01L01D	Balance of Nature: Life Needs
		SCI06U03C02L08D	Plants: Tropisms (Part 1)
		SCI06U04C01L01D	Flower Reproduction
		SCI06U04C01L03D	Mitosis and Meiosis
		SCI07U04C01L01D	Living Organisms

Section	Description	OW Lesson ID	Title
SCI.5-8.8.4.3.B	Investigate and examine how an organism senses change in its internal or external environment and responds to keep conditions within a required range.	SCI05U04C01L01D	Balance of Nature: Life Needs
SCI.5-8.8.4.3.C	Investigate and explain how behavior is a response to internal and external stimuli determined by heredity and experience.	SCI06U04C03L13D	DNA
SCI.5-8.8.4.3.D	Investigate and explain how an organism's behavior evolves through environmental adaptation.	SCI07U04C01L01D SCI07U04C04L17D SCI07U10C01L04D	Living Organisms Review Mutation
SCI.5-8.8.4.4.A	Investigate and describe that a population consists of all individuals of a species at a given place and time.	SCI07U07C01L01D SCI08U07C03L08D	Ecosystems Balance and Disruption
SCI.5-8.8.4.4.B	Investigate and analyze the living and nonliving factors that determine the number of organisms an ecosystem can support.	SCI07U02C01L04D SCI07U07C01L01D SCI07U07C04L18D	Essential Elements Ecosystems Review
SCI.5-8.8.4.4.C	Describe an organism by the function it serves in an ecosystem (e.g., producer, consumer, and decomposer).	SCI05U02C02L10D SCI05U04C01L04D SCI05U04C01L06D SCI05U04C02L09D SCI05U04C02L11D SCI05U10C01L08D SCI06U03C03L14D SCI07U07C01L03D SCI07U07C02L06D	Fungi Mineral Cycle Balance of Nature: Dependence The Prairie Web of Life The Prairie Web of Life (Part 2) Living Things: Balance of Life Nature: Balance Cycles and Energy Flow Food Chains and Webs

Section	Description	OW Lesson ID	Title
		SCI08U07C03L08D	Balance and Disruption
SCI.5-8.8.4.4.D	Investigate and explain how energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis, and that energy then passes from organism to organism in food webs.	ESCU03C02P15D	Project: Flow of Energy
		SCI05U01C03L13D	Energy of Cells
		SCI05U04C01L06D	Balance of Nature: Dependence
		SCI05U04C02L09D	The Prairie Web of Life
		SCI05U10C01L08D	Living Things: Balance of Life
		SCI06U01C01L01D	Photosynthesis
		SCI06U01C01L03D	The Leaf Factory
		SCI06U01C01P02D	Experiment: Anacharis
		SCI06U03C03L14D	Nature: Balance
		SCI06U06C01L02D	Atmospheric Layers
		SCI06U10C01L01D	Photosynthesis
		SCI07U07C02L06D	Food Chains and Webs
		SCI07U07C02P07D	Project: Food Web
		SCI07U07C04L18D	Review
		SCI08U06C03L09D	Commercial Fishing
		SCI08U07C01L01D	Photosynthesis and Food
		SCI08U07C03L08D	Balance and Disruption
SCI.5-8.8.4.5.A	Explain how internal structures, similarity of chemical processes, (e.g., photosynthesis and respiration) and evidence of common ancestry demonstrate unity among organisms.	SCI05U01C03L13D	Energy of Cells
		SCI06U01C01L01D	Photosynthesis
		SCI06U01C01L03D	The Leaf Factory
		SCI06U01C01P02D	Experiment: Anacharis
		SCI06U06C01L02D	Atmospheric Layers

Section	Description	OW Lesson ID	Title
		SCI06U10C01L01D	Photosynthesis
		SCI08U07C01L01D	Photosynthesis and Food
SCI.5-8.8.4.5.B	Investigate and explain how organisms adapt to living and nonliving factors in a biome.	SCI05U04C02L09D	The Prairie Web of Life
		SCI05U04C02P10A	Project: Prairie Land
		SCI06U03C03L11D	Nature: Biomes (Part 1)
		SCI06U10C02L09D	Ecological Systems
		SCI06U10C02P10A	Project: Biomes
		SCI07U02C01L04D	Essential Elements
		SCI07U04C01L01D	Living Organisms
		SCI07U04C04L17D	Review
		SCI07U07C01L01D	Ecosystems
		SCI07U07C04L18D	Review
		SCI07U10C01L04D	Mutation
SCI.5-8.8.4.5.C	Investigate and explain how environmental changes created by nature and by humans may cause species extinction.	SCI05U04C01L01D	Balance of Nature: Life Needs
		SCI07U10C02L09D	Extinction
		SCI07U10C04L17D	Review
SCI.5-8.8.5.1.A	Investigate and describe the crust, mantle, and core of the earth.	ESCU03C01L01D	Layers of the Earth
		ESCU03C01P02D	Project: Building a Model of the Earth
		SCI05U06C01L02D	Internal Structures
		SCI05U08C01L04D	Layers of the Earth
		SCI05U08C01L05D	Layers of the Earth (Part 2)
		SCI06U08C01L03D	Earth's Surface
		SCI07U08C01L01D	The Earth
		SCI07U08C01L02D	The Lithosphere

Section	Description	OW Lesson ID	Title
		SCI08U04C01L02D	Internal Structures
SCI.5-8.8.5.1.B	Investigate and describe how a combination of constructive and destructive forces create land forms.	ESCU07C03L12D	Constructive Forces
		SCI05U08C02L12D	Surface Forces
		SCI07U08C03L13D	Constructive Forces
		SCI07U08C04L18D	Review
SCI.5-8.8.5.1.D	Investigate and describe the water cycle.	ESCU08C01L01D	The Water Cycle
		SCI05U04C01L01D	Balance of Nature: Life Needs
		SCI05U04C01P05A	Project: Cycles
		SCI05U09C02L16D	Other Natural Cycles: Water Cycle
		SCI06U06C02L08D	Water Cycle
		SCI07U07C03L12D	Water Pollution
		SCI07U08C02L08D	The Water Cycle
		SCI07U08C02L11D	Effects of the Sun
		SCI07U08C02P09D	Project: Water Cycle
		SCI08U07C02L05D	The Water Cycle
SCI.5-8.8.5.1.E	Investigate and describe the composition of the atmosphere at different altitudes.	ESCU09C01L03D	Structure of the Atmosphere
		SCI06U06C01L01D	Atmospheric Gases
		SCI06U10C02L11D	The Atmosphere
SCI.5-8.8.5.1.F	Investigate and describe the influence of topography, location, and oceans on climate.	ESCU10C01L01D	Weather and Climate
		ESCU10C02L09D	Geographical Effects
		ESCU10C02L10D	Climate Regulation and Change
		ESCU10C02P11D	Project: Research Your Climate
		SCI07U08C02L11D	Effects of the Sun

