

CRAWFORDSVILLE COMMUNITY SCHOOL CORPORATION

GRADE LEVEL: SEVENTH

SUBJECT: SCIENCE

DATE: 2018-2019

GRADING PERIOD: QUARTER 1

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CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
ENGINEERING (NOS)					
<ul style="list-style-type: none"> • Criteria • Constraints • Solutions • Scientific principles • Potential impacts 	<p>6-8.E.1: Identify the criteria and constraints of a design to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.</p>	<ul style="list-style-type: none"> • Identify the criteria of a design to ensure a successful solution. • Make predictions and develop testable questions based on research and prior knowledge. • Identify ways scientists solve problems. • Identify roadblocks/ constraints that may be encountered during the process. • Identify ethical scientific principles of testing using the scientific method. 		<ul style="list-style-type: none"> • Control • Data • Evidence • Hypothesis • Inference • Observation • Qualitative • Quantitative • Scientific method • Trade-offs • Variable 	CRITICAL
<ul style="list-style-type: none"> • Design solutions • Systematic process • Criteria and constraints 	<p>6-8.E.2: Evaluate competing design solutions using a systematic process to identify how well they meet the criteria and constraints of the problem.</p>	<ul style="list-style-type: none"> • Evaluate design solution • Compare and contrast ethical dilemmas. • Identify criteria to the solution. 			CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
<ul style="list-style-type: none"> • Investigations • Similarities and differences • Designed solutions • Best characteristics • Criteria for success 	<p>6-8.E.3: Analyze data from investigations to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.</p>	<ul style="list-style-type: none"> • Analyze and identify similarities and difference in several design solutions. • Analyze data from investigations and apply those to potential experiment solutions. • Determine similarities and difference among design solutions. • List best characteristics for scientific investigations. • Identify the best characteristics of scientific investigations that can be combined into a new solution. 			CRITICAL
<ul style="list-style-type: none"> • Prototype • Generated data • Investigations • Proposed object, tool, process • Optimal design 	<p>6-8.E.4: Develop a prototype to generate data for repeated investigations and modify a proposed object, tool, or process such that an optimal design can be achieved.</p>	<ul style="list-style-type: none"> • Develop a prototype for a scientific experiment. • Collect data from scientific experiments. • Collect and graph qualitative and quantitative data. • Modify a designed experiment and adapt objects, tools, and processes. 			CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
PHYSICAL SCIENCE					
<ul style="list-style-type: none"> • Law of Inertia (Newton's first law) 	<p>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.</p>	<ul style="list-style-type: none"> • Describe and demonstrate how different forces affect the velocity of an object. 		<ul style="list-style-type: none"> • Newton's first law of motion • Inertia • Gravity • Friction • Force • Balanced forces • Unbalanced forces • Motion 	CRITICAL
<ul style="list-style-type: none"> • Newton's second law of motion 	<p>7.PS.5: Investigate Newton's second law of motion to show the relationship among force, mass and acceleration.</p>	<ul style="list-style-type: none"> • Describe and demonstrate the relationship between force, mass and acceleration. 		<ul style="list-style-type: none"> • Newton's second law of motion • Acceleration • Velocity • Net force • $F=ma$ • Force • Mass 	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
<ul style="list-style-type: none"> • Newton's third law of motion 	<p>7.PS.6: Investigate Newton's third law of motion to show the relationship between action and reaction forces.</p>	<ul style="list-style-type: none"> • Describe and demonstrate the relationship between action and reaction forces. 		<ul style="list-style-type: none"> • Newton's third law of motion • Action-reaction force • Law of conservation of momentum 	CRITICAL
<ul style="list-style-type: none"> • Newton's laws of motion 	<p>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.</p>	<ul style="list-style-type: none"> • Construct a device using Newton's laws of motion. • Explain how motion, acceleration, force, and mass affect the device. 			CRITICAL

