

5th Grade, Unit #1, Technology, Research & Productivity Software

Content Area: **Technology**
Course(s): **Technology**
Time Period: **September**
Length: **12 weeks**
Status: **Published**

Enduring Understanding

Researching information and creating new content based on that research is the central part of critical thinking.

Essential Questions

- For what types of projects would various software be most appropriate?
- How can word processing features help us improve the quality of our work?
- In a world of constant change, what skills should we learn?

Standards

TECH.8.1.5.F.1	Apply digital tools to collect, organize, and analyze data that support a scientific finding.
TECH.8.1.5.E.CS3	Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.
TECH.8.1.5.F	Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.
TECH.8.1.5.F.CS4	Use multiple processes and diverse perspectives to explore alternative solutions
TECH.8.1.5.A.4	Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.
TECH.8.1.5.F.CS1	Identify and define authentic problems and significant questions for investigation.
TECH.8.1.5.F.CS2	Plan and manage activities to develop a solution or complete a project.
TECH.8.1.5.A.6	Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data.
TECH.8.1.5.A.2	Format a document using a word processing application to enhance text and include graphics, symbols and/ or pictures.
TECH.8.1.5.F.CS3	Collect and analyze data to identify solutions and/or make informed decisions.
TECH.8.1.5.E.CS1	Plan strategies to guide inquiry.
TECH.8.1.5.E.1	Use digital tools to research and evaluate the accuracy of, relevance to, and appropriateness of using print and non-print electronic information sources to complete a variety of tasks.
TECH.8.1.5.E.CS2	Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
TECH.8.1.5.A.3	Use a graphic organizer to organize information about problem or issue.
TECH.8.1.5.A.5	Create and use a database to answer basic questions.

Student Learning Objectives

Research a topic using print and electronic resources.

Find answers to specific questions by searching articles.

List sources of information.

Use word processing features including: margins, indents, text formatting, wordart, line spacing, page borders, text boxes, and graphics.

Create and deliver a slide show presentation.

Create a simple spreadsheet and use basic features.

Use simple database features such as sort and filter.

Instructional Activities

States of the USA project:

First set of states - Short report (content created with word processing)

Second set of states - 3-dimensional project such as a mobile or poster presentation (content created with word processing)

Third set of states - Slideshow presentation

Throughout the project - Spreadsheet of state data, mapping

Interdisciplinary Connections

Social Studies - Geography, History

Language Arts - Short Report

Math - Numerical data for spreadsheet

Science - Climate, Landforms, Wildlife

Texts and Resources

Library databases

Productivity software

Mapping software (e.g. Google Earth)

Project materials (poster board, etc.)

Assessment

- Participation
- Projects
- Quizzes

5th Grade, Unit #2, Technology, Digital Citizenship

Content Area: **Technology**
Course(s): **Technology**
Time Period: **December**
Length: **8 weeks**
Status: **Published**

Enduring Understanding

Technology can have a positive or negative impact on both users and those affected by their use.

Essential Questions

What are an individual's responsibilities for using technology?

What constitutes misuse and how can it best be prevented?

Standards

TECH.8.1.5.D	Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
TECH.8.1.5.D.2	Analyze the resource citations in online materials for proper use.
TECH.8.1.5.D.CS2	Demonstrate personal responsibility for lifelong learning
TECH.8.1.5.D.CS3	Exhibit leadership for digital citizenship.
TECH.8.1.5.D.4	Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.
TECH.8.1.5.D.3	Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.
TECH.8.2.5.B.CS3	The role of society in the development and use of technology.
TECH.8.2.5.B.CS1	The cultural, social, economic and political effects of technology.
TECH.8.1.5.D.CS1	Advocate and practice safe, legal, and responsible use of information and technology.
TECH.8.1.5.D.1	Understand the need for and use of copyrights.

Student Learning Objectives

Practice cyber safety, cyber bullying, cyber security and cyber ethics when using online resources.

Explain the negative effects caused by cyber bullying.

Explain the importance of cyber safety and ethics.

Instructional Activities

Create a poster with tips about how to respond to cyber bully and post around the school.

Discussion and research regarding the effects of cyber bullying and cyber safety.

Interdisciplinary Connections

Art- poster design

Texts and Resources

An assortment of art materials

Recycled magazines

Assessment

- discussions
- poster

5th Grade, Unit #3, Technology, Innovation

Content Area: **Technology**

Course(s): **Technology**

Time Period: **February**

Length: **10 weeks**

Status: **Published**

Enduring Understanding

Technology evolves at an ever accelerating pace based on the needs/wants of a society and is influenced by cultural, political and environmental values and constraints.

