Science 1st grade

Next Generation Science Standards	
1-PS4	Waves and their Applications in Technologies for Information Transfer
1-LS1	From Molecules to Organisms: Structure and Processes
1-LS3	Heredity: Inheritance and Variation of Traits
1-ESS1	Earth's Place in the Universe
K-2-ETS1	Engineering Design

Technology
SMART Board, Elmo, iPad, YouTube, BrainPOP Jr., PBS Kids, Mystery Science

Standards	Essential Questions	Content	Skills	Assessment	Resources
Scientific Skills and Waves 1-PS4 K-2-ETS1	**Scientific Skills and Waves** How do scientists work and solve problems? How does sound and light allow communication?	**Scientific Skills and Waves** -Predictions -Observations using five senses -Data collection -Conclusions -Tools and safety -Sound waves -Sound wave vibrations -Light waves	**Scientific Skills and Waves** -Identify guess of outcome prior to investigation -Determine appropriate senses to aid observations -Collect and organize data with assistance -Compare initial guess to final conclusion -Communicate predications, observations, and conclusions of an investigation -Use tools appropriately -Participate in investigations with sound and light	**Scientific Skills and Waves** -Teacher observations -Class discussions -Journal writing	**Scientific Skills and Waves** -*Exploring Science* by National Geographic (2015) -*National Geographic Young Explorer* by National Geographic -*Scholastic News* by Scholastic -Non-fiction books
Sun, Moon and Stars 1-ESS1	**Sun, Moon and Stars** How and why does the sky seem to change over time?	**Sun, Moon and Stars** -Patterns -Rotation -Shadows	**Sun, Moon and Stars** -Observe the patterns of the sky during different times of the day and year -Record the shadows of the Earth on the moon (moon phases)	**Sun, Moon and Stars** -Teacher observations -Class discussions -Journal writing on data collection -Acting activity -Reteaching chart -Brochure	**Sun, Moon and Stars** -*Exploring Science* by National Geographic (2015) -*National Geographic Young Explorer* by National Geographic -*Scholastic News* by Scholastic -Non-fiction books

Science 1st grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Living Things 1-LS1 1-LS3	**Living Things** How do the characteristics of living things determine their classifications? How do living things' structures and functions help them survive? How and why do living things adapt to their environments?	**Living Things** -Living and non-living -Classification -Heredity -Structure and function -Adaptations	**Living Things** -Classify an object as living or non-living -Define characteristics of six major classes of animals -Classify animals based on its characteristics -Express that young living things are like, but not exactly like, their parents -Identify the external parts and basic functions of livings things -Apply animal adaptations to human survival	**Living Things** -Teacher observations -Class discussions -Journal writing	**Living Things** -*Exploring Science* by National Geographic (2015) -*National Geographic Young Explorer* by National Geographic -*Scholastic News* by Scholastic -Non-fiction books

Science 2nd grade

Next Generation Science Standards	
1-PS4	Waves and their Applications in Technologies for Information Transfer
1-LS1	From Molecules to Organisms: Structure and Processes
1-LS3	Heredity: Inheritance and Variation of Traits
1-ESS1	Earth's Place in the Universe
K-2-ETS1	Engineering Design

Technology
SMART Board, iPads, Mystery Science

Standards	Essential Questions	Content	Skills	Assessment	Resources
Scientific Skills K-2-ETS1	**Scientific Skills** How do scientists work and solve problems?	**Scientific Skills** -Inquiry skills: investigate, observe, predict -Hypothesis -Investigation: test, model, record -Inference -Conclusion -Tools and safety	**Scientific Skills** -Make a logical prediction -Develop a hypothesis that can be tested -Use five senses to observe and gather information -Plan steps to an investigation -Record information -Make inferences and draw a conclusion -Identify, read, and use tools accurately and safely	**Scientific Skills** -TBD	**Scientific Skills** -*Exploring Science* by National Geographic (2015) -TBD
Matter 2-PS1	**Matter** How are the characteristics of a solid, liquid and gas unique? How does matter change from one state to another?	**Matter** -Properties -States -Changes	**Matter** -Classify matter by its properties -Identify the characteristics of a solid, liquid, and gas -Investigate the changes in states of matter	**Matter** -Investigations -Lab report	**Matter** -*Exploring Science* by National Geographic (2015) -"States of Matter for Kids" unit plan by Miss Decarbo from Teacher Pay Teacher -*Change it! Solids, Liquids, Gases and You* by Adrienne Mason