STANDARDS INDICATOR	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>6-8.E.1: Identify the criteria and constraints of a design to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.</p>	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.4: Analyze and interpret data.</p>	<p>LST.1.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts <p>LST.2.1: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support analysis of science and technical texts. <p>LST.2.3: Structural Elements and Organization</p> <ul style="list-style-type: none"> • Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. <p>LST.4.1: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Integrate quantitative or technical information with a version expressed visually (e.g., <i>in a flowchart, diagram, model, graph, or table</i>). <p>LST.4.3: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. <p>LST.5.1: Writing Genres</p> <ul style="list-style-type: none"> • Write arguments focused on discipline-specific content. <p>LST.5.2: Writing Genres</p> <ul style="list-style-type: none"> • Write informative texts • Include precise descriptions and conclusions drawn from data and research. <p>LST.6.1: The Writing Process</p> <ul style="list-style-type: none"> • Plan and develop. • Write a draft.

6-8.E.1 Continued

- Revise using appropriate reference materials. Rewrite.
 - Try a new approach.
 - Edit to produce and strengthen writing that is clear and coherent.
- LST.6.2: The Writing Process**
- Use technology to produce and publish writing.
 - Present the relationships between information and ideas clearly and efficiently.
- LST.7.1: The Research Process**
- Conduct short research assignments and tasks to answer a question or test a hypothesis.
 - Draw on several sources.
 - Generate additional related, focused questions that allow for multiple avenues of exploration.
- LST.7.2: The Research Process**
- Gather relevant information from multiple source. Use search terms effectively.
 - Annotate sources.
 - Assess the credibility and accuracy of each source.
 - Quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation (e.g., *APA or CSE*).
- LST.7.3: The Research Process**
Draw evidence from informational texts to support analysis, reflection, and research.

<p>6-8.E.2: Evaluate competing design solutions using a systematic process to identify how well they meet the criteria and constraints of the problem.</p>	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.4: Analyze and interpret data.</p>	<p>LST.5.1: Writing Genres</p> <ul style="list-style-type: none"> • Write arguments focused on discipline-specific content. <p>LST.5.2: Writing Genres</p> <ul style="list-style-type: none"> • Write informative texts • Include precise descriptions and conclusions drawn from data and research. <p>LST.6.1: The Writing Process</p> <ul style="list-style-type: none"> • Plan and develop. • Write a draft. • Revise using appropriate reference materials. Rewrite. • Try a new approach. • Edit to produce and strengthen writing that is clear and coherent. <p>LST.6.2: The Writing Process</p> <ul style="list-style-type: none"> • Use technology to produce and publish writing. • Present the relationships between information and ideas clearly and efficiently. <p>LST.7.1: The Research Process</p> <ul style="list-style-type: none"> • Conduct short research assignments and tasks to answer a question or test a hypothesis. • Draw on several sources. • Generate additional related, focused questions that allow for multiple avenues of exploration. <p>LST.7.2: The Research Process</p> <ul style="list-style-type: none"> • Gather relevant information from multiple source. Use search terms effectively. • Annotate sources. • Assess the credibility and accuracy of each source.
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<p>6-8.E.2 Continued</p>		<ul style="list-style-type: none"> • Quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation (e.g., <i>APA or CSE</i>). <p>LST.7.3: The Research Process</p> <ul style="list-style-type: none"> • Draw evidence from informational texts to support analysis, reflection, and research.
<p>6-8.E.3: Analyze data from investigations to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.</p>	<p>SEPS.1: Posing questions and defining problems.</p> <p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.4: Analyze and interpret data.</p> <p>SEPS.5: Use mathematics and computational thinking</p> <p>SEPS.6: Construct explanations and design solutions.</p>	<p>LST.1.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts <p>LST.2.1: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support analysis of science and technical texts. <p>LST.2.3: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. <p>LST.4.1: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Integrate quantitative or technical information with a version expressed visually (e.g., <i>in a flowchart, diagram, model, graph, or table</i>). <p>LST.4.3: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. <p>LST.5.1: Writing Genres</p> <ul style="list-style-type: none"> • Write arguments focused on discipline-specific content. <p>LST.5.2: Writing Genres</p> <ul style="list-style-type: none"> • Write informative texts

6-8.E.3 Continued

- Include precise descriptions and conclusions drawn from data and research.