Section	Description	OW Lesson ID	Title
		SCI08U04C02L09D	Oceans
		SCI08U06C01L01D	History of Oceanography
		SCI08U08C03L10D	Inner Space
		SCI08U10C02L07D	Oceans and Continents
SCI.5-8.8.5.1.G	Investigate and describe the effect of living organisms on weathering and the atmosphere.	ESCU07C01L01D	Weathering
		SCI05U10C02L13D	The Earth: Changes in the Earth
		SCI06U10C02L11D	The Atmosphere
		SCI07U01C01L01D	What is Science?
		SCI07U07C01L03D	Cycles and Energy Flow
		SCI07U08C01L01D	The Earth
		SCI07U08C01L05D	The Atmosphere
		SCI07U08C03L14D	Destructive Forces
		SCI07U08C04L18D	Review
		SCI08U04C02L07D	Earth Changes
SCI.5-8.8.5.2.A	Investigate and describe how earth processes that occur today (e.g., volcanism, weather, and erosion) are similar to those that occurred in the past.	ESCU07C03L12D	Constructive Forces
		SCI05U06C01P04A	Essay: Volcanic Eruptions
		SCI05U06C02L08D	Erosion and Sediment
		SCI05U08C02L13D	Surface Forces (Part 2)
		SCI05U08C02L17D	Forces From Under the Surface (Part 2)
		SCI05U08C02L19D	Results of Forces
		SCI05U08C02P18A	Project: Volcano Summary
		SCI07U08C01L02D	The Lithosphere
		SCI07U08C03L14D	Destructive Forces
		SCI08U04C01L05D	Mountains
		SCI08U04C01P04D	Project: Volcanoes

Section	Description	OW Lesson ID	Title
		SCI08U04C02L07D	Earth Changes
		SCI08U04C02L08D	Erosion and Sediment
SCI.5-8.8.5.2.B	Investigate and use the fossil record to provide evidence and explain how environmental conditions have changed.	SCI05U07C01L01D	Fossil Formation
		SCI05U07C01L03D	Fossil Formation: More Fossil Types
		SCI05U07C01P02D	Experiment: Fossils
		SCI05U07C01P06A	Project: Look for Fossils
		SCI05U10C02L11D	The Earth: Fossils
		SCI07U08C03L16D	Fossils
		SCI07U08C04L18D	Review
SCI.5-8.8.5.3.A	Investigate and list the components of the solar system.	ESCU01C02L07D	A Sequence Of Events
		ESCU11C01L01D	The Earth's Place in the Solar System
		SCI06U08C03L13D	Our Solar System
		SCI06U10C03L18D	Our Solar System
		SCI07U09C01P03D	Project: Solar System Model
		SCI08U09C01L02D	Astronomy and Measurement
		SCI08U10C03L09D	Science and Space
SCI.5-8.8.5.3.B	Investigate and describe the motion of objects in the solar system that support the concepts of day, year, eclipses, and phases of the moon.	SCI05U09C02L12D	Other Natural Cycles: Phases of the Moon
		SCI06U08C03L11D	Eclipses
		SCI06U08C03P12A	Experiment: Making an Eclipse
		SCI06U10C03L17D	Earth's Motion
		SCI06U10C03L18D	Our Solar System
		SCI07U09C01P03D	Project: Solar System Model
		SCI07U09C02L07D	The Earth and Moon
		SCI08U09C01L02D	Astronomy and Measurement

Section	Description	OW Lesson ID	Title
		SCI08U10C03L09D	Science and Space
SCI.5-8.8.5.3.C	Investigate and describe the influence of gravity on objects in the solar system.	ESCU01C02L09D	Ability To Orbit
		ESCU01C02P10D	Project: Newton's Law
		SCI06U08C03L13D	Our Solar System
		SCI06U10C03L18D	Our Solar System
		SCI07U09C01P03D	Project: Solar System Model
		SCI08U09C01L02D	Astronomy and Measurement
		SCI08U10C03L09D	Science and Space
SCI.5-8.8.5.3.D	Investigate and describe the sun as the major source of energy that influences the atmosphere and the earth's surface.	SCI07U08C02L11D	Effects of the Sun
		SCI07U08C04L18D	Review
		SCI07U09C01L02D	Our Solar System
		SCI07U09C01L04D	The Sun
SCI.5-8.8.5.3.E	Investigate and describe the effect of the tilt of the earth's axis on seasons.	ESCU11C01L02D	The Earth's Orbit and Seasons
		SCI05U09C02L10D	Other Natural Cycles: Seasons
		SCI06U08C02L07D	Earth's Revolution
		SCI06U10C03L17D	Earth's Motion
SCI.5-8.8.6.2.A	Distinguish between scientific inquiry (asking questions about the natural world) and technological design (using science to solve practical problems).	SCI07U01C01L01D	What is Science?
SCI.5-8.8.6.2.B	Describe how science and technology are reciprocal.	SCI07U01C03L14D	Science and Technology
SCI.5-8.8.7.1.B	Investigate and explain how personal choices can directly affect a person's health (e.g., exercise, nutrition, and use of drugs).	SCI07U05C03L14D	Healthy Living

Section	Description	OW Lesson ID	Title
SCI.5-8.8.7.2.A	Investigate and describe how population levels affect resources and the environment.	SCI07U07C01L01D	Ecosystems
		SCI07U07C03L15D	Conservation
		SCI08U07C03L08D	Balance and Disruption
SCI.5-8.8.7.2.B	Investigate and understand that the causes of environmental degradation and resource depletion vary locally and globally.	SCI07U07C01L01D	Ecosystems
		SCI07U07C03L15D	Conservation
		SCI08U07C03L08D	Balance and Disruption
SCI.5-8.8.7.3.A	Investigate and describe the effect of natural hazards on the environment (e.g., earthquakes, landslides, wildfires, floods, and storms).	ESCU04C01L01D	Force of Earthquakes
		ESCU04C02L07D	Impact of Volcanoes
		SCI05U08C02L16D	Forces From Under the Surface
		SCI05U08C02L19D	Results of Forces
SCI05U10C02L13D			The Earth: Changes in the Earth
SCI.5-8.8.7.5.B	Explain why science cannot answer all questions and technology cannot solve all human problems or meet all human needs.	SCI07U01C03L14D	Science and Technology
SCI.5-8.8.8.1.A	Investigate and understand that women and men of various social and ethnic backgrounds, working alone or in teams, engage in the activities of science, engineering, and related fields.	SCI07U01C03L15D	Careers in Science
		SCI07U01C04L17D	Review
		SCI08U03C01P02D	Experiment: Determining Volume
		SCI08U03C02P05D	Experiment: Mass of Gas
		SCI08U04C03P12D	Experiment: Specific Gravity
SCI08U04C03P13D	Experiment: Gravity		

Section	Description	OW Lesson ID	Title
SCI.5-8.8.8.1.B	Investigate and understand that science requires different abilities, based on the type of inquiry and relies upon basic human qualities and scientific habits of mind.	SCI07U01C03L15D	Careers in Science
		SCI07U01C04L17D	Review
SCI.5-8.8.8.1.C	Explain the need for ethical codes followed by scientists (e.g., humane treatment of animals and truth in reporting).	SCI07U01C02L10D	Ethics
		SCI07U01C02P11D	Project: Ethics Case Study
		SCI07U01C04L17D	Review
		SCI07U06C03L12D	Ethic and Genetics
		SCI07U06C03P13D	Project: Ethics Essay
SCI.5-8.8.8.2.A	Formulate and test a hypothesis using observations, experiments, and models.	SCI05U01C02P06A2	Experiment: Onion Cells
		SCI05U02C01P03A1	Project: Draw Flowers
		SCI05U07C02L16D	Scientific Inquiry
		SCI05U08C01P03A	Experiment: Orange
		SCI06U02C02P11A	Project: Heart
		SCI06U04C01P04A	Experiment: Embryo Formation
		SCI07U01C01L01D	What is Science?
		SCI07U01C01L04D	Observation and Questioning
		SCI07U01C01P02D	Project: Make a Model
		SCI08U03C01P02D	Experiment: Determining Volume
		SCI08U03C02P05D	Experiment: Mass of Gas
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
SCI.5-8.8.8.2.C	Evaluate the results of scientific investigations, experiments, observations, theoretical models, and the explanations proposed by other scientists.	SCI05U01C02P06A1	Experiment: Beans
		SCI05U01C02P06A2	Experiment: Onion Cells
		SCI05U02C01P03A1	Project: Draw Flowers