Science 2nd grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Earth's Systems 2-EES1 2-ESS2	**Earth's Systems** How do the Earth's systems change over time?	**Earth's Systems** -Landforms -Water -Water Cycle -Weathering and erosion -Fast and slow changes	**Earth's Systems** -List the characteristics of different landforms -Identify different bodies of salt and fresh water -Discuss the water cycle: evaporation, condensation and precipitation -Describe the effects of weathering and erosion on landforms -Compare and contrast fast and slow Earth changes	**Earth's Systems** -Investigations -Lab report	**Earth's Systems** -*Exploring Science* by National Geographic (2015) -TBD
Ecosystems 2-LS2 2-LS4	**Ecosystems** How are animals and plants dependent on each other in their habitats?	**Ecosystems** -Environments -Interdependent relationships -Food chains	**Ecosystems** -Explain how plants and animals adapt to their environments -Understand how living organisms are interdependent with their living and non-living surroundings	**Ecosystems** -TBD	**Ecosystems** -*Exploring Science* by National Geographic (2015) -TBD

Science 3rd grade

Next Generation Science Standards					
3-PS2 Motion and Stability: Forces and Interactions 3-LS1 From Molecules to Organisms: Structures and Processes 3-LS2 Ecosystems: Interactions, Energy, and Dynamics 3-LS3 Heredity: Inheritance and Variation of Traits 3-LS4 Biological Evolution: Unity and Diversity 3-ESS2 Earth's Systems 3-ESS3 Earth and Human Activity 3-5-ETS1 Engineering Design					
Technology					
SMART Board, Elmo, computer, iPads					
Standards	**Essential Questions**	**Content**	**Skills**	**Assessment**	**Resources**
Scientific Skills and Force and Motion 3-PS2 3-5-ETS1	**Scientific Skills and Force and Motion** How do scientists work and solve problems? How do different forces affect the motion of objects?	**Scientific Skills and Force and Motion** -Question -Hypothesis -Experiment -Conclusion -Types: electric and magnetic -Cause and effect/Action and reaction -Balanced and unbalanced -Strength and direction	**Scientific Skills and Force and Motion** -Explore scientific topic -Ask a scientific question -Form a hypothesis -Plan and carryout experiment -Observe and collect data -Draw and report conclusion -Engineer an object that demonstrates force and motion -Identify how different forces (actions) cause reactions	**Scientific Skills and Force and Motion** -*Inspire Science* End of Chapter Reviews by McGraw Hill (2020)	**Scientific Skills and Force and Motion** -*Inspire Science* by McGraw Hill (2020)
Living Things 3-LS1 3-LS2	**Living Things** Ecosystems: What are the interactions between living things and their environments?	**Living Things** Ecosystems: -Food chains -Producers, consumers, decomposers -Predators and prey -Group behavior -Adaptations	**Living Things** Ecosystems: -Construct models of food chains -Differentiate between producer, consumer, decomposer -Explore how animal groups have unique behaviors and interactions for survival -Explain how living things adapt to their environments	**Living Things** -*Inspire Science* End of Chapter Reviews by McGraw Hill (2020)	**Living Things** -*Inspire Science* by McGraw Hill (2020)

Science 3rd grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Living Things 3-LS3 3-LS4 3-ESS2 3-ESS3	**Living Things** Heredity: How does environment and heredity influence traits? Weather and Climate: How does climate affect ecosystems?	**Living Things** Heredity: -Inherited traits -Variation of traits -Environment influence Weather and Climate: -Patterns -Predictions -Climate -Human actions to reduce the impact of natural hazards	**Living Things** Heredity: -Determine if an offspring's trait is inherited and/or due to the environment Weather and Climate: -Track daily weather and make predictions based on information gathered -Describe climates in different ecosystems of the world -Investigate ways to minimize the impact of natural hazards	**Living Things** -*Inspire Science* End of Chapter Reviews by McGraw Hill (2020)	**Living Things** -*Inspire Science* by McGraw Hill (2020)

