Danville Area School District
Course Overview and Scope and Sequence

Course Title:STEM
Content Area: STEM
Grade Level: 6th Grade
Date Developed: 9/28/2023

COURSE OVERVIEW: This quarter-long class, is designed for students who enjoy Science, Technology, Engineering and Math topics. It offers unique opportunities to apply numerous academic concepts through practical, hands-on applications. STEM students will be given opportunities to learn through discovery, exploration, and practical applications. 6th Grade students will focus on the Engineering Design Process, 3D Printing, and Energy Transformation
ANCHOR STANDARDS: 1. Measurement 2. The Engineering Design Process 3. 3D Printing 4. Energy Transformation
KEY COURSE TEXT AND MATERIALS: Teacher Created Materials, Labs and Supplies
KEY ASSESSMENTS: Diagnostic: None Formative: Labs and activities, models, projects, bell ringers, and class discussions. Summative: Quiz, projects, packets

SCOPE AND SEQUENCE					
Unit	PRIORITY STANDARDS	SUPPORTING STANDARDS	ASSESSMENT	MATERIALS	TIMEFRAME
Measurement	3.5.6-8.B Use instruments to gather data on the performance of everyday products. 3.5.6-8.O Interpret the accuracy of information collected.	CC.2.4.1.A.1	Response Forms, Worksheets, Projects, Quizzes	Teacher created projects, supplies, and materials posted in Google Classroom.	5 days
The Engineering Design Process	3.5.6-8.M Develop a model to generate data or iterative testing and modification of a proposed object such that an optimal design can be achieved 3.5.6-8.N Analyze data from tests 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. 3.5.6-8.P Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of	Math: MP.5 ELA: CC.1.2.5.G CC.1.3.6.J CC.1.4.6.F CC.1.4.6.H	Design Packet, Projects, Worksheets, Quizzes	Teacher created, projects, supplies, materials posted in Google Classroom	25 days

	the problem 3.5.6-8.Q Apply a technology and engineering design thinking process 3.5.6-8.U Evaluate and assess the strengths and weaknesses of various design solutions given established principles and elements of design. 3.5.6-8.V Refine design solutions to address criteria and constraints. 3.5.6-8.W Define the criteria and constraints of a design problem with sufficient precision 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. Intentionally.				
Energy Transformation Transfer	3.5.6-8.Q Apply a technology and engineering design thinking process 3.5.6-8.M Develop a model to generate data or iterative testing and modification	Science CC 3.2.5.B: CC.3.4.7.B	Design Packet, Projects, Worksheets, Quizzes	Teacher created, projects, supplies, materials posted in Google Classroom	5 days

	of a proposed object such that an optimal design can be achieved 3.5.6-8.N (ETS) Analyze data from tests 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. 3.5.6-8.X Defend decisions related to a design problem.				