LST.6.1: The Writing Process

- Plan and develop.
- Write a draft.
- Revise using appropriate reference materials. Rewrite.
- Try a new approach.
- Edit to produce and strengthen writing that is clear and coherent.

LST.6.2: The Writing Process

- Use technology to produce and publish writing.
- Present the relationships between information and ideas clearly and efficiently.

LST.7.1: The Research Process

- Conduct short research assignments and tasks to answer a question or test a hypothesis.
- Draw on several sources.
- Generate additional related, focused questions that allow for multiple avenues of exploration.

LST.7.2: The Research Process

- Gather relevant information from multiple source. Use search terms effectively.
- Annotate sources.
- Assess the credibility and accuracy of each source.
- Quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation (e.g., *APA or CSE*).

LST.7.3: The Research Process

<p>6-8.E.3 Continued</p>		<ul style="list-style-type: none"> • Draw evidence from informational texts to support analysis, reflection, and research.
<p>6-8.E.4: Develop a prototype to generate data for repeated investigations and modify a proposed object, tool, or process such that an optimal design can be achieved.</p>	<p>SEPS.1: Posing questions and defining problems. SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigation. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence SEPS.8: Obtain, evaluate, and communicate information</p>	<p>LST.1.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts <p>LST.2.1: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support analysis of science and technical texts. <p>LST.2.3: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. <p>LST.4.1: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Integrate quantitative or technical information with a version expressed visually (e.g., <i>in a flowchart, diagram, model, graph, or table</i>). <p>LST.4.3: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. <p>LST.5.1: Writing Genres</p> <ul style="list-style-type: none"> • Write arguments focused on discipline-specific content. <p>LST.5.2: Writing Genres</p> <ul style="list-style-type: none"> • Write informative texts • Include precise descriptions and conclusions drawn from data and research. <p>LST.6.1: The Writing Process</p> <ul style="list-style-type: none"> • Plan and develop. • Write a draft.

6-8.E.4 Continued

- Revise using appropriate reference materials. Rewrite.
 - Try a new approach.
 - Edit to produce and strengthen writing that is clear and coherent.
- LST.6.2: The Writing Process**
- Use technology to produce and publish writing.
 - Present the relationships between information and ideas clearly and efficiently.
- LST.7.1: The Research Process**
- Conduct short research assignments and tasks to answer a question or test a hypothesis.
 - Draw on several sources.
 - Generate additional related, focused questions that allow for multiple avenues of exploration.
- LST.7.2: The Research Process**
- Gather relevant information from multiple source. Use search terms effectively.
 - Annotate sources.
 - Assess the credibility and accuracy of each source.
 - Quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation (e.g., *APA or CSE*).
- LST.7.3: The Research Process**
- Draw evidence from informational texts to support analysis, reflection, and research

<p>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.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> • Use technology to produce writing and present the relationships between information and ideas.
<p>7.PS.5: Investigate Newton’s second law of motion to show the relationship among force, mass and acceleration.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> • Use technology to produce writing and present the relationships between information and ideas.

<p>7.PS.6: Investigate Newton’s third law of motion to show the relationship between action and reaction forces.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> • Use technology to produce writing and present the relationships between information and ideas.
<p>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.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Take quantitative or technical information and express it visually. <p>LST.5: Writing Genres</p> <ul style="list-style-type: none"> • Write informative texts that include precise descriptions and conclusions. <p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> • Plan and develop writing that is clear and coherent. • Use technology to produce writing and present the relationships between information and ideas.

