Danville Area School District
Course Overview and Scope and Sequence

Course Title: 4th Grade Science
Content Area: Science
Grade Level: 4th
Date Developed: Fall of 2023

COURSE OVERVIEW: Throughout this course students will integrate relevant science and engineering practices and crosscutting concepts into their learning and understanding of the core ideas. The core ideas found in the course are: energy and motion, energy transfer, earth and its changing features, and structures and functions of living things.
ANCHOR STANDARDS: S4.A.1 Reasoning and Analysis S4.A.2 Processes, Procedures, and Tools of Scientific Investigations S4.A.3 Systems, Models, and Patterns S4.B.1 Structure and Function of Organisms S4.B.2 Continuity of Life S4.B.3 Ecological Behavior and Systems S4.C.1 Structure, Properties, and Interaction of Matter and Energy S4.C.2 Forms, Sources, Conversion, and Transfer of Energy S4.C.3 Principles of Motion and Force S4.D.1 Earth Features and Processes that Change Earth and Its Resources S4.D.2 Weather, Climate, and Atmospheric Processes
KEY COURSE TEXT AND MATERIALS: Inspire Science, Science Investigator Magazine, McGraw-Hill Online Platform, and teacher made materials

KEY ASSESSMENTS:
Diagnostic: 8th Grade PSSA, 4th Grade PSSA, and 5th Grade PSSA 2025
Formative: Labs and Activities, Simulations and Model Construction, Bell Ringers, CER and Class Discussions
Summative: Projects and Lesson Reviews/Checks

SCOPE AND SEQUENCE					
Unit	PRIORITY STANDARDS	SUPPORTING STANDARDS	ASSESSMENT	MATERIALS	TIMEFRAME
Unit 1 Forces of Energy: Energy and Motion	3.2.4.A Use evidence to construct an explanation relating the speed of an object to the energy of that object. 3.2.4.C Ask questions and predict outcomes about the changes in energy that occur when objects collide.	S4.A.1.1 Identify and explain the application of scientific, environmental, or technological knowledge to possible solutions to problems. S4.A.2.1 Apply skills necessary to conduct an experiment or design a solution to solve a problem. S4.C.3.1 Identify and describe different types of force and motion resulting from	Module Pretest Lessons, 1, 2, & 3 Checks Module Post-Test CER response sheet	Science Investigator Magazine Student workbooks Unit 2 Inquiry kit materials Teacher Made Materials McGraw-Hill online platform	28 Days

		these forces, or the effect of the interaction between force and motion.			
Unit 2 Using Energy Part 1: Energy Transfer	3.2.4.B Make and communicate observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.		Module Pretest Lesson 1, 2, & 3 Checks Module Post-test CER response sheet	Science Investigator Magazine Student workbooks Unit 2 Inquiry kit materials McGraw-Hill online platform Teacher made materials	36 Days
Unit 2: Using Energy Part 2: Natural Resources in the Environment	3.2.4.D Apply scientific ideas to design, test, and refine a device that converts energy from one form to another. 3.3.4.D Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the	S4.A.2.1 Apply skills necessary to conduct an experiment or design a solution to solve a problem. S4.C.2.1 Recognize basic energy types and sources, or describe how energy can be changed from one form to another.	Module Pretest Lesson 1, 2, & 3 Checks Module Post-test CER response sheet	Science Investigator Magazine Student Workbooks Unit 3 Inquiry Kit Materials McGraw-Hill online platform Teacher made materials	35 Days

	environment.	S4.D.1.2 Identify the types and uses of Earth's resources.			
Unit 3: Our Dynamic Earth Part 1: Earth and Its Changing Features	3.3.4.A Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. 3.3.4.B Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation 3.3.4.C Analyze and interpret data from maps to describe patterns of Earth's features.	S4.D.1.1 Describe basic landforms in Pennsylvania.	Module Pretest Lessons 1, 2, & 3 Checks Module Post-Test CER response sheet	Science Investigator Magazine Student Workbooks Unit 3 Inquiry kit materials McGraw-Hill online platform Teacher made materials	27 days
Unit 3: Our Dynamic Earth Part 2: Earthquakes	3.3.4.E Generate and compare multiple solutions to reduce the impacts of natural Earth		Module Pretest Lessons 1 & 2 Checks Module Post-Test CER response	Science Investigator Magazine Student Workbooks Unit 4 Inquiry kit	28 days

	processes on humans. 3.3.4.C Analyze and interpret data from maps to describe patterns of Earth's features.		sheet	materials McGraw-Hill online platform Teacher made materials	
Unit 4: Information Processing and Living Things Part 1: Structures and Functions of Living Things	3.1.4.A Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	S4.A.3.1 Identify systems and describe relationships among parts of a familiar system (e.g., digestive system, simple machines, water cycle). S4.B.1.1 Identify and describe similarities and differences between living things and their life processes.	Module Pretest Lessons 1 & 2 Checks CER response sheet Module Post-Test	Science Investigator Magazine Student Workbooks Unit 4 Inquiry kit materials McGraw-Hill online Teacher made materials	21 days
Unit 4: Information Processing and Living Things Part 2: Information Processing and Transfer	3.1.4.B Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the	S4.A.3.2 Use models to illustrate simple concepts and compare the models to what they represent.	Module Pretest Lessons 1, 2, 3, & 4 Checks CER response sheet	Science Investigator magazine Student Workbooks Unit 1 Inquiry Kit Materials McGraw-Hill online	36 Days

	information in different ways.			Teacher made materials	