Section	Description	OW Lesson ID	Title
		SCI05U05C04P17A2	Experiment: Sunlight
		SCI05U07C02L16D	Scientific Inquiry
		SCI05U08C01P03A	Experiment: Orange
		SCI06U05C01P03D	Experiment: Solid, Liquid, Gas
		SCI07U01C01L01D	What is Science?
		SCI07U01C01P02D	Project: Make a Model
		SCI08U03C01P02D	Experiment: Determining Volume
		SCI08U03C02P05D	Experiment: Mass of Gas
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
SCI.5-8.8.8.2.D	Understand that scientific theories are based on observations, governed by rules of reasoning, and used to predict events.	SCI05U01C02P06A2	Experiment: Onion Cells
		SCI05U08C01P03A	Experiment: Orange
		SCI06U03C02L09D	Plants: Tropisms (Part 2)
		SCI07U01C01L01D	What is Science?
SCI.5-8.8.8.3.A	Research and describe the difficulties experienced by scientific innovators who had to overcome commonly held beliefs of their times to reach conclusions that we now take for granted.	SCI05U01C03P15A1	Report: Anton Van Leeuwenhoek

Standard:	Alternative Standards
Grade:	8

SCI.8.S.8.1.1	The student does not recognize various structures of the earth.	ESCU01C03L12D	A Unique Planet
		SCI08U04C01L01D	Earth Structures
		SCI08U04C01L02D	Internal Structures
SCI.8.S.8.1.2	The student, with prompts, recognizes at least one structure	ESCU03C01L01D	Layers of the Earth

Section	Description	OW Lesson ID	Title
SCI.8.S.8.1.2	of the earth.		Layers of the Earth
		ESCU03C01L04D	Plate Tectonics
		ESCU03C01P02D	Project: Building a Model of the Earth
		SCI08U04C01L01D	Earth Structures
		SCI08U04C01L02D	Internal Structures
SCI.8.S.8.1.3	The student recognizes at least one structure of the earth.	ESCU03C01L01D	Layers of the Earth
		ESCU03C01L04D	Plate Tectonics
		ESCU03C01P02D	Project: Building a Model of the Earth
		SCI08U04C01L01D	Earth Structures
		SCI08U04C01L02D	Internal Structures
SCI.8.S.8.1.4	The student, with prompts, demonstrates an understanding of the structure of the earth.	ESCU03C01L01D	Layers of the Earth
		ESCU03C01L04D	Plate Tectonics
		ESCU03C01P02D	Project: Building a Model of the Earth
		SCI08U04C01L01D	Earth Structures
		SCI08U04C01L02D	Internal Structures
SCI.8.S.8.1.5	The student demonstrates an understanding of the structure of the earth.	ESCU03C01L01D	Layers of the Earth
		ESCU03C01L04D	Plate Tectonics
		ESCU03C01P02D	Project: Building a Model of the Earth
		SCI08U04C01L01D	Earth Structures
		SCI08U04C01L02D	Internal Structures
SCI.8.S.8.1.6	The student demonstrates, with prompts, an understanding of the structure of the earth in personal life.	SCI08U04C01L01D	Earth Structures
SCI.8.S.8.1.7	The student demonstrates an understanding of the structure of the earth in personal life.	SCI08U04C01L02D	Internal Structures

Section	Description	OW Lesson ID	Title
Standard:	Standards That Are Reported		
Grade:	8		
SCI.8.8.2.1.a	Identify questions and form hypotheses that can be examined through scientific investigations.	SCI07U01C01L01D	What is Science?
		SCI08U03C02P05D	Experiment: Mass of Gas
SCI.8.8.2.1.c	Use appropriate tools and techniques to gather, analyze, and interpret data.	SCI08U02C01L01D	Measurement: The Metric System
		SCI08U03C01P02D	Experiment: Determining Volume
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
SCI.8.8.2.1.h	Use mathematics in scientific inquiry.	SCI07U01C01L01D	What is Science?
SCI.8.8.3.1.a	Investigate and demonstrate that characteristic properties of a substance (e.g., density, boiling point, and solubility) do not depend on the amount of the substance.	SCI08U03C03L07D	Density
SCI.8.8.3.1.b	Observe, describe, and measure physical and chemical properties of matter.	SCI07U01C01L01D	What is Science?
		SCI08U02C01L02D	Measurement: Size and Distance
		SCI08U02C01L03D	Measurement: Area
		SCI08U04C03P12D	Experiment: Specific Gravity
		SCI08U04C03P13D	Experiment: Gravity
SCI08U10C01L02D	Measurement		
SCI.8.8.3.1.c	Explain that all matter is composed of elements which may combine in a variety of ways to form compounds.	SCI07U02C01L02D	Elements
SCI.8.8.3.3.e	Investigate and describe the transfer of energy from electrical and magnetic sources to different energy forms (e.	SCI08U04C03P12D	Experiment: Specific Gravity

Section	Description	OW Lesson ID	Title
SCI.8.8.3.3.e	g., heat, light, sound, and chemical).	SCI08U04C03P13D	Experiment: Specific Gravity Experiment: Gravity
SCI.8.8.4.4.a	Investigate and describe that a population consists of all individuals of a species at a given place and time.	SCI08U07C03L08D	Balance and Disruption
SCI.8.8.4.4.c	Describe an organism by the function it serves in an ecosystem (e.g., producer, consumer, and decomposer).	SCI08U07C03L08D	Balance and Disruption
SCI.8.8.4.4.d	Investigate and explain how energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis, and that energy then passes from organism to organism in food webs.	ESCU03C02L14D ESCU03C02P15D SCI08U06C03L09D SCI08U07C01L01D SCI08U07C03L08D	Flow of Energy in Ecosystems Project: Flow of Energy Commercial Fishing Photosynthesis and Food Balance and Disruption
SCI.8.8.4.5.a	Explain how internal structures, similarity of chemical processes, (e.g., photosynthesis and respiration) and evidence of common ancestry demonstrate unity among organisms.	SCI08U07C01L01D	Photosynthesis and Food
SCI.8.8.4.5.c	Investigate and explain how environmental changes created by nature and by humans may cause species extinction.	ESCU02C02L08D SCI08U07C03L09D	Mass Extinctions Human Disruption
SCI.8.8.5.1.a	Investigate and describe the crust, mantle, and core of the earth.	ESCU03C01L01D ESCU03C01P02D SCI08U04C01L02D	Layers of the Earth Project: Building a Model of the Earth Internal Structures
SCI.8.8.5.1.b	Investigate and describe how a combination of constructive and destructive forces create land forms.	ESCU07C03L12D	Constructive Forces