CRAWFORDSVILLE COMMUNITY SCHOOL CORPORATION

GRADE LEVEL: SEVENTH

SUBJECT: SCIENCE

DATE: 2018-2019

GRADING PERIOD: QUARTER 2

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CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
PHYSICAL SCIENCE					
<ul style="list-style-type: none"> • Atoms • Elements • Molecules • Compounds 	<p>7.PS.1: Draw, construct models, or use animations to differentiate between atoms, elements, molecules, and compounds.</p>	<ul style="list-style-type: none"> • Draw, construct models, or use animations. • Differentiate between the following: Atoms Elements Molecules Compounds 		<ul style="list-style-type: none"> • Atoms • Protons • Neutrons • Electrons • Elements • Periodic Table • Molecules • Compounds 	<p>IMPORTANT</p>
<ul style="list-style-type: none"> • Properties of solids • Properties of liquids • Properties of gases • Thermal energy • Particle motion • Density • State 	<p>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.</p>	<ul style="list-style-type: none"> • Describe the properties of solids, liquids, and gases. • Predict and describe how adding or removing thermal energy changes particle motion, density, temperature, and state. 		<ul style="list-style-type: none"> • Solid • Liquid • Viscosity • Surface tension • Gas • Properties • Thermal energy • Evaporation • Boiling • Condensation • Sublimation • Freezing • Melting 	<p>IMPORTANT</p>

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
<ul style="list-style-type: none"> • Law of Conservation of Mass 	<p>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.</p>	<ul style="list-style-type: none"> • Measure and compare the mass of a substance before and after a change of state. 		<ul style="list-style-type: none"> • Law of conservation of mass • Mass • Reactants • Products 	IMPORTANT
<ul style="list-style-type: none"> • Law of conservation of energy 	<p>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)</p>	<ul style="list-style-type: none"> • Investigate how energy is transferred from one form to another. • Describe how the total amount of energy does not change during the transfer when the system is closed. 		<ul style="list-style-type: none"> • Law of conservation of energy • Kinetic energy • Potential energy • Open system • Closed system • Energy 	IMPORTANT
<ul style="list-style-type: none"> • Heat transfer <ul style="list-style-type: none"> – Radiation – Convection – Conduction 	<p>7.PS.9: Compare and contrast the three types of heat transfer: radiation, convection, and conduction.</p>	<ul style="list-style-type: none"> • Compare and contrast radiation, convection, and conduction. 		<ul style="list-style-type: none"> • Radiation • Convection • Conduction 	IMPORTANT

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY	PRIORITY
<ul style="list-style-type: none"> • Properties of rocks and minerals • Relationship between minerals and rocks • Origin of rocks: <ul style="list-style-type: none"> – Igneous – Sedimentary – Metamorphic • Rock cycle 	<p>7.ESS.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).</p>	<ul style="list-style-type: none"> • Identify the properties of rocks and minerals. • Describe and illustrate the formation of a variety of rocks. • Identify a group of rocks based on their characteristics. • Explain the relationship of the group of rocks using the rock cycle. 		<ul style="list-style-type: none"> • Property • Crystalline structure • Transparency • Streak • Reactivity • Hardness • Geologist • Mineral • Rock • Igneous • Magma • Metamorphic • Sedimentary • Erosion • Rock cycle • Sediment • Weathering • Erosion • Heat and Pressure 	CRITICAL
<ul style="list-style-type: none"> • Interior layers of Earth • Physical layers of Earth • Chemical layers of Earth 	<p>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.</p>	<ul style="list-style-type: none"> • Construct a scale drawing of the interior layers of Earth. • Identify and compare the compositional (chemical) layers to the mechanical (physical) layers of Earth's interior. 		<ul style="list-style-type: none"> • Composition • Continental crust • Oceanic crust • Mantle • Lithosphere • Asthenosphere • Outer core • Inner core 	CRITICAL