Essential Questions

Can we control the pace at which technology is created?

Should we, even if we can?

Standards

TECH.8.2.5.B.CS2
TECH.8.2.5.D

The effects of technology on the environment.

The designed world is the product of a design process that provides the means to convert resources into products and systems.

TECH.8.2.5.A.5
TECH.8.2.5.B.1
TECH.8.2.5.D.6

Identify how improvement in the understanding of materials science impacts technologies.

Examine ethical considerations in the development and production of a product through its life cycle.

Explain the positive and negative effect of products and systems on humans, other species and the environment, and when the product or system should be used.

TECH.8.2.5.D.3
TECH.8.2.5.D.7

Follow step by step directions to assemble a product or solve a problem.

Explain the impact that resources such as energy and materials used in a process to produce products or system have on the environment.

TECH.8.2.5.C.CS2
TECH.8.2.5.D.4

The application of engineering design.

Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved.

TECH.8.2.5.C.7
TECH.8.2.5.D.CS1

Work with peers to redesign an existing product for a different purpose.

Apply the design process.

TECH.8.2.5.C.1
TECH.8.2.5.C.3

Collaborate with peers to illustrate components of a designed system.

Research how design modifications have lead to new products.

Student Learning Objectives

Understand and explain the impact of globalization on a technological product.

Instructional Activities

Collaborate in small groups to create a product (ex. birdhouse) using any materials available. Using hand written messages or email, each group will create a component of the final product. Parts then will be assembled.

Follow up discussion:

What challenges did you encounter during this process? What are the benefits to creating products in this way?

Interdisciplinary Connections

Art- creation of birdhouse

Math- measurement for plans

Texts and Resources

Scissors

Tape

Cardboard

Template

Paper/pencils

If using email for communication: Computers with internet access

Assessment

Group participation rubric

5th Grade, Unit #4, Technology, Species on the Edge

Content Area: **Technology**

Course(s): **Technology**

Time Period: **April**

Length: **10 weeks**

Status: **Published**

Enduring Understanding

Digital tools provide enhanced opportunities to design innovative solutions and express ideas creatively.

Essential Questions

- How can digital tools be used for creating original and innovative works, ideas, and solutions?

Core Curriculum Standards

TECH.8.1.5.E.CS3	Evaluate and select information sources and digital tools based on the appropriateness for specific tasks.
TECH.8.1.5.A	Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.5.E	Students apply digital tools to gather, evaluate, and use information.
VPA.3-5.1.3.5.D.4	Differentiate drawing, painting, ceramics, sculpture, printmaking, textiles, and computer imaging by the physical properties of the resulting artworks, and experiment with various art media and art mediums to create original works of art.
TECH.8.2.5.A.CS3	The relationships among technologies and the connections between technology and other fields of study.
LA.5.CCSS.ELA-Literacy.CCRA.W.1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
TECH.8.1.5.D.3	Demonstrate an understanding of the need to practice cyber safety, cyber security, and cyber ethics when using technologies and social media.
SCI.5-6.5.3.6.E.1	Describe the impact on the survival of species during specific times in geologic history when environmental conditions changed.
TECH.8.1.5.E.CS1	Plan strategies to guide inquiry.
TECH.8.1.5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems
TECH.8.1.5.E.CS2	Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.

Student Learning Objectives

Use digital tools to gather information and suggest possible solutions for a real world problem.

Create a word document using a word processing program.

Use a variety of art media to create a work of art.

Demonstrate cyber ethics when using online resources.

Instructional Activities

Species on the Edge Art and Essay Contest

Students will select an endangered animal native to NJ.

Students will use a variety of print and non-print resources to research their animal to gather information which will be used to type a persuasive essay to be submitted to the NJ Endangered Species contest.

The essay must include solutions to protect and preserve their endangered animal.

Students will use a variety of drawing materials to draw the endangered animal for submission to the contest along with the persuasive essay.

Interdisciplinary Connections

Art- rendering of chosen animal

Science- research on endangered species

Language Arts- persuasive essay

Texts and Resources

Computers with internet access

A variety of print resources

A variety of drawing materials and paper

Bibliography guides/samples

Assessment

- Drawing - Rubric
- Persuasive Essay - Rubric
- Research - Bibliography