Science 4th grade

Next Generation Science Standards					
4-PS3 Energy 4-PS4 Waves and Their Applications in Technologies for Information Transfer 4-LS1 From Molecules to Organisms: Structures and Processes 4-ESS1 Earth's Place in the Universe 4-ESS2 Earth's Systems 4-ESS3 Earth and Human Activity 3-5-ETS1 Engineering Design					
Technology					
SMART Board, Elmo, computer, iPads, Britannica School					
Standards	**Essential Questions**	**Content**	**Skills**	**Assessment**	**Resources**
Scientific Skills 3-5-ETS1	**Scientific Skills** How do scientists work and solve problems?	**Scientific Skills** -Question -Hypothesis -Experiment -Conclusion	**Scientific Skills** -Make observations and pose questions about scientific topic -Predict outcome of experiment -Create an experiment -Record and chart observations -Draw conclusion and communicate results -Compare conclusion to hypothesis and ask questions	**Scientific Skills** -*Inspire Science* workbook by McGraw Hill (2020)	**Scientific Skills** -*Inspire Science* by McGraw Hill (2020) -Mystery Science
Living Things 4-LS1	**Living Things** How are plants and animals alike and different?	**Living Things** -Plant and animal structures and functions	**Living Things** -Compare and contrast structures and functions of plants and animals -Understand plant and animal growth, survival, behaviors, and reproduction	**Living Things** -*Inspire Science* workbook by McGraw Hill (2020)	**Living Things** -*Inspire Science* by McGraw Hill (2020)

Science 4th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Earth 4-ESS1 4-ESS2 4-ESS3	**Earth** How can Earth's crust change? How do different forces shape and change Earth's landforms? How can fossil fuels be conserved?	**Earth** -Rock formations -Layers of the Earth -Types of rock -Fossils -Rock cycle -Earthquake -Volcano -Tsunami -Natural hazard human impact -Plate tectonics -Erosion and weathering Natural resources: -Energy and fuels -Renewable and non-renewable -Conservation	**Earth** -Understand how rock layers record the history of the Earth -Explain how the rock cycle, erosion and weathering affect rock formations -Explain how plate tectonics cause natural hazards that shape the Earth -Understand how humans can reduce the impact of natural hazards -Learn ways to conserve natural resources	**Earth** -Foldables -Diagrams labeled -*Inspire Science* workbook by McGraw Hill (2020)	**Earth** -*Inspire Science* by McGraw Hill (2020)
Energy 4-PS3 4-PS4	**Energy** How is energy used? How is energy transferred?	**Energy** -Heat -Sound -Light -Electric currents -Transfer -Waves	**Energy** -Explain how heat transfers -Explain production and characteristics of sound -Describe how light travels -Explain how energy is transferred -Understand the parts of waves and how they relate to energy	**Energy** -Inquiry activities	**Energy** -*Inspire Science* by McGraw Hill (2020)

Science 5th grade

Next Generation Science Standards					
5-PS1 Matter and Its Interactions 5-PS2 Motion and Stability: Forces and Interactions 5-PS3 Energy 5-LS1 From Molecules to Organisms: Structures and Processes 5-LS2 Ecosystems: Interactions, Energy, and Dynamics 5-ESS1 Earth's Place in the Universe 5-ESS2 Earth's Systems 5-ESS3 Earth and Human Activity 3-5-ETS1 Engineering Design					
Technology					
SMART Board, Elmo, iPads, YouTube, United Streaming, Encyclopedia Britannica, ReadWorks					
Standards	**Essential Questions**	**Content**	**Skills**	**Assessment**	**Resources**
Scientific Skills and Matter 5-PS1 3-5-ETS1	**Scientific Skills and Matter** How do scientists use the scientific method to measure matter?	**Scientific Skills and Matter** -Question -Information collection -Hypothesis -Experiment -Variable -Data -Conclusion -Properties -States -Chemical reactions	**Scientific Skills and Matter** -Brainstorm questions about a scientific topic -Infer knowledge from observations -Write a hypothesis that can be tested -Carry out a guided experiment -Identify the variable in the experiment -Collect and analyze data -Prove or disprove hypothesis -Communicate what was learned -Conduct experiments that involve measuring the properties of matter, states, and chemical reactions	**Scientific Skills and Matter** -Interactive notebooks -Hands on activities/labs/ experiments -Vocabulary quizzes -Unit test	**Scientific Skills and Matter** -*Inspire Science* by McGraw Hill (2020) -*Sandwich Bag Science* by Steve Tomecek -Non-fiction articles from ReadWorks -*Exploring Science 5* by National Geographic