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>7.PS.1: Draw, construct models, or use animations to differentiate between atoms, elements, molecules, and compounds.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.6: Construct explanations and design solutions. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> Take quantitative or technical information and express it visually.
<p>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.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> Read and comprehend science and technical texts. Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> Take quantitative or technical information and express it visually. <p>LST.5: Writing Genres</p> <ul style="list-style-type: none"> Write informative texts that include precise descriptions and conclusions. <p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> Plan and develop writing that is clear and coherent. Use technology to produce writing and present the relationships between information and ideas.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>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.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> • Use technology to produce writing and present the relationships between information and ideas.
<p>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)</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>7.PS.9: Compare and contrast the three types of heat transfer: radiation, convection, and conduction.</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> • Plan and develop writing that is clear and coherent.
<p>7.ESS.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).</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support text. <p>LST.3: Structural Elements and Organization</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and phrases. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Take quantitative or technical information and express it visually. • Distinguish among facts, reasoned judgment, and speculation.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>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.</p>	<p>SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
EARTH AND SPACE SCIENCE					
<ul style="list-style-type: none"> • Properties of rocks and minerals • Relationship between minerals and rocks • Origin of rocks: <ul style="list-style-type: none"> – Igneous – Sedimentary – Metamorphic • Rock cycle 	<p>7.ESS.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).</p>	<ul style="list-style-type: none"> • Identify the properties of rocks and minerals. • Describe and illustrate the formation of a variety of rocks. • Identify a group of rocks based on their characteristics. • Explain the relationship of the group of rocks using the rock cycle. 		<ul style="list-style-type: none"> • Property • Crystalline structure • Transparency • Streak • Reactivity • Hardness • Geologist • Mineral • Rock • Igneous • Magma • Metamorphic • Sedimentary • Erosion • Rock cycle • Sediment • Weathering • Erosion • Heat and Pressure 	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
<ul style="list-style-type: none"> • Continental drift • Theory of Plate Tectonics • Creation of landforms 	<p>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.</p>	<ul style="list-style-type: none"> • Describe the mechanism behind plate motion while investigating convection currents. • Describe types of plate boundaries. • Explain the relationship between plate tectonics and the location of earthquakes, volcanoes, and mountain ranges. 		<ul style="list-style-type: none"> • Continental Drift • Lithospheric plates • Plate tectonics • Convection current • Convergent boundary • Subduction • Divergent boundary • Seafloor spreading • Transform boundary • Ring of fire • Mountains • Volcanoes • Earthquakes • Richter scale • Seismograph • Seismogram 	CRITICAL
<ul style="list-style-type: none"> • Karst topography • Glaciation 	<p>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.</p>	<ul style="list-style-type: none"> • Explain how large scale physical processes have shaped the land in Indiana. 		<ul style="list-style-type: none"> • Karst topography • Erosion • Deposition • Glaciation • Groundwater • Landform 	IMPORTANT

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>7.ESS.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).</p>	<p>SEPS.1: Posing questions (for science) and defining problems (for engineering). SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support text. <p>LST.3: Structural Elements and Organization</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and phrases. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Take quantitative or technical information and express it visually. • Distinguish among facts, reasoned judgment, and speculation.
<p>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.</p>	<p>SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigations. SEPS.4: Analyze and interpret data. SEPS.5: Use mathematics and computational thinking. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence.</p>	

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>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.</p>	<p>SEPS.8: Obtain, evaluate, and communicate information.</p>	
<p>7.ESS.7: 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.</p>	<p>SEPS.7: Engage in argument from evidence SEPS.8: Obtain, evaluate, and communicate information.</p>	