Section	Description	OW Lesson ID	Title
SCI.8.8.5.1.d	Investigate and describe the water cycle.	ESCU08C01L01D	The Water Cycle
		SCI08U07C02L05D	The Water Cycle
SCI.8.8.5.1.e	Investigate and describe the composition of the atmosphere at different altitudes.	ESCU09C01L03D	Structure of the Atmosphere
SCI.8.8.5.1.f	Investigate and describe the influence of topography, location, and oceans on climate.	ESCU10C02L09D	Geographical Effects
		ESCU10C02L10D	Climate Regulation and Change
		ESCU10C02P11D	Project: Research Your Climate
		SCI08U04C02L09D	Oceans
		SCI08U06C01L01D	History of Oceanography
		SCI08U08C03L10D	Inner Space
SCI.8.8.5.1.g	Investigate and describe the effect of living organisms on weathering and the atmosphere.	ESCU07C01L01D	Weathering
SCI.8.8.5.2.a	Investigate and describe how earth processes that occur today (e.g., volcanism, weather, and erosion) are similar to those that occurred in the past.	ESCU04C02L08D	Prediction of Volcanoes
		ESCU07C03L12D	Constructive Forces
		SCI08U04C01L05D	Mountains
		SCI08U04C01P04D	Project: Volcanoes
		SCI08U04C02L07D	Earth Changes
		SCI08U04C02L08D	Erosion and Sediment
		SCI08U05C01L01D	An Observational Science
SCI08U10C02L06D	The Earth's Surface		
SCI.8.8.5.3.a	Investigate and list the components of the solar system.	ESCU01C02L07D	A Sequence Of Events

Section	Description	OW Lesson ID	Title
		ESCU11C01L01D	The Earth's Place in the Solar System
		SCI08U09C01L02D	Astronomy and Measurement
		SCI08U10C03L09D	Science and Space
SCI.8.8.5.3.c	Investigate and describe the influence of gravity on objects in the solar system.	ESCU01C02L09D	Ability To Orbit
		ESCU01C02P10D	Project: Newton's Law
		SCI08U09C01L02D	Astronomy and Measurement
		SCI08U10C03L09D	Science and Space
SCI.8.8.5.3.d	Investigate and describe the sun as the major source of energy that influences the atmosphere and the earth's surface.	ESCU01C03L12D	A Unique Planet
		ESCU09C02L07D	Solar Interaction
		ESCU09C02P08D	Project: Solar Energy
		ESCU10C02L07D	Solar Power
SCI.8.8.5.3.e	Investigate and describe the effect of the tilt of the earth's axis on seasons.	ESCU11C01L02D	The Earth's Orbit and Seasons

Standard: Academic Standards

Grade: 9-12

SCI.9-12.12.1.1.A	Predict and evaluate how change within a system affects that system.	BIOU06C01P06D	Experiment: Heart Rate
SCI.9-12.12.1.2.B	Test the usefulness of a model by comparing its predictions to actual observations.	BIOU01C03P08A	Activity: Keying Plants
		BIOU03C04P21A	Experiment: Algae Observations
		BIOU05C03P11A	Experiment: Terrarium
		BIOU06C01P06D	Experiment: Heart Rate
		BIOU06C02P10A	Experiment: Muscle Types

Section	Description	OW Lesson ID	Title
		BIOU07C03P12D	Experiment: Molecular Genetics
		BIOU08C02P07A	Experiment: Fragmentation
		BIOU08C02P11A	Experiment: Cuttings
		BIOU08C05P23A	Experiment: Ferns and Pines
		BIOU09C02P07D	Experiment: Habitats
		BIOU09C02P10A	Experiment: Inventory
		CHMU01C05L18A	Learning to Make Useful and Detailed Observations
		CHMU02C02P04D	Experiment: Observations of a Phase Change
		SCI07U01C01L01D	What is Science?
		SCI09U04C01L01D	An Observational Science
SCI.9-12.12.1.3.C	Understand that measurement errors may affect results of calculations.	BIOU09C02P09A	Experiment: Quadrats
		CHMU01C01L01D	An Introduction to Chemistry and Metric Measurement
		IPCU01C02L07D	Volume
		IPCU01C02L09D	Mass and Density
		IPCU01C02P08D	Experiment: Determining Volume
		IPCU01C02P10A	Experiment: Density Column
		IPCU01C02P10D	Experiment: Determining Density
		SCI09U02C02P05D	Experiment: Mass of Gas
		SCI09U03C03L12D	Experiment: Specific Gravity
		SCI09U03C03P13D	Experiment: Gravity
SCI.9-12.12.1.3.D	Describe rate of change by comparing one measured quantity to another measured quantity.	BIOU09C02P09A	Experiment: Quadrats
		CHMU01C01L01D	An Introduction to Chemistry and Metric Measurement
		CHMU01C01P02A	Report: Metric System
		SCI09U02C02P05D	Experiment: Mass of Gas
		SCI09U03C03L12D	Experiment: Specific Gravity

Section	Description	OW Lesson ID	Title
		SCI09U03C03P13D	Experiment: Gravity
SCI.9-12.12.2.1.A	Formulate questions and identify concepts that guide scientific investigations.	SCI07U01C01L01D	What is Science?
SCI.9-12.12.2.1.C	Use technology and mathematics to improve investigations and communications.	SCI07U01C01L01D	What is Science?
SCI.9-12.12.3.1.A	Investigate and describe the structure of atoms, focusing on properties of subatomic particles.	IPCU02C01L03D	The Atomic Model
SCI.9-12.12.3.1.B	Investigate and explain the types of nuclear reactions.	BIOU02C03L11D CHMU10C02L06D IPCU03C03L17D SCI09U01C04L07D SCI09U01C04P08D	Chemical Reactions Atomic Structure and Nuclear Reactions Nuclear Energy Nuclear Energy Project: Reactors
SCI.9-12.12.3.1.C	Investigate and describe the effect of electrical and nuclear forces which hold atoms together.	BIOU02C01L01D SCI09U01C01L01D	Molecular Basis of Life Structure of Matter
SCI.9-12.12.3.2.A	Investigate and understand that atoms interact with one another by transferring or sharing electrons.	PHYU06C01L01	Electric Charges
SCI.9-12.12.3.2.B	Investigate and explain the periodic table of elements in terms of repeating patterns of physical and chemical properties.	CHMU02C01L01D CHMU02C02L03D CHMU02C02L06D CHMU04C02L06D CHMU10C01L03D CHMU10C02L07D	The Basic Ingredient: Chemical Elements Using Chemical and Physical Properties to Identify Substances Creating Compounds: Investigating Chemical Changes Designing an Organizational Map: The Periodic Table Elements, Compounds, and Mixtures The Periodic Law