Science 5th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Ecosystems 5-PS3 5-LS1 5-LS2 MS-LS2	**Ecosystems** How do living and non-living things interact in an ecosystem?	**Ecosystems** -Energy pyramid -Photosynthesis -Interdependent relationships -Chains and webs -Decomposers -Consumers -Producers -Predator and prey -Habitats -Adaptations: behavioral and structural	**Ecosystems** -Understand the flow of energy as it's transferred from one organism to the next -Explain the role of photosynthesis in the flow of energy -Demonstrate how living and non-living things are dependent on each other -Construct food chains and webs to show interdependent relationships -Provide examples of how living things adapt to survive	**Ecosystems** -Interactive notebooks -Hands on activities/labs/ experiments -Vocabulary quizzes -Unit test	**Ecosystems** -*Inspire Science* by McGraw Hill (2020) -Non-fiction articles from ReadWorks -*Exploring Science 5* by National Geographic -*Food Chains and Webs* science module by Delta Education (2011)
Earth's Systems 5-ESS2 5-ESS3	**Earth's Systems** How are the interactions of the four spheres constantly changing the Earth?	**Earth's Systems** -Spheres: geosphere, biosphere, hydrosphere, atmosphere -Human impact	**Earth's Systems** -Know the four spheres -Explain how each sphere interacts with other spheres to affect Earth's surface materials and processes -Explain human impact on the four spheres	**Earth's Systems** -Interactive notebooks -Hands on activities/labs/ experiments -Vocabulary quizzes -Unit test	**Earth's Systems** -*Inspire Science* by McGraw Hill (2020) -Non-fiction articles from ReadWorks -*Exploring Science 5* by National Geographic
Earth's Place in the Universe 5-PS2 5-ESS1	**Earth's Place in the Universe** How does the Earth, sun, stars, and moon interact?	**Earth's Place in the Universe** -Gravity -Orbit -Rotation -Revolution -Sun -Stars -Moon phases -Patterns -Seasons	**Earth's Place in the Universe** -Explain how the Earth, sun, stars, and moon interact -Understand how the Earth's location in space impacts observable patterns	**Earth's Place in the Universe** -Interactive notebooks -Hands on activities/labs/ experiments -Vocabulary quizzes -Unit test	**Earth's Place in the Universe** -*Inspire Science* by McGraw Hill (2020) -Non-fiction articles from ReadWorks -*Exploring Science 5* by National Geographic

Science 6th grade

Next Generation Science Standards	
MS-ESS1	Earth's Place in the Universe
MS-ESS2	Earth's Systems
MS-ESS3	Earth and Human Activity
MS-ETS1	Engineering Design

Technology
SMART Board, Elmo, projector, computer, iPads, YouTube, lab equipment, Discovery Education

Standards	Essential Questions	Content	Skills	Assessment	Resources
Scientific Skills MS-ETS1	**Scientific Skills** How can the scientific method be used to solve a question or problem?	**Scientific Skills** -Question and inferences -Hypothesis -Research and experiment -Data -Result analysis -Conclusion -Lab safety	**Scientific Skills** -Name and explain the steps -Utilize past knowledge and observations to form a question -Develop a hypothesis -Gain background knowledge on topic through research -Carry out a guided experiment -Identify constants within an experiment -Understand the difference between dependent and independent variables -Construct an organized table and graph to analyze data -Analyze and communicate results to prove or disprove hypothesis -Discuss the importance of repeating experiment -Model appropriate lab safety rules and procedures	**Scientific Skills** -Group work -Tests	**Scientific Skills** -*Elevate Science Earth* by Pearson (2019) -Labs -Interactive notebook

Science 6th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Earth's Systems MS-ESS2 MS-ESS3	**Earth's Systems** How do Earth's processes interact with each other?	**Earth's Systems** Lithosphere: -Five layers of the Earth -Tectonic processes -Convection currents -Rock and mineral relationships due to weathering and erosion -Human impact Hydrosphere: -Water cycle: related to sun and gravity -Ocean water -Human impact Atmosphere: -Layers -Global and local winds -Weather -Human impact	**Earth's Systems** Lithosphere: -Compare and contrast the five layers -Explain the relationship between the layers and tectonic processes -Report evidence of tectonic processes -Analyze convection currents -Understand the cycling of Earth's materials -Discuss how humans positively and negatively impact the lithosphere Hydrosphere: -Describe how the water cycle is driven by the sun and gravity -Explain how climate, waves, and currents drive ocean movement -Discuss how humans positively and negatively impact the hydrosphere Atmosphere: -Compare and contrast the layers of the atmosphere -Differentiate between global and local winds -Discuss how fronts affect weather -Identify weather instruments -Recognize symbols used on weather maps -Discuss how humans positively and negatively impact the atmosphere	**Earth's Systems** -Projects -Tests	**Earth's Systems** -*Elevate Science Earth* by Pearson (2019) -Labs

