

Centerville-Abington Elementary Curriculum Mapping
Science – 6th Grade
1st Nine Weeks

Unit Chapter Lesson	Indiana Standard(s)	Key Concepts	Resources/Activities	Vocabulary	Assessments
Pre-Unit	6.SP.5.b 6.SP.5.c 6.5.1 6.5.2 6.6.3	<p>Use tools and standard units of measurement in an investigation.</p> <p>Apply all steps of the scientific method to a question.</p> <p>Describe the difference between scientific law and theory.</p> <p>Identify and explain the different variables in an experiment.</p>	Book pgs. NOS 4-20, Workbook pgs. 2-9 owl pellet lab	critical thinking hypothesis (NCA) inference observation physical potential prediction science scientific law scientific theory technology description explanation International System of Units (SI) significant digits dependent variable independent variable variable	teacher made tests and/or project based rubric
Chapter 1 Lessons 1-2 Matter	5.PS.4 5.PS.3 5.PS.2 5.PS.1 6.1.2 6.1.3	<p>Describe the states of matter using both words and diagrams.</p> <p>Explain and demonstrate how to measure the volumes of both liquids and solids, and its effect on mass and weight.</p>	Book pgs. 2-31 Workbook pgs. 24-37	chemical property density gas liquid mass matter	teacher made tests and/or project based rubric

		<p>Identify the different physical and chemical properties of matter.</p> <p>Explain (or compare/contrast) both physical and chemical changes, as well as identifying reversible and irreversible changes.</p>		<p>physical property solid solubility state volume chemical change expose law of conservation of mass physical change</p>	
<p>Chapter 2 Lessons 1-2 Energy</p>	<p>6.PS.4 6.PS.3 6.1.5 6.1.4</p>	<p>Describe the interaction between kinetic and potential energy.</p> <p>Identify the properties of light, sound, kinetic, potential, nuclear, electrical, and thermal energy.</p> <p>Identify different types of potential energy (motion, nuclear, elastic, gravitational, and chemical).</p> <p>Identify all energy transformations from a picture or an exposition.</p>	<p>Book pgs. 38-54 Workbook pgs. 46-54</p>	<p>electric energy energy kinetic energy (NCA) mechanical energy nuclear energy potential energy (NCA) radiant energy sound energy thermal energy work friction law of conservation of energy radiant</p>	<p>teacher made tests and/or project based rubric</p>

Curriculum Mapping
Science – 6th Grade
 2nd Nine Weeks

Unit Chapter Lesson	Indiana Standard(s)	Key Concepts	Resources/Activities	Vocabulary	Assessments
Chapter 3 Lessons 1-3 Earth and The Moon	5.2.1 5.2.2 5.2.3 6.2.1 6.2.2 6.ESS.2 6.ESS.3	<p>Identify, describe, and draw the positions of the Earth, Moon, and Sun in relation to each other.</p> <p>Identify, describe, and draw the phases of the moon in order.</p> <p>Identify, describe, and draw partial and total variants of lunar and solar eclipses.</p> <p>Identify, describe, and draw the effect of light (either the Sun or artificial) on objects producing shadows, and how they change based on time of day or distance of the light from the object.</p>	Book pgs. 64-97 Workbook pgs. 68-91	equator equinox orbit (NCA) revolution rotation rotation axis solstice maria phase waning phase waxing phase lunar eclipse penumbra solar eclipse tide umbra	teacher made tests and/or project based rubric
Chapter 4 Lessons 1-4 The Solar System	6.ESS.3 6.2.4 6.2.3 5.2.1	<p>Identify all components of the Solar System, including the Sun, all the planets, a rough estimate of moons, the Asteroid Belt, the Kuiper Belt, and the Oort Cloud.</p> <p>Compare and contrast all planets based upon their size, distance from Sun, composition, cross-section, moons, rings, atmosphere, temperature, and ability to support life.</p> <p>Compare and contrast the inner and outer planets.</p>	Book pgs. 104-137 Workbook pgs. 94-107	asteroid astronomical unit comet orbit period of revolution period of rotation Solar System(NCA) star greenhouse effect terrestrial planet Galilean moons	teacher made tests and/or project based rubric

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Curriculum Mapping
Science – 6th Grade
3rd Nine Weeks

Unit Chapter Lesson	Indiana Standard(s)	Key Concepts	Resources/Activities	Vocabulary	Assessments
Chapter 7 Lessons 1-3 Populations and Communities	6.LS.3 6.3.1 6.3.2 6.3.3	<p>Identify and describe relationships between organisms, such as predator/prey, consumer/producer/decomposer, and the many varieties of symbiotic relationships.</p> <p>Describe how certain biotic and abiotic factors can affect the number of organisms than an ecosystem can support.</p> <p>Explain the differences between threatened, endangered, and extinct.</p> <p>State the limiting factors that affect populations and carrying capacity.</p>	Book pgs. 202-229 Workbook pgs. 170-189	biosphere biotic potential carrying capacity community competition limiting factor population population density birth rate death rate endangered species estimate exponential extinct species food web (NCA) migration (NCA) threatened species commensalism consumer (NCA)	teacher made tests and/or project based rubric

				habitat mutualism niche parasitism predator producer (NCA) symbiosis	
Chapter 8 Lessons 1-3 Biomes and Ecosystems	6.LS.3 6.3.1 6.3.2 6.3.3	Explain patterns of interactions between organisms in a food chain, food web, or ecosystem, and how the change or removal of one organism can affect the others. Identify and describe aspects and organisms of the different land and aquatic biomes of the world.	Book pgs. 238-265 Workbook pgs. 198-208	biome desert grassland taiga temperate tundra coral reef estuary intertidal zone salinity wetland climax community ecological succession eutrophication pioneer species	teacher made tests and/or project based rubric