Section	Description	OW Lesson ID	Title
		IPCU02C02L07D	Trends on the Periodic Table
		SCI07U02C01L02D	Elements
SCI.9-12.12.3.2.C	Investigate and describe how the structure of an atom determines the chemical properties of an element.	CHMU02C01L01D	The Basic Ingredient: Chemical Elements
		CHMU02C02L03D	Using Chemical and Physical Properties to Identify Substances
		CHMU04C01P02A	Experiment: Physical Properties of Elements
		CHMU10C01L03D	Elements, Compounds, and Mixtures
		SCI07U02C01L02D	Elements
		SCI09U01C01L01D	Structure of Matter
		SCI09U01C03L05D	Atomic Nuclei
SCI.9-12.12.3.2.D	Investigate and explain how the interactions among the molecules of a compound determine its physical and chemical properties.	CHMU02C01L01D	The Basic Ingredient: Chemical Elements
		CHMU02C02L03D	Using Chemical and Physical Properties to Identify Substances
		CHMU02C02L06D	Creating Compounds: Investigating Chemical Changes
		CHMU10C01L03D	Elements, Compounds, and Mixtures
		IPCU04C01L01D	Properties of Solids
		IPCU04C01L03D	Elasticity and Strength in Solids
SCI.9-12.12.3.2.E	Investigate and use changes in energy to explain the differences among the states of matter.	IPCU03C01L01D	States of Matter
		PHYU03C02L04D	Conservation of Energy
		PHYU03C03L08D	Heat Energy
		PHYU10C03L10	Circuits
SCI.9-12.12.3.2.F	Investigate and describe the bonding of carbon atoms in chains and rings to produce compounds essential to life.	CHMU02C01L01D	The Basic Ingredient: Chemical Elements
		CHMU08C01L01D	Organic Compounds
		CHMU08C02L05D	A Closer Look at the Carbon Atom

Section	Description	OW Lesson ID	Title
		CHMU10C01L03D	Elements, Compounds, and Mixtures
SCI.9-12.12.3.3.A	Investigate and describe common chemical reactions.	BIOU02C02L03D BIOU02C03L11D CHMU06C01P03A CHMU10C02L09D IPCU03C02L09D IPCU03C02L11D IPCU03C02L12D IPCU03C02P10D	Properties of Compounds Chemical Reactions Experiment: Chemical Reactions Chemical Reactions, Rates, and Equilibrium Atomic Structure and Bonding Chemical Reactions and Conservation of Mass Types of Chemical Reactions Experiment: Chemical Changes
SCI.9-12.12.3.3.B	Investigate and describe the change of energy as a result of chemical reactions.	BIOU02C02L03D BIOU02C03L11D BIOU09C04L15D CHMU02C02L06D CHMU06C01P02D CHMU06C01P03A CHMU10C02L09D IPCU03C02L09D	Properties of Compounds Chemical Reactions Energy Affects Ecology Creating Compounds: Investigating Chemical Changes Experiment: Observing Chemical Changes Experiment: Chemical Reactions Chemical Reactions, Rates, and Equilibrium Atomic Structure and Bonding
SCI.9-12.12.3.3.C	Investigate and describe how electrons are involved in bond formation during chemical reactions.	BIOU02C03L11D CHMU06C01P03A CHMU08C02L06D CHMU10C02L08D CHMU10C02L09D IPCU03C02L08D IPCU03C02L09D	Chemical Reactions Experiment: Chemical Reactions Bonding in Organic Compounds Molecular Structure Chemical Reactions, Rates, and Equilibrium Chemical Bonding Atomic Structure and Bonding

Section	Description	OW Lesson ID	Title
		PHYU06C01L01	Electric Charges
SCI.9-12.12.3.3.D	Investigate and describe the factors influencing the rates of chemical reactions, including catalysts.	CHMU06C02L10D CHMU10C02L10D	Factors that Affect Reaction Rate: Temperature, Catalysts, Concentration of Reactants Reaction Dynamics
SCI.9-12.12.3.4.A	Investigate and understand the effect of forces on the motion of objects.	ESCU01C02L09D ESCU01C02P10D IPCU05C02L10D	Ability To Orbit Project: Newton's Law Newton's Laws
SCI.9-12.12.3.4.B	Investigate and understand gravity as an attractive force that each mass exerts on any other mass.	ESCU01C02L09D ESCU01C02P10D	Ability To Orbit Project: Newton's Law
SCI.9-12.12.3.4.D	Investigate and describe an electric field, a magnetic field, and the interaction between them.	PHYU06C02L06 PHYU08C01L01 PHYU08C01P02 PHYU08C02P06 PHYU10C03L09	Electric Fields Fields and Forces Experiment: Magnetic Fields Experiment: Magnetic Fields Fields and Forces
SCI.9-12.12.3.5.A	Understand that the total energy in the universe is constant and can never be destroyed.	PHYU03C02L04D PHYU10C03L10	Conservation of Energy Circuits
SCI.9-12.12.3.5.B	Investigate and distinguish between kinetic energy and potential energy.	IPCU07C01L01D IPCU07C01L03D IPCU07C01L04D PHYU03C01L01D PHYU10C01L03	Forms of Energy Mechanical Energy Conservation of Energy Work, Kinetic, and Potential Energy Energy

Section	Description	OW Lesson ID	Title
SCI.9-12.12.3.5.C	Investigate and describe heat transfer in terms of conduction, convection, and radiation.	ESCU09C02L07D	Solar Interaction
		IPCU08C01L03D	Heat Flow
		PHYU09C01L01	Quantum Theory
SCI.9-12.12.3.6.A	Investigate and understand that all waves possess and transfer energy.	IPCU10C01L03D	Properties of Waves
		PHYU04C01L01D	Characteristics of Waves
SCI.9-12.12.3.6.C	Investigate and illustrate how wavelength and frequency of waves are inversely related.	IPCU10C01L03D	Properties of Waves
SCI.9-12.12.3.6.D	Investigate and understand that the energy of waves can be changed into other forms of energy, just as other forms of energy can be transformed into wave energy.	PHYU04C01L01D	Characteristics of Waves
SCI.9-12.12.3.6.E	Investigate and understand that atoms or molecules can be identified by spectral analysis.	IPCU02C01L03D	The Atomic Model
		SCI09U01C01L01D	Structure of Matter
		SCI09U01C03L05D	Atomic Nuclei
SCI.9-12.12.3.6.F	Investigate and describe how the composition and temperature of a material affect electron flow.	CHMU10C02L09D	Chemical Reactions, Rates, and Equilibrium
		PHYU06C01L01	Electric Charges
SCI.9-12.12.4.1.A	Investigate and describe the form and function of subcellular structures that regulate cell activities.	BIOU04C01L01D	The Cell-An Introduction
		BIOU04C01P02D	Experiment: Human Cheek Cells
		BIOU04C01P03A	Experiment: The Onion Cells
		BIOU04C02L05D	Cell Design
		BIOU05C01L01D	Plant Basics
SCI.9-12.12.4.1.B	Investigate and describe cell functions (e.g., photosynthesis,	BIOU03C03L12D	Protista: The Algae

Section	Description	OW Lesson ID	Title
SCI.9-12.12.4.1.B	respiration, cell division).		Protista: The Algae
		BIOU04C01L01D	The Cell-An Introduction
		BIOU04C01P02D	Experiment: Human Cheek Cells
		BIOU04C01P03A	Experiment: The Onion Cells
		BIOU04C02L05D	Cell Design
		BIOU04C02L08D	Organelles
		BIOU04C02L09D	Production of Needed Materials
		BIOU05C01L01D	Plant Basics
		BIOU05C03L09D	How do Plants Work?
		BIOU05C03L10D	Photosynthesis: A Closer Look
		BIOU05C03L12D	Respiration
		BIOU05C03P11A	Experiment: Terrarium
		BIOU06C01L03D	Respiratory System
		BIOU10C01L02D	Definition of Life
BIOU10C02L05D	Control System		
SCI.9-12.12.4.1.C	Investigate and understand that complex multi cellular organisms are formed as highly organized arrangements of differentiated cells.	BIOU05C02L07D	Developmental Anatomy
		BIOU08C04L17D	Sexual Reproduction in Animals
		BIOU10C02L05D	Control System
SCI.9-12.12.4.2.A	Investigate and describe how DNA carries the genetic code.	BIOU02C04L17D	Nucleic Acids
		BIOU04C02L09D	Production of Needed Materials
		BIOU07C03L11D	Molecular Genetics
		BIOU10C02L05D	Control System
SCI.9-12.12.4.2.B	Investigate and understand that genetic variation occurs when genetic information is transmitted during sexual reproduction.	BIOU06C02L11D	Reproductive System