Science 6th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
The Universe MS-ESS1	**The Universe** How do fossils map Earth's history? How do celestial bodies interact/form?	**The Universe** -Geologic time scale -Lunar phases -Eclipses -Daily and seasonal patterns -Tides -Gravitational pull, orbits, formation of objects -Scale of objects -Milky Way Galaxy	**The Universe** -Understand the geologic time scale -Discuss how fossils record geologic time -Model lunar phases -Distinguish between different types of eclipses -Describe the movements of the sun, moon, and Earth in relation to the rotation, revolution, and seasons -Understand how planets were formed -Interpret data to understand the scale of objects in the solar system -Understand Earth's cosmic address	**The Universe** -Group work -Projects -Tests	**The Universe** -*Elevate Science Earth* by Pearson (2019) -Labs -Models
Earth and Human Activity MS-ESS3	**Earth and Human Activity** How do Earth and humans interact and affect each other?	**Earth and Human Activity** -Renewable vs. non-renewable resources -Alternative energy resources -Global climate change	**Earth and Human Activity** -Distinguish between renewable and non-renewable resources -Investigate alternative energy resources -Research the impact of global climate change	**Earth and Human Activity** -Project: Off the Grid -Group work	**Earth and Human Activity** -*Elevate Science Earth* by Pearson (2019)

Science 7th grade

Next Generation Science Standards	
MS-LS1	From Molecules to Organisms: Structures and Processes
MS-LS2	Ecosystems; Interactions, Energy, and Dynamics
MS-LS3	Heredity: Inheritance and Variation of Traits
MS-LS4	Biological Evolution: Unity and Diversity
MS-ETS1	Engineering Design

Technology
SMART Board, Elmo, projector, computer, iPads, YouTube

Standards	Essential Questions	Content	Skills	Assessment	Resources
Scientific Skills MS-ETS1	**Scientific Skills** How can the scientific method be used to solve a question or problem?	**Scientific Skills** -Question and inferences -Hypothesis -Research and Experiment -Data -Result analysis -Conclusion -Lab safety	**Scientific Skills** -Name and explain the steps -Utilize past knowledge and observations to form a question -Develop a hypothesis -Gain background knowledge on topic through research -Carry out a guided experiment -Identify constants and outliers within an experiment -Understand the difference between dependent and independent variables -Construct an organized table and graph to analyze data -Analyze and communicate results to prove or disprove hypothesis -Discuss the importance of repeating experiment -Model appropriate lab safety rules and procedures	**Scientific Skills** -Lab -Test	**Scientific Skills** -*Elevate Science Life* by Pearson (2019) -Lab kits

Science 7th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Molecules to Organisms MS-LS1	**Molecules to Organisms** How do simple cells make complex organisms?	**Molecules to Organisms** -Living vs. nonliving -Classification -Unicellular vs. multicellular -Cell structure and function -Organization: cell, tissue, organ, organ system -Organ systems: circulatory, digestive, respiratory, muscular, skeletal, nervous, urinary, excretory, endocrine, integumentary, lymphatic, reproductive -Photosynthesis vs. cellular respiration	**Molecules to Organisms** -Understand characteristics of living organisms and nonliving things -Understand the eight hierarchy levels of living things -Complete dichotomous key -Compare and contrast unicellular and multicellular organisms -Model cell structure -Describe cell structure functions -Recognize the levels of organization in the human body -Know that there are different kinds of cells and tissues -Understand the basic functions of organs in human body systems -Know the purpose of the body systems -Compare and contrast photosynthesis and cellular respiration	**Molecules to Organisms** -Lab -Test	**Molecules to Organisms** -*Elevate Science Life* by Pearson (2019) -Lab kits
Heredity MS-LS3	**Heredity** How are traits passed from parent to offspring?	**Heredity** -DNA -Genes -Chromosomes -Sexual and asexual reproduction -Gene mutation: helpful, hurtful, neutral -Inherited traits -Acquired traits	**Heredity** -Know relationship between DNA, genes, and chromosomes -Model mitosis and meiosis -Know the difference between helpful, hurtful, and neutral gene mutations using examples -Differentiate between inherited and acquired traits -Generate various Punnett squares	**Heredity** -Lab -Test	**Heredity** -*Elevate Science Life* by Pearson (2019) -Lab kits