Curriculum Mapping
Science – 6th Grade
4th Nine Weeks

Unit Chapter Lesson	Indiana Standard(s)	Key Concepts	Resources/Activities	Vocabulary	Assessments
Chapter 5 Lessons 1-2	6.3 6.3.5	Identify the characteristics of life and being alive.	Book pgs. 144-169 Workbook pgs. 126-	autotroph binomial	teacher made tests

Interactions of Life	SEPS.2	<p>Identify and describe the taxonomic system of the classification of life.</p> <p>Identify and describe the major parts of prokaryotic and eukaryotic (plant and animal) cells.</p>	134	<p>nomenclature habitat heterotroph key macromolecule taxon unique cytoplasm eukaryotic cell mitochondrion prokaryotic cell</p>	and/or project based rubric
Chapter 6 Lessons 1-2 Plant Processes	6.3.4 6.LS.2	<p>Identify the components (reactants and products) of the equation that fuel photosynthesis and cellular respiration.</p> <p>Compare and contrast photosynthesis and cellular respiration.</p> <p>Identify the role of photosynthesis in food chains, food webs, and eco systems.</p> <p>Identify all the -tropisms and plant hormones and describe their effect on plant growth and development.</p>	Book pgs. 176-193 Workbook pgs. 148-156	<p>cellular respiration energy molecule photosynthesis (NCA) photoperiodism plant hormone stimulus tropism</p>	teacher made tests and/or project based rubric

Curriculum Mapping EXTRA NOTES

Unit Chapter Lesson	Indiana Standard(s)	Key Concepts	Resources/Activities	Vocabulary	Assessments
<p>** We have chosen to put chapters 7 and 8 before chapters 5 and 6 due to their increased likelihood of being on ISTEP, especially part I.</p>	<p>** Revised 2016 Indiana State Standards do not match the adopted textbook as well as the previous state standards. Teachers should be aware and supplement the textbook in these areas, but standards always change, and that should always be the case.</p>	<p>** Teacher should use technology, usually in the form of student projects, to aid in both the teaching of state standards and to investigate topics in-depth. Teacher will often go wide with the curriculum while students go deep with their investigations and projects. Like with AR, students self-select topics within an agreed-upon level or topic list, so that interest and engagement is high.</p>	<p>** Teacher may choose to do some of the labs in the book at their discretion. Some labs are listed here, but this list is neither exhaustive nor required. Teacher may also make up their own labs as needed.</p> <p>** Teacher may add their own videos from BrainPop and YouTube as the curriculum or time allows. They are not listed here, as they can vary by teacher, by class, or by year.</p>	<p>NCA Vocabulary Words are indicated with (NCA)</p>	<p>** ISTEP (or whatever it ends up changing to) prep should be done before whatever date(s) it falls on, at teacher discretion. Teacher may also just integrate ISTEP Prep into the whole curriculum.</p>

6th Grade Science Standards and Science Descriptions

LEARNING OUTCOMES	LST.1: LEARNING OUTCOME FOR LITERACY IN SCIENCE/TECHNICAL SUBJECTS Read and comprehend science and technical texts independently and proficiently and write effectively for a variety of discipline-specific tasks, purposes, and audiences
	GRADES 6-8
	6-8.LST.1.1: Read and comprehend science and technical texts within a range of complexity appropriate for grades 6-8 independently and proficiently by the end of grade 8.
	6-8.LST.1.2: Write routinely over a variety of time frames for a range of discipline-specific tasks, purposes, and audiences.

KEY IDEAS AND TEXTUAL SUPPORT	LST.2: KEY IDEAS AND TEXTUAL SUPPORT (READING) Extract and construct meaning from science and technical texts using a variety of comprehension skills
	GRADES 6-8
	6-8.LST.2.1: Cite specific textual evidence to support analysis of science and technical texts.
	6-8.LST.2.2: Determine the central ideas or conclusions of a text; provide an accurate, objective summary of the text.
	6-8.LST.2.3: Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

LST.3: STRUCTURAL ELEMENTS AND ORGANIZATION (READING) Build understanding of science and technical texts, using knowledge of structural organization and author's purpose and message

STRUCTURAL ELEMENTS AND ORGANIZATION	GRADES 6-8
	6-8.LST.3.1: Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.
	6-8.LST.3.2: Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic.
	6-8.LST.3.3: Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

SYNTHESIS AND CONNECTION OF IDEAS	LST.4: SYNTHESIS AND CONNECTION OF IDEAS (READING) Build understanding of science and technical texts by synthesizing and connecting ideas and evaluating specific claims
	GRADES 6-8
	6-8.LST.4.1: Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., <i>in a flowchart, diagram, model, graph, or table</i>).
	6-8.LST.4.2: Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.
	6-8.LST.4.3: Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

WRITING GENRES	LST.5: WRITING GENRES (WRITING) Write for different purposes and to specific audiences or people
	GRADES 6-8
	6-8.LST.5.1: Write arguments focused on discipline-specific content.
	6-8.LST.5.2: Write informative texts, including scientific procedures/experiments or technical processes that include precise descriptions and conclusions drawn from data and research.

THE WRITING PROCESS	LST.6: THE WRITING PROCESS (WRITING)
	Produce coherent and legible documents by planning, drafting, revising, editing, and collaborating with others
	GRADES 6-8
	6-8.LST.6.1: Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach; and edit to produce and strengthen writing that is clear and coherent, with some guidance and support from peers and adults.
	6-8.LST.6.2: Use technology to produce and publish writing and present the relationships between information and ideas clearly and efficiently.