Section	Description	OW Lesson ID	Title
		BIOU08C01L02D	Meiosis
		BIOU08C03L13D	Sexual Reproduction
		BIOU08C03P15A	Experiment: Sexual Reproduction
		BIOU08C04L17D	Sexual Reproduction in Animals
		BIOU10C01L02D	Definition of Life
		BIOU10C02L05D	Control System
SCI.9-12.12.4.2.C	Investigate and explain how some mutations could help, harm or have no effect on individual organisms.	BIOU07C03L11D	Molecular Genetics
SCI.9-12.12.4.2.D	Investigate and explain how mutations in sex cells, but not in body cells, could be passed on to offspring.	BIOU07C03L11D	Molecular Genetics
SCI.9-12.12.4.3.A.2	the genetic variability of offspring due to mutation and recombination of genes:	BIOU07C03L11D	Molecular Genetics
		BIOU08C01L02D	Meiosis
SCI.9-12.12.4.3.B	Investigate and use the theory of biological evolution to explain diversity of life.	BIOU10C02L04D	Basic Principles of Life
SCI.9-12.12.4.3.C	Investigate whether natural selection provides a scientific explanation of the fossil record and the molecular similarities among the diverse species of living organisms.	BIOU09C02L06D	Communities and Habitats
SCI.9-12.12.4.4.A	Investigate and understand that atoms and molecules cycle among living and nonliving components of the biosphere.	BIOU02C01L01D	Molecular Basis of Life
		BIOU09C02L06D	Communities and Habitats
SCI.9-12.12.4.4.B	Investigate and describe the flow of energy through ecosystems, in one direction, from producers to herbivores to carnivores and decomposers.	BIOU09C01L01D	Principles of Ecology
		BIOU09C04P16D	Activity: Make a Pyramid
		ESCU03C02L14D	Flow of Energy in Ecosystems
		ESCU03C02P15D	Project: Flow of Energy

Section	Description	OW Lesson ID	Title
SCI.9-12.12.4.4.C	Investigate and cite examples of organisms cooperating and competing in ecosystems.	BIOU09C01L01D	Principles of Ecology
SCI.9-12.12.4.4.D	Investigate and understand that interactions among organisms are affected by the conflict between an organism's capacity to produce infinite populations and the finite amount of resources.	BIOU09C01L01D	Principles of Ecology
SCI.9-12.12.4.4.E	Investigate and describe how humans modify the ecosystem as a result of population growth, technology, and consumption.	SCI09U09C02L07D	Industry and Transportation
		SCI09U10C03L09D	Population and Environment
SCI.9-12.12.4.5.B	Investigate and understand that producers use solar energy to combine molecules of carbon dioxide and water into organic compounds.	BIOU09C04P16D	Activity: Make a Pyramid
		CHMU08C01L02D	Sources of Organic Compounds
		CHMU08C02L06D	Bonding in Organic Compounds
SCI.9-12.12.4.5.C	Investigate and explain how distribution and abundance of different organisms in ecosystems are limited by the availability of matter and energy and the ability of the ecosystem to recycle materials.	BIOU09C01L01D	Principles of Ecology
SCI.9-12.12.4.6.A	Investigate and describe how nervous systems function in multicellular animals.	BIOU06C03L13D	Environmental Interaction
SCI.9-12.12.5.1.B	Investigate and explain how the outward transfer of earth's internal heat drives convection in the mantle that propels the plates comprising the earth's surface.	ESCU03C01L04D	Plate Tectonics
		ESCU03C01P05D	Project: Mantle Convection
		ESCU09C02L07D	Solar Interaction
		SCI09U03C01L02D	Internal Structures
		SCI09U10C02L05D	Oceans and Continents

Section	Description	OW Lesson ID	Title
SCI.9-12.12.5.1.C	Investigate and explain how global climate is determined by energy transfer from the sun and is influenced by dynamic processes (e.g., cloud formation and the earth's rotation) and static conditions (e.g., the position of mountain ranges and oceans).	ESCU10C02L10D	Climate Regulation and Change
		SCI09U05C03P12D	Project: Marine Report
SCI.9-12.12.5.2.A	Investigate and diagram how elements and compounds on earth move among reservoirs in the solid earth, oceans, atmosphere, and organisms as part of geochemical cycles.	ESCU03C02L11D	Geochemical Cycles: Cycles of Earth Materials
		ESCU03C02P13D	Project: Story of the Spheres
SCI.9-12.12.5.3.A	Contrast the early earth with the planet we live on today.	ESCU02C01L01D	Determining Earth's Age
SCI.9-12.12.5.3.B	Investigate and estimate geologic time by observing rock sequences and using fossils to correlate the sequences at various locations.	SCI09U04C01L03D	Fossils
SCI.9-12.12.5.3.D	Investigate and relate how the interactions among the solid earth, oceans, atmosphere, and organisms affect the ongoing evolution of the earth.	ESCU02C01L01D	Determining Earth's Age
		SCI09U05C03P12D	Project: Marine Report
SCI.9-12.12.5.4.A	Describe and analyze various theories on the origin of the universe.	ESCU01C01L03D	Competing Perspectives
SCI.9-12.12.5.4.B	Describe various theories on the formation of galaxies.	ESCU11C03L11D	Galaxies
SCI.9-12.12.5.4.C	Describe the life cycle of a star.	ESCU01C02L07D	A Sequence Of Events
		ESCU11C02L08D	Stellar Evolution
		ESCU11C02P09D	Project: Life Histories of Stars

Section	Description	OW Lesson ID	Title
SCI.9-12.12.6.2.D	Contrast the reporting of scientific knowledge and the reporting of technical knowledge.	BIOU02C02P04D	Experiment: Static Electricity
		BIOU02C02P06A	Experiment: Temperature Control
		BIOU02C02P08D	Experiment: Water Properties
		BIOU02C02P09A	Experiment: Indicators
		BIOU02C04P15A	Experiment: Starch
		BIOU02C05P20A	Experiment: Digestion
		BIOU04C02P07D	Experiment: Osmosis
		BIOU04C03P12A	Experiment: Tissues
		BIOU05C03P11A	Experiment: Terrarium
		BIOU06C02P10A	Experiment: Muscle Types
		BIOU08C02P07A	Experiment: Fragmentation
		BIOU08C02P11A	Experiment: Cuttings
		BIOU08C03P15A	Experiment: Sexual Reproduction
		BIOU08C05P23A	Experiment: Ferns and Pines
		BIOU08C05P24A	Experiment: Flowers
		BIOU09C02P07D	Experiment: Habitats
		BIOU09C02P10A	Experiment: Inventory
		SCI09U02C01P02D	Experiment: Determining Volume
SCI09U02C02P05D	Experiment: Mass of Gas		
SCI.9-12.12.7.1.B	Investigate and explain how diseases are prevented, controlled, and cured.	BIOU06C03L17D	Immune System and Disease
		BIOU10C03L08D	Applications of Biology
		SCI09U07C01L01D	History of Microbiology
		SCI09U07C01L03D	Characteristics of Infectious Diseases
		SCI09U08C01L04D	Environmental Conditions
SCI.9-12.12.7.1.C	Investigate and explain how genetic traits affect a person's health.	BIOU07C04L14D	Human Genetics