CRAWFORDSVILLE COMMUNITY SCHOOL CORPORATION

GRADE LEVEL: SEVENTH

SUBJECT: SCIENCE

DATE: 2018-2019

GRADING PERIOD: QUARTER 4

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CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
EARTH SCIENCE					
<ul style="list-style-type: none"> • Rock strata • Fossil records • Geological time 	<p>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.</p>	<ul style="list-style-type: none"> • Construct a model or scale drawing of events over geologic time. 		<ul style="list-style-type: none"> • Geological time scale • Carbon dating • Eon • Era • Period • Epoch 	<p>IMPORTANT</p>
<ul style="list-style-type: none"> • Synthetic materials 	<p>7.ESS.6: Research common synthetic materials (i.e. plastics, composites, polyester, and alloys) to gain an understanding that synthetic materials do come from natural resources and have an impact on society.</p>	<ul style="list-style-type: none"> • Research synthetic materials. • Describe how making synthetic materials has an impact on society. 		<ul style="list-style-type: none"> • Synthetic materials 	<p>ADDITIONAL</p>

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
<ul style="list-style-type: none"> • Renewable energy resources • Nonrenewable energy resources • Environmental impact of energy sources 	<p>7.ESS.7: 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.</p>	<ul style="list-style-type: none"> • Identify renewable energy resources. • Identify nonrenewable energy resources. • Compare and contrast the advantages and disadvantages of different types of energy production. • Examine and determine value of four natural resources. 		<ul style="list-style-type: none"> • Renewable natural resources • Non-renewable natural resources • Electricity generation • Hydroelectric power • Fossil fuels • Generator • Turbine • Nuclear energy • Wind energy • Geothermal energy • Nuclear energy • Solar cell • Biomass • Tidal energy 	CRITICAL
LIFE SCIENCE					
<ul style="list-style-type: none"> • Cells in living organisms • Prokaryotic and eukaryotic organisms • Characteristics of living things 	<p>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.</p>	<ul style="list-style-type: none"> • Investigate cells in living organisms. • Collect evidence to show that living things are made of cells. • Compare prokaryotic and eukaryotic organisms. • Identify the characteristics of living things. 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Cell • Cell membrane • Cellular respiration • Cell theory • Cytoplasm • Prokaryote • Eukaryote • Multicellular • Unicellular 	CRITICAL

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
<ul style="list-style-type: none"> • Cell division (mitosis) • Mitosis in relation to cancer 	<p>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.</p>	<ul style="list-style-type: none"> • Create a model representing mitosis. • Describe how mitosis is related to cancer. 		<ul style="list-style-type: none"> • Interphase • Mitosis (prophase, metaphase, anaphase, telophase) • Cytokinesis • Nucleus • Chromosomes • DNA • Spindle fibers • Nucleolus • Centrioles • Parent cells • Daughter cells • Mutation • Carcinogens 	CRITICAL
<ul style="list-style-type: none"> • Multicellular organisms • Cell differentiation 	<p>7.LS.3: Explain how cells develop through differentiation into specialized tissues and organs in multicellular organisms.</p>	<ul style="list-style-type: none"> • Describe cell differentiation in tissues and organs. 		<ul style="list-style-type: none"> • Cell differentiation • Cell • Tissue • Organ • Organ systems 	IMPORTANT

CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
<ul style="list-style-type: none"> • Human Immune system • Human Circulatory system • Human Digestive system 	<p>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.</p>	<ul style="list-style-type: none"> • Identify and describe the structure and function of the immune system. • Identify and describe the structure and function of the circulatory system. • Identify and describe the structure and function of the digestive system. 		<ul style="list-style-type: none"> • Immune system • Lymph nodes • Bone marrow • Antigen • Antibodies • Immunization • Innate (natural) immunity • Adaptive (active) immunity • Passive immunity • Immunodeficiencies • Infectious • Disease • Carrier • Epidemiologist • Quarantine • Vector • Microbe • Germ Theory of Disease • Protist • Virus • Bacteria • White blood cells • Antibiotic • Resistant (bacteria) • Circulatory system • Pulse • Arteries • Atrium 	<p>IMPORTANT</p>

