

Vigo County School Corporation
7th Grade Science Syllabus

Chapter - Lesson	Standard	Indiana State Standard
Quarter 1		
(Scientific Method)	SEPS	Teacher Developed Resources can be found on the Curriculum Share (y:) Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
Introduction to Chemistry - Chapter 1 Introduction to Matter		
(1.1 Describing Matter)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
1.2 Classifying Matter	7.PS.1	Draw, construct models, or use animations to differentiate between atoms, elements, molecules, and compounds.
(1.3 Measuring Matter)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
Introduction to Chemistry - Chapter 2 Solids, Liquids, and Gases		
2.1 States of Matter	7.PS.2	Describe the properties of solids, liquids, and gases. Develop models that predict and describe changes in particle motion, density, temperature, and state of a pure substance when thermal energy is added or removed.
2.1 States of Matter	7.PS.3	Investigate the Law of Conservation of Mass by measuring and comparing the mass of a substance before and after a change of state.
2.2 Changes of State	7.PS.2	Describe the properties of solids, liquids, and gases. Develop models that predict and describe changes in particle motion, density, temperature, and state of a pure substance when thermal energy is added or removed.
2.2 Changes of State	7.PS.3	Investigate the Law of Conservation of Mass by measuring and comparing the mass of a substance before and after a change of state.
Forces and Energy - Chapter 2 Forces		
(2.1 Nature of Force)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
(2.2 Friction and Gravity)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
2.3 Newton's Laws of Motion	7.PS.4	Investigate Newton's first law of motion (Law of Inertia) and how different forces (gravity, friction, push and pull) affect the velocity of an object.

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2.3 Newton's Laws of Motion	7.PS.5	Investigate Newton's second law of motion to show the relationship among force, mass and acceleration.
2.3 Newton's Laws of Motion	7.PS.6	Investigate Newton's third law of motion to show the relationship between action and reaction forces.
2.3 Newton's Laws of Motion	7.PS.7	Construct a device that uses one or more of Newton's laws of motion. Explain how motion, acceleration, force, and mass are affecting the device.

College and Career Ready Essay-Informative/Explanatory:Connection

1st Quarter College and Career Standards Essay-Informative/Explanatory: Convection Available for download on the Curriculum Share (Y:).	6-8.LST.1.2	Write routinely over a variety of time frames for a range of discipline-specific tasks, purposes, and audiences.
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QUARTER 2

Forces and Energy - Chapter 4 Energy

(4.1 What is Energy)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
(4.2 Forms of Energy)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
4.3 Energy Transformations and Conservation	7.PS.8	Investigate a process in which energy is transferred from one form to another and provide evidence that the total amount of energy does not change during the transfer when the system is closed. (Law of conservation of energy)
(5.1 Temperature, Thermal Energy and Heat)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
5.2 Transfer of Heat	7.PS.9	Compare and contrast the three types of heat transfer: radiation, convection, and conduction.

College and Career Ready Writing-Argumentative: Synthetic and Natural Resources

2nd Quarter College and Career Standards Essay-Argumentative: Synthetic and Natural Resources Available for download on the Curriculum Share (Y:).	6-8.LST.1.2	Write routinely over a variety of time frames for a range of discipline-specific tasks, purposes, and audiences.
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Earth Structure - Chapter 1 Introducing Earth		
1.2 Earth's Interior	7.ESS.5	Construct a model, diagram, or scale drawing of the interior layers of the Earth. Identify and compare the compositional (chemical) layers to the mechanical (physical) layers of the Earth's interior including magnetic properties.
1.3 Convection and the Mantle	7.ESS.5	Construct a model, diagram, or scale drawing of the interior layers of the Earth. Identify and compare the compositional (chemical) layers to the mechanical (physical) layers of the Earth's interior including magnetic properties.
Earth Structure - Chapter 2 Minerals and Rocks		
2.1 Properties of Minerals	7.EES.1	Identify and investigate the properties of minerals. Identify and classify a variety of rocks based on physical characteristics from their origin, and explain how they are related using the rock cycle. (i.e. Sedimentary, igneous, and metamorphic rocks)
2.2 Classifying Rocks	7.EES.1	Identify and investigate the properties of minerals. Identify and classify a variety of rocks based on physical characteristics from their origin, and explain how they are related using the rock cycle. (i.e. Sedimentary, igneous, and metamorphic rocks)
2.3 Igneous Rocks	7.EES.1	Identify and investigate the properties of minerals. Identify and classify a variety of rocks based on physical characteristics from their origin, and explain how they are related using the rock cycle. (i.e. Sedimentary, igneous, and metamorphic rocks)
2.4 Sedimentary Rocks	7.EES.1	Identify and investigate the properties of minerals. Identify and classify a variety of rocks based on physical characteristics from their origin, and explain how they are related using the rock cycle. (i.e. Sedimentary, igneous, and metamorphic rocks)

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2.5 Metamorphic Rocks	7.EES.1	Identify and investigate the properties of minerals. Identify and classify a variety of rocks based on physical characteristics from their origin, and explain how they are related using the rock cycle. (i.e. Sedimentary, igneous, and metamorphic rocks)
2.6 The Rock Cycle	7.EES.1	Identify and investigate the properties of minerals. Identify and classify a variety of rocks based on physical characteristics from their origin, and explain how they are related using the rock cycle. (i.e. Sedimentary, igneous, and metamorphic rocks)