Section	Description	OW Lesson ID	Title
SCI.9-12.12.7.2.A	Investigate and identify causes of population growth or decline.	BIOU09C01L01D	Principles of Ecology
		SCI09U10C03L09D	Population and Environment
SCI.9-12.12.7.2.C	Investigate and predict how population change may impact resource use and environments.	SCI09U10C03L09D	Population and Environment
SCI.9-12.12.7.3.A	Investigate and explain how human populations use environmental resources to maintain and improve their existence.	SCI09U10C03L09D	Population and Environment
SCI.9-12.12.7.3.B	Investigate and understand that the earth has renewable and finite resources.	ESCU05C03L12D	Renewable Resources
		ESCU05C03L13D	Nonrenewable Resources
SCI.9-12.12.7.3.C	Investigate and understand the limitations of natural systems to renew and recycle resources.	BIOU09C03L13D	Pollution Problems
		BIOU09C04P17D	Essay: Stewardship
		SCI09U09C01L02D	Agriculture and Waste
SCI.9-12.12.7.4.A	Investigate and describe how the positive and negative consequences of human intervention or nonintervention impact the ecosystem.	SCI09U10C03L09D	Population and Environment
SCI.9-12.12.7.5.A	Investigate and describe how human activities increase or reduce the potential for hazards.	SCI09U10C03L09D	Population and Environment
SCI.9-12.12.8.1.A	Demonstrate ethical scientific practices (e.g., informing research subjects about risks and benefits, humane treatment of animals, truthful reporting, public disclosure of work, and peer review).	BIOU02C02P04D	Experiment: Static Electricity
		BIOU02C02P06A	Experiment: Temperature Control
		BIOU02C02P08D	Experiment: Water Properties
		BIOU02C02P09A	Experiment: Indicators

Section	Description	OW Lesson ID	Title
		BIOU02C04P15A	Experiment: Starch
		BIOU02C05P20A	Experiment: Digestion
		BIOU04C02P07D	Experiment: Osmosis
		BIOU04C03P12A	Experiment: Tissues
		BIOU05C03P11A	Experiment: Terrarium
		BIOU06C02P10A	Experiment: Muscle Types
		BIOU08C02P07A	Experiment: Fragmentation
		BIOU08C02P11A	Experiment: Cuttings
		BIOU08C03P15A	Experiment: Sexual Reproduction
		BIOU08C05P23A	Experiment: Ferns and Pines
		BIOU08C05P24A	Experiment: Flowers
		BIOU09C02P07D	Experiment: Habitats
		BIOU09C02P10A	Experiment: Inventory
		SCI09U02C01P02D	Experiment: Determining Volume
		SCI09U02C02P05D	Experiment: Mass of Gas
SCI.9-12.12.8.2.B	Create scientific explanations consistent with experimental and observational evidence; make accurate predictions; strive to be logical; respect the rules of evidence; accept criticism; report methods and procedures; and make knowledge public.	BIOU01C03P07D	Experiment: Classifying Fruit
		BIOU02C02P04D	Experiment: Static Electricity
		BIOU02C02P06A	Experiment: Temperature Control
		BIOU02C02P08D	Experiment: Water Properties
		BIOU02C02P09A	Experiment: Indicators
		BIOU02C04P15A	Experiment: Starch
		BIOU02C05P20A	Experiment: Digestion
		BIOU03C01P03D	Experiment: Using the Microscope
		BIOU03C02P06D	Experiment: A Protozoan Culture
		BIOU03C02P07A	Experiment: The Amoeba

Section	Description	OW Lesson ID	Title
		BIOU03C02P09A	Experiment: The Euglena
		BIOU03C03P13A	Experiment: Algae
		BIOU03C04P18D	Experiment: Fungi
		BIOU03C04P21A	Experiment: Algae Observations
		BIOU04C01P02D	Experiment: Human Cheek Cells
		BIOU04C01P03A	Experiment: The Onion Cells
		BIOU04C02P07D	Experiment: Osmosis
		BIOU04C03P12A	Experiment: Tissues
		BIOU05C03P11A	Experiment: Terrarium
		BIOU06C01P06D	Experiment: Heart Rate
		BIOU06C02P10A	Experiment: Muscle Types
		BIOU07C03P12D	Experiment: Molecular Genetics
		BIOU08C01P04D	Experiment: Mitosis
		BIOU08C02P07A	Experiment: Fragmentation
		BIOU08C02P11A	Experiment: Cuttings
		BIOU08C03P15A	Experiment: Sexual Reproduction
		BIOU08C04P18D	Experiment: Tissue Structure
		BIOU08C05P23A	Experiment: Ferns and Pines
		BIOU08C05P24A	Experiment: Flowers
		BIOU09C02P07D	Experiment: Habitats
		BIOU09C02P08A	Experiment: Biomes
		BIOU09C02P09A	Experiment: Quadrats
		BIOU09C02P10A	Experiment: Inventory
		BIOU10C01L01D	Study of Life
		SCI09U02C02P05D	Experiment: Mass of Gas
		SCI09U03C03L12D	Experiment: Specific Gravity
		SCI09U03C03P13D	Experiment: Gravity

Section	Description	OW Lesson ID	Title
Standard:	Standards That Are Reported		
Grade:	12		
SCI.12.12.2.1.a	Formulate questions and identify concepts that guide scientific investigations.	IPCU01C01L01D	What is Science?
		SCI07U01C01L01D	What is Science?
SCI.12.12.2.1.c	Use technology and mathematics to improve investigations and communications.	SCI07U01C01L01D	What is Science?
SCI.12.12.3.1.a	Investigate and describe the structure of atoms, focusing on properties of subatomic particles.	IPCU02C01L01D	The History of Atomic Theory
		IPCU02C01L03D	The Atomic Model
SCI.12.12.3.1.b	Investigate and explain the types of nuclear reactions.	IPCU03C03L17D	Nuclear Energy
SCI.12.12.3.2.a	Investigate and understand that atoms interact with one another by transferring or sharing electrons.	IPCU03C02L08D	Chemical Bonding
		IPCU03C02L09D	Atomic Structure and Bonding
		PHYU06C01L01	Electric Charges
SCI.12.12.3.2.b	Investigate and explain the periodic table of elements in terms of repeating patterns of physical and chemical properties.	IPCU02C02L07D	Trends on the Periodic Table
		SCI07U02C01L02D	Elements
SCI.12.12.3.2.c	Investigate and describe how the structure of an atom determines the chemical properties of an element.	IPCU11C02L06D	Atomic Spectra and Moving Stars
		SCI07U02C01L02D	Elements
SCI.12.12.3.2.d	Investigate and explain how the interactions among the molecules of a compound determine its physical and chemical properties.	IPCU04C01L01D	Properties of Solids
		IPCU04C01L03D	Elasticity and Strength in Solids