				<ul style="list-style-type: none">• Blood vessels• Capillaries• Valves (heart)• Veins• Ventricle• Blood pressure• Coronary arteries• Digestive system• Esophagus• Stomach• Liver• Pancreas• Gall bladder• Small intestine• Large intestine• Rectum• Anus• Chemical breakdown• Mechanical breakdown• Surface area• Nutrients	
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CONTENT	STANDARD INDICATORS	SKILLS	ASSESSMENT	VOCABULARY/ KEY TERMS	PRIORITY
<ul style="list-style-type: none"> • Organelles of plant and animal cells 	<p>7.LS.5: Compare and contrast the form and function of the organelles found in plant and animal cells.</p>	<ul style="list-style-type: none"> • Identify the form and function of cell organelles. • Compare and contrast plant cell and animal cell organelles. 		<ul style="list-style-type: none"> • Organelles • Cell membrane • Cell wall • Chloroplasts • Cytoplasm • Endoplasmic reticulum • Golgi apparatus • Lysosome • Mitochondrion • Nuclear membrane • Nucleus • Nucleolus • Ribosomes • Vacuole 	<p>IMPORTANT</p>

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>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.</p>	<p>SEPS.1: Posing questions and defining problems. SEPS.2: Developing and using models and tools. SEPS.3: Construct and perform investigation. SEPS.4: Analyze and interpret data. SEPS.6: Construct explanations and design solutions. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Cite specific textual evidence to support texts. • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks. <p>LST.3: Structural Elements and Organization</p> <ul style="list-style-type: none"> • Determine the meaning of symbols, key terms, and phrases. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> • Compare and contrast information gained from experiments or multimedia sources with that gained from reading a text.
<p>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.</p>	<p>SEPS.1: Posing questions and defining problems. SEPS.2: Developing and using models and tools. SEPS.4: Analyze and interpret data. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> • Read and comprehend science and technical texts. • Write routinely for a range of tasks, purposes, and audiences. <p>LST.2: Key Ideas and Textual Support</p> <ul style="list-style-type: none"> • Follow a multistep procedure when carrying out experiments, taking measurement, or performing technical tasks.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>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.</p>		<p>LST.3: Structural Elements and Organization</p> <ul style="list-style-type: none"> Determine the meaning of symbols, key terms, and phrases. <p>LST.4: Synthesis and Connection of Ideas</p> <ul style="list-style-type: none"> Take quantitative or technical information and express it visually. <p>LST.5: Writing Genres</p> <ul style="list-style-type: none"> Write informative texts that include precise descriptions and conclusions.
<p>7.LS.3: Explain how cells develop through differentiation into specialized tissues and organs in multicellular organisms.</p>	<p>SEPS.3: Construct and perform investigation. SEPS.4: Analyze and interpret data. SEPS.6: Construct explanations and design solutions. SEPS.7: Engage in argument from evidence. SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.1: Learning Outcome</p> <ul style="list-style-type: none"> Read and comprehend science and technical texts. Write routinely for a range of tasks, purposes, and audiences. <p>LST.5: Writing Genres</p> <ul style="list-style-type: none"> Write informative texts that include precise descriptions and conclusions.
<p>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.</p>	<p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.7: The Research Process</p> <ul style="list-style-type: none"> Conduct short research assignments and tasks to answer a question. Gather relevant information from multiple sources. Draw evidence from informational texts to support research.

STANDARD INDICATORS	SCIENCE AND ENGINEERING	LITERACY IN SCIENCE
<p>7.LS.5: Compare and contrast the form and function of the organelles found in plant and animal cells.</p>	<p>SEPS.2: Developing and using models and tools.</p> <p>SEPS.3: Construct and perform investigation.</p> <p>SEPS.4: Analyze and interpret data.</p> <p>SEPS.6: Construct explanations and design solutions.</p> <p>SEPS.7: Engage in argument from evidence.</p> <p>SEPS.8: Obtain, evaluate, and communicate information.</p>	<p>LST.6: The Writing Process</p> <ul style="list-style-type: none"> • Plan and develop writing that is clear and coherent.