Science 7th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Evolution MS-LS4	**Evolution** How has life evolved?	**Evolution** -Evidence of change -Adaptations -Natural selection -Artificial selection -Ethics and morals	**Evolution** -Identify key changes in organisms over time -Understand survival of the fittest -Discuss the pros and cons of Genetically Modified Organisms (GMO) -Discuss the Catholic church's stance on evolution	**Evolution** -Lab -Class discussion	**Evolution** -*Elevate Science Life* by Pearson (2019) -Lab kits
Ecosystems MS-LS2	**Ecosystems** How do living and nonliving things impact one another?	**Ecosystems** -Biodiversity -Human impact	**Ecosystems** -Demonstrate how biodiversity affects how living and nonliving organisms interact in an ecosystem	**Ecosystems** -Project -Labs	**Ecosystems** -*Elevate Science Life* by Pearson (2019) -Lab kits

Science 8th grade

Next Generation Science Standards	
MS-PS1	Matter and Its Interactions
MS-PS2	Motion and Stability: Forces and Interactions
MS-PS3	Energy
MS-PS4	Waves and their Applications in Technologies for Information Transfer
MS-ETS1	Engineering Design

Technology
SMART Board, Elmo, projector, computer, iPads, Discovery Education

Standards	Essential Questions	Content	Skills	Assessment	Resources
Scientific Skills MS-ETS1	**Scientific Skills** How can the scientific method be used to solve a question or problem? How are formulas applied to science?	**Scientific Skills** -Question and inferences -Hypothesis -Research and Experiment -Data -Result analysis -Conclusion -Lab safety -Formulas and practical applications	**Scientific Skills** -Apply steps of scientific method -Demonstrate proficiency in use of formulas and units	**Scientific Skills** -Tests	**Scientific Skills** -*Elevate Science Physical* by Pearson (2019) -Lab kits
Matter and Its Interactions MS-PS1	**Matter and Its Interactions** How do atomic particles interact? How do atoms behave differently in the three states of matter? How do different atoms interact?	**Matter and Its Interactions** -Atomic structure -Periodic table -Properties of matter -Chemical reactions -Conservation of matter -Phase changes of matter at molecular level -Thermal energy	**Matter and Its Interactions** -Identify and locate subatomic particles and their relationships -Understand patterns and groups located on the periodic table -Know the properties that differentiate phases of matter -Balance simple chemical equations -Distinguish between ionic and covalent bonds -Determine the difference between endothermic and exothermic energy	**Matter and Its Interactions** -Tests -Labs -Projects	**Matter and Its Interactions** -*Elevate Science Physical* by Pearson (2019) -Lab kits

Science 8th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Motion and Stability MS-PS2	**Motion and Stability** How are forces and motion related?	**Motion and Stability** -Motion: speed, velocity, acceleration -Forces: friction, balanced vs. unbalanced -Newton's three laws of motion -Newton's law of universal gravitation -Work -Simple machines -Formulas and practical applications	**Motion and Stability** -Understand the relationships between types of motion -Describe force in relation to motion -Demonstrate and explain Newton's three laws of motion and law of universal gravitation -Explain work in terms of force and distance -Identify the six types of simple machines -Know the difference between work input and output -Understand the efficiency of machines -Demonstrate how machines make work easier -Demonstrate proficiency in use of formulas and units	**Motion and Stability** -Tests -Labs -Projects	**Motion and Stability** -*Elevate Science Physical* by Pearson (2019) -Lab kits
Energy MS-PS3	**Energy** How are matter and energy related?	**Energy** -Kinetic and potential -Momentum -Thermal energy -Energy transformation -Magnetism: electric -Formulas and practical applications	**Energy** -Explain and demonstrate the differences between kinetic and potential energies -Show how kinetic energy is related to mass and speed -Construct an instrument to minimize or maximize thermal energy transfer -Know how magnetic force is related to electric energy -Demonstrate proficiency in use of formulas and units	**Energy** -Tests -Projects	**Energy** -*Elevate Science Physical* by Pearson (2019) -Lab kits

Science 8th grade

Standards	Essential Questions	Content	Skills	Assessment	Resources
Waves MS-PS4	**Waves** How do waves transfer energy?	**Waves** -Transverse and longitudinal waves -Properties: amplitude, frequency, wavelength, wave height -Sound waves -Light waves -Application of waves	**Waves** -Compare properties and types of waves -Discuss characteristics of sound in relation to frequency and amplitude -Discuss and give examples of the Doppler Effect -Model how light waves are reflected, absorbed, or transmitted through various materials -Examine how waves are used in daily lives	**Waves** -Tests -Projects	**Waves** -*Elevate Science Physical* by Pearson (2019) -Lab kits