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QUARTER 3

Earth Structure - Chapter 3 Plate Tectonics		
3.1 Drifting Continents	7.ESS.3	Using simulations or demonstrations, explain continental drift theory and how lithospheric (tectonic) plates have been and still are in constant motion resulting in the creation of landforms on the Earth's surface over time.
3.2 Sea-floor Spreading	7.ESS.3	Using simulations or demonstrations, explain continental drift theory and how lithospheric (tectonic) plates have been and still are in constant motion resulting in the creation of landforms on the Earth's surface over time.
3.3 The Theory of Plate Tectonics	7.ESS.3	Using simulations or demonstrations, explain continental drift theory and how lithospheric (tectonic) plates have been and still are in constant motion resulting in the creation of landforms on the Earth's surface over time.
Earth's Surface - Chapter 3 Erosion and Deposition		
(3.1 Mass Movement)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
3.2 Water Erosion	7.ESS.4	Construct an explanation, based on evidence found in and around Indiana, for how large scale physical processes, such as Karst topography and glaciation, have shaped the land.
3.3 Glacial Erosion	7.ESS.4	Construct an explanation, based on evidence found in and around Indiana, for how large scale physical processes, such as Karst topography and glaciation, have shaped the land.
Earth's Surface - Chapter 4 A Trip Through Geologic Time		
4.1 Fossils	7.ESS.2	Construct a model or scale drawing (digitally or on paper), based on evidence from rock strata and fossil records, for how the geologic time scale is used to organize Earth's 4.6 billion-year-old history.
4.2 The Relative Age of Rocks	7.ESS.2	Construct a model or scale drawing (digitally or on paper), based on evidence from rock strata and fossil records, for how the geologic time scale is used to organize Earth's 4.6 billion-year-old history.
4.4 The Geologic Time Scale	7.ESS.2	Construct a model or scale drawing (digitally or on paper), based on evidence from rock strata and fossil records, for how the geologic time scale is used to organize Earth's 4.6 billion-year-old history.

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Supplemental Reading Article is available for download on the Curriculum Share (Y:).	7.ESS.7	Title: "Energy for Life" Describe the positive and negative environmental impacts of obtaining and utilizing various renewable and nonrenewable energy resources in Indiana. Determine which energy resources are the most beneficial and efficient.

Quarter 4

Cells and Heredity - Chapter 1 Introduction to Cells		
1.1 Discovery Cells	7.LS.1	Investigate and observe cells in living organisms and collect evidence showing that living things are made of cells. Compare and provide examples of prokaryotic and eukaryotic organisms. Identify the characteristics of living things.
1.2 Looking Inside Cells	7.LS.3	Explain how cells develop through differentiation into specialized tissues and organs in multicellular organisms.
1.2 Looking Inside Cells	7.LS.5	Compare and contrast the form and function of the organelles found in plant and animal cells.
1.3 Chemical Compounds in Cells	7.LS.1	investigate and observe cells in living organisms and collect evidence showing that living things are made of cells. Compare and provide examples of prokaryotic and eukaryotic organisms. Identify the characteristics of living things.
(1.4 The Cell in it's environment)		Chapter-lessons in bold parenthesis may be used to introduce a topic's foundation skills prior to the required lesson.
Cells and Heredity - Chapter 2 Cell Processes and Energy		
2.3 Cell Division	7.LS.2	Create a model to show how the cells in multicellular organisms repeatedly divide to make more cells for growth and repair as a result of mitosis. Explain how mitosis is related to cancer.
Human Body Systems - Chapter 3 Digestion		
3.3 The Digestive Process Begins	7.LS.4	Research and describe the functions and relationships between various cell types, tissues, and organs in the immune system, circulatory system and digestive system of the human body.
3.4 Final Digestion and Absorption	7.LS.4	Research and describe the functions and relationships between various cell types, tissues, and organs in the immune system, circulatory system and digestive system of the human body.

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Human Body Systems - Chapter 4 Circulation		
4.1 The Body's Transport System	7.LS.4	Research and describe the functions and relationships between various cell types, tissues, and organs in the immune system, circulatory system and digestive system of the human body.
4.2 A Closer Look at Blood Vessels	7.LS.4	Research and describe the functions and relationships between various cell types, tissues, and organs in the immune system, circulatory system and digestive system of the human body.
4.3 Composition of Blood	7.LS.4	Research and describe the functions and relationships between various cell types, tissues, and organs in the immune system, circulatory system and digestive system of the human body.
Human Body Systems - Chapter 6 Fighting Disease		
6.2 The Body's Defenses	7.LS.5	Research and describe the functions and relationships between various cell types, tissues, and organs in the immune system, circulatory system and digestive system of the human body.
6.3 HIV and AIDS	7.LS.5	Research and describe the functions and relationships between various cell types, tissues, and organs in the immune system, circulatory system and digestive system of the human body.
Common Core Essay-Narrative: Letter From the Nucleus		
4th Quarter College and Career Standards Essay-Narrative - Letter From the Nucleus Available for download on the Curriculum Share (Y:).	6-8.LST.1.2	Write routinely over a variety of time frames for a range of discipline-specific tasks, purposes, and audiences.

Health and Wellness Standards 7.5.3, 7.5.5, 7.6.2 are covered by CPR