Danville Area School District
Course Overview and Scope and Sequence

Course Title: Environmental Science
Content Area: Science
Grade Level: 10th, 11th, and/or 12th
Date Developed: June 2023

COURSE OVERVIEW: This is an introductory course designed for students who are interested in engaging with the world around them. This course will examine topics from basic ecological principles through human population and their impact on the environment. Students will acquire skills needed to continue their education in science and develop the ability to address environmental issues throughout their lives. This course will also emphasize hands-on, project based learning experience.
ANCHOR STANDARDS: 3.1 Unifying Themes of Science; 3.3 Biological Science
KEY COURSE TEXT AND MATERIALS: None
KEY ASSESSMENTS: Diagnostic: None Formative: Labs and activities, simulations and model construction, bell ringers, exit tickets, and class discussions Summative: Projects

SCOPE AND SEQUENCE					
Unit	PRIORITY STANDARDS	SUPPORTING STANDARDS	ASSESSMENT	MATERIALS	TIMEFRAME

Unit 1: Basic Ecological Principles	3.3.9-12E	3.1.9-12H 3.1.9-12I 3.3.9-12.N	Model of an ecosystem (diorama) and class discussions	All content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	10 days
Unit 2: Wildlife Management	3.1.9-12N 3.3.9-12.Q	3.1.9-12L 3.1.9-12M	Animal rights campaign, invasive species investigation, and class discussions	All content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	12 days
Unit 3: Population Growth and Impact	3.3.9-12Q	3.1.9-12N	Modeling state demographic info for ecological purposes, analyzing/interpreting data, age/sex pyramids, population control vs. resource management debate, and class discussions	All content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	11 days
Unit 4: Human Health Issues	3.1.9-12N		Modeling nutrient deficiencies and disease spread in dense populations, and class discussions	All content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	8 days

Unit 5: Waste Management	3.3.9-12R	3.1.9-12N 3.3.9-12.R	Analyzing types of waste, landfill models, upcycling project, NIMBY reflection and class discussions	All content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	14 days
Unit 6: Pollution	3.3.9-12P 3.3.9-12R	3.1.9-12N 3.3.9-12.R	Air and water quality sampling and analysis, technology for cleaning pollution model, oil spill simulation, and class discussions	All content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	14 days
Unit 7: Energy and Urban Planning	3.3.9-12O 3.3.9-12P 3.3.9-12R	3.1.9-12N 3.3.9-12.P 3.3.9-12.R	Alternate energy models, eco-home designs, and class discussions	All content is teacher created. In addition to lab/project supplies, materials are posted in Google Classroom.	10 - 12 days