Science Kindergarten

Next Generation Science Standards	
K-PS2	Motion and Stability: Forces and Interactions
K-PS3	Energy
K-LS1	From Molecules to Organisms: Structures and Processes
K-ESS2	Earth's Systems
K-ESS3	Earth and Human Activity
K-2-ETS1	Engineering Design

Technology
SMART Board, Elmo, laptop, iPads, YouTube, Mystery Science, iPad apps

Standards	Essential Questions	Content	Skills	Assessment	Resources
Scientific Skills K-2-ETS1	**Scientific Skills** How do scientists observe the world?	**Scientific Skills** -Observations using five senses -Tools and safety: magnifying glass, ruler, measuring cups, thermometer, balance	**Scientific Skills** -Apply the appropriate sense to observe -Use tools safely	**Scientific Skills** -Teacher observations	**Scientific Skills** -*Exploring Science* by National Geographic (2015)
Plants K-LS1	**Plants** How do plants grow and change?	**Plants** -Parts -Life cycle -Basic needs	**Plants** -Identify roots, stems, leaves, flowers, and seeds of a plant -Sequence the life cycle of plants -Identify the five basic needs of plants	**Plants** -Teacher observations	**Plants** -*Exploring Science* by National Geographic (2015) -Non-fiction books
Animals K-LS1	**Animals** How do animals grow and change?	**Animals** -Characteristics -Life cycle -Basic needs -Habitats	**Animals** -Categorize animals by characteristics -Sequence the life cycle of animals -Identify the four basic needs of animals -Identify the correct habitats for animals	**Animals** -Teacher observations	**Animals** -*Exploring Science* by National Geographic (2015) -Non-fiction books

Science Kindergarten

Standards	Essential Questions	Content	Skills	Assessment	Resources
Weather K-ESS2 K-ESS3 K-PS3	**Weather** How and why is weather measured?	**Weather** -Sunlight -Wind -Temperature -Precipitation -Natural Hazards: tornado, earthquake, flood, blizzard	**Weather** -Record and graph daily weather -Measure temperature -Discuss how temperature affects the type of precipitation -Recognize how weather affects daily activities -Identify causes of natural hazards -Determine how to prepare for and react to natural hazards	**Weather** -Teacher observations	**Weather** -*Exploring Science* by National Geographic (2015) -Non-fiction books -Calendar
Natural Resources K-ESS2 K-ESS3	**Natural Resources** How are natural resources used and conserved?	**Natural Resources** -Reduce, Reuse, Recycle -Human impact	**Natural Resources** -Identify natural resources -Recognize how to conserve natural resources	**Natural Resources** -Teacher observations	**Natural Resources** -*Exploring Science* by National Geographic (2015) -Recycle bins and Paper Gator
Force and Motion K-PS2	**Force and Motion** How can the motion of objects be changed?	**Force and Motion** -Push -Pull -Speed -Direction -Gravity -Interactions	**Force and Motion** -Identify push and pull as ways to move things -Categorize all movements as either pushes or pulls -Use pushes and pulls to solve problems -Identify that gravity is a force that holds objects to the Earth -Change the direction of an object by pushing or pulling	**Force and Motion** -Teacher observations	**Force and Motion** -*Exploring Science* by National Geographic (2015)

Science PreKindergarten 3

Illinois Early Learning and Development Standards
11.A Science and Engineering practices 12.A Living things grow and change 12.B Living things rely on environment and others to live and grow 12.C Matter: physical properties of objects 12.D Force and Motion 12.E Earth: characteristics of earth, water, and air; take care of planet 12.F Weather: changes and seasons 13.A Rules to follow when investigating and exploring 13.B Tools and technology to assist with science and engineering investigations
The map is a guide. Adjustments are made daily to meet the widespread needs of the students. **Every child may not reach the benchmarks by the end of the year. Growth, instead of mastery, is assessed.**