Section	Description	OW Lesson ID	Title
SCI.12.12.3.2.e	Investigate and use changes in energy to explain the differences among the states of matter.	IPCU03C01L01D	States of Matter
		IPCU03C01L02D	Changes of State
		IPCU03C01P03D	Experiment: Graphing Changes of State
		PHYU03C03L08D	Heat Energy
SCI.12.12.3.3.a	Investigate and describe common chemical reactions.	IPCU03C02L09D	Atomic Structure and Bonding
		IPCU03C02L11D	Chemical Reactions and Conservation of Mass
		IPCU03C02L12D	Types of Chemical Reactions
		IPCU03C02P10D	Experiment: Chemical Changes
SCI.12.12.3.3.c	Investigate and describe how electrons are involved in bond formation during chemical reactions.	IPCU03C02L08D	Chemical Bonding
		IPCU03C02L09D	Atomic Structure and Bonding
		PHYU06C01L01	Electric Charges
SCI.12.12.3.4.a	Investigate and understand the effect of forces on the motion of objects.	ESCU01C02L09D	Ability To Orbit
		ESCU01C02P10D	Project: Newton's Law
		IPCU05C02L08D	Forces
		IPCU05C02L10D	Newton's Laws
		PHYU10C01L02	Dynamics
SCI.12.12.3.4.b	Investigate and understand gravity as an attractive force that each mass exerts on any other mass.	ESCU01C02L09D	Ability To Orbit
		IPCU05C02L08D	Forces
SCI.12.12.3.4.c	Investigate and understand electrical force as a force that exists between any two charged objects.	PHYU10C01L02	Dynamics
		PHYU10C03L08	Electricity and Magnetism

Section	Description	OW Lesson ID	Title
SCI.12.12.3.4.d	Investigate and describe an electric field a magnetic field, and the interaction between them.	IPCU09C02L09D	Magnetism and Electricity
		PHYU06C02L06	Electric Fields
		PHYU08C01L01	Fields and Forces
		PHYU08C01P02	Experiment: Magnetic Fields
		PHYU08C02P06	Experiment: Magnetic Fields
		PHYU10C03L09	Fields and Forces
SCI.12.12.3.5.a	Understand that the total energy in the universe is constant and can never be destroyed.	IPCU07C01L04D	Conservation of Energy
		PHYU03C02L04D	Conservation of Energy
		PHYU10C03L10	Circuits
SCI.12.12.3.5.b	Investigate and distinguish between kinetic energy and potential energy.	IPCU07C01L01D	Forms of Energy
		IPCU07C01L03D	Mechanical Energy
		IPCU07C01L04D	Conservation of Energy
		PHYU03C01L01D	Work, Kinetic, and Potential Energy
		PHYU10C01L03	Energy
SCI.12.12.3.5.c	Investigate and describe heat transfer in terms of conduction, convection, and radiation.	ESCU09C02L07D	Solar Interaction
		IPCU08C01L03D	Heat Flow
		PHYU09C01L01	Quantum Theory
SCI.12.12.3.5.d	Investigate and give examples of how systems tend to become more disorderly over time.	IPCU08C01L01D	Thermodynamics and Entropy
SCI.12.12.3.6.a	Investigate and understand that all waves possess and transfer energy.	IPCU10C01L01D	Waves and Energy Transfer
		IPCU10C01L02D	Types of Waves
		IPCU10C01L03D	Properties of Waves

Section	Description	OW Lesson ID	Title
		PHYU04C01L01D	Characteristics of Waves
SCI.12.12.3.6.b	Understand that electromagnetic waves result when a charged object accelerates.	PHYU01C04L11D PHYU08C02L05 PHYU10C01L01	Rate of Velocity Change Electromagnetism Mechanics
SCI.12.12.3.6.c	Investigate and illustrate how wavelength and frequency of waves are inversely related.	IPCU10C01L03D	Properties of Waves
SCI.12.12.3.6.d	Investigate and understand that the energy of waves can be changed into other forms of energy, just as other forms of energy can be transformed into wave energy.	PHYU03C01L01D PHYU04C01L01D	Work, Kinetic, and Potential Energy Characteristics of Waves
SCI.12.12.3.6.e	Investigate and understand that atoms or molecules can be identified by spectral analysis.	IPCU02C01L03D	The Atomic Model
SCI.12.12.4.4.a	Investigate and understand that atoms and molecules cycle among living and nonliving components of the biosphere.	ESCU03C02L12D	Biogeochemical Cycles: Cycles of Life Materials
SCI.12.12.4.4.b	Investigate and describe the flow of energy through ecosystems, in one direction, from producers to herbivores to carnivores and decomposers.	ESCU03C02L14D ESCU03C02P15D	Flow of Energy in Ecosystems Project: Flow of Energy
SCI.12.12.4.5.a	Investigate and understand that living systems require a constant input of energy to maintain their chemical and physical organization.	ESCU03C02L14D ESCU03C02P15D	Flow of Energy in Ecosystems Project: Flow of Energy
SCI.12.12.4.6.a	Investigate and describe how nervous systems function in multicellular animals.	SCI03U03C04P14D	Project: Marsupials

Section	Description	OW Lesson ID	Title
SCI.12.12.5.1.b	Investigate and explain how the outward transfer of earth's internal heat drives convection in the mantle that propels the plates comprising the earth's surface.	ESCU03C01L04D	Plate Tectonics
		ESCU03C01P05D	Project: Mantle Convection
		ESCU09C02L07D	Solar Interaction
SCI.12.12.5.1.c	Investigate and explain how global climate is determined by energy transfer from the sun and is influenced by dynamic processes (e.g., cloud formation and the earth's rotation) and static conditions (e.g., the position of mountain ranges and oceans).	ESCU10C02L10D	Climate Regulation and Change
SCI.12.12.5.2.a	Investigate and diagram how elements and compounds on earth move among reservoirs in the solid earth, oceans, atmosphere, and organisms as part of geochemical cycles.	ESCU03C02L11D	Geochemical Cycles: Cycles of Earth Materials
		ESCU03C02L12D	Biogeochemical Cycles: Cycles of Life Materials
		ESCU03C02P13D	Project: Story of the Spheres
		ESCU09C02L06D	Atmospheric Cycles
		IPCU11C01L01D	Carbon Dioxide and Global Warming
		SCI07U02C01L02D	Elements
SCI.12.12.5.3.a	Contrast the early earth with the planet we live on today.	ESCU02C01L01D	Determining Earth's Age
SCI.12.12.5.3.b	Investigate and estimate geologic time by observing rock sequences and using fossils to correlate the sequences at various locations.	ESCU02C02L06D	Geologic Time
		ESCU02C02P07D	Project: The Clock of Eons
SCI.12.12.5.3.c	Predict when rocks were formed by using known decay rates of radioactive isotopes in rocks.	PHYU09C02L07	Nuclear Theory
		PHYU10C04L15	Nuclear Energy
SCI.12.12.5.4.a	Describe and analyze various theories on the origin of the universe.	ESCU01C01L03D	Competing Perspectives

Section	Description	OW Lesson ID	Title
SCI.12.12.5.4.b	Describe various theories on the formation of galaxies.	ESCU11C03L11D	Galaxies
SCI.12.12.5.4.c	Describe the life cycle of a star.	ESCU01C02L07D	A Sequence Of Events
		ESCU11C02L08D	Stellar Evolution
		ESCU11C02P09D	Project: Life Histories of Stars