Technology					
SMART Board, projector, laptop, iPad, YouTube					
Standards	**Essential Questions**	**Content**	**Skills**	**Assessment**	**Resources**
Scientific Skills 11.A 13.A 13.B	**Scientific Skills** How do scientists work?	**Scientific Skills** -Tools and Safety -Observation -Graph -Model -Question -Problem Solving -Conclusion	**Scientific Skills** -Use tools properly -Show curiosity and interest -Communicate observations -Record information on graphs -Build models -Discuss solutions and conclusions	**Scientific Skills** -Teacher observation -Discussion	**Scientific Skills** -Lab Kits (teacher created) -Non-fiction books -*My Big World* by Scholastic
Living Things 12.A 12.B	**Living Things** How do living things grow and change?	**Living Things** -Life cycle -Basic needs -Environment	**Living Things** -Observe and investigate the stages of the life cycle -Name at least one basic need of living things -Match living things to their environments	**Living Things** -Teacher observation -Discussion	**Living Things** -Lab Kits (teacher created) -Non-fiction books -*My Big World* by Scholastic
Physical Properties of Objects 12.C	**Physical Properties of Objects** How are objects identified and described? How can objects be changed?	**Physical Properties of Objects** -Properties -Changes	**Physical Properties of Objects** -Sort objects according to given characteristics -Observe changes in matter	**Physical Properties of Objects** -Teacher observation -Discussion	**Physical Properties of Objects** -Lab Kits (teacher created) -Non-fiction books -*My Big World* by Scholastic

Science PreKindergarten 3

Standards	Essential Questions	Content	Skills	Assessment	Resources
Weather and Seasons 12.F	**Weather and Seasons** What is weather and how does it change with the seasons?	**Weather and Seasons** -Elements -Conditions -Four Seasons	**Weather and Seasons** -Develop weather vocabulary -Recognize how weather affects daily activities -Identify the four seasons	**Weather and Seasons** -Teacher observation -Discussion	**Weather and Seasons** -Lab Kits (teacher created) -Non-fiction books -*My Big World* by Scholastic

Science PreKindergarten 4

Illinois Early Learning and Development Standards
11.A Science and Engineering practices 12.A Living things grow and change 12.B Living things rely on environment and others to live and grow 12.C Matter: physical properties of objects 12.D Force and Motion 12.E Earth: characteristics of earth, water, and air; take care of planet 12.F Weather: changes and seasons 13.A Rules to follow when investigating and exploring 13.B Tools and technology to assist with science and engineering investigations
The map is a guide. Adjustments are made daily to meet the widespread needs of the students. **Every child may not reach the benchmarks by the end of the year. Growth, instead of mastery, is assessed.**

Technology					
SMART Board, Elmo, laptop, iPad, YouTube, iPad apps					
Standards	**Essential Questions**	**Content**	**Skills**	**Assessment**	**Resources**
Scientific Skills 11.A 13.A 13.B	**Scientific Skills** How do scientists work?	**Scientific Skills** -Tools and Safety -Observation -Graph -Model -Question -Problem Solving -Conclusion	**Scientific Skills** -Use tools properly -Initiate curiosity and interest -Ask questions -Communicate observations -Record and interpret information on graphs -Build and label models -Conduct experiments -Solve problems and draw conclusions	**Scientific Skills** -Teacher observation -Discussion	**Scientific Skills** -Lab Kits (teacher created) -Non-fiction and fiction books -*Weekly Reader* by Scholastic
Living Things 12.A 12.B	**Living Things** How do living things grow and change?	**Living Things** -Life cycle -Basic needs -Environment	**Living Things** -Observe and communicate the stages of the life cycle -Identify and explain parts and functions of living things -Name the basic needs of living things -Show an understanding of living things and environments	**Living Things** -Teacher observation -Discussion	**Living Things** -Lab Kits (teacher created) -Non-fiction and fiction books -*Weekly Reader* by Scholastic

Science PreKindergarten 4

Standards	Essential Questions	Content	Skills	Assessment	Resources
Physical Properties of Objects 12.C	**Physical Properties of Objects** How are objects identified and described? How can objects be changed?	**Physical Properties of Objects** -Properties -Changes	**Physical Properties of Objects** -Describe the properties of objects using the senses -Explain changes in matter	**Physical Properties of Objects** -Teacher observation -Discussion	**Physical Properties of Objects** -Lab Kits (teacher created) -Non-fiction and fiction books -*Weekly Reader* by Scholastic
Weather and Seasons 12.F	**Weather and Seasons** What is weather and how does it change with the seasons?	**Weather and Seasons** -Elements -Conditions -Four Seasons	**Weather and Seasons** -Utilize weather vocabulary -Report weather -Recognize how weather affects daily activities -Identify and describe the four seasons	**Weather and Seasons** -Daily Weather Report -Journal	**Weather and Seasons**