*Unit 5: Geographic Information Systems (GIS)

Content Area: **Technology**
Course(s): **Engineering Design 2**
Time Period: **January**
Length: **8 blocks**
Status: **Published**

Enduring Understandings

A common source of GIS data is collected using GPS technology.

GIS links geographical information with data and displays them in graphical form.

The combined data and geographical locations are referred to as Spatial Information or GIS Themes.

Themes are combined in graphical form to create Maps that illustrate relationships.

Themes can be compared and analyzed to make management decisions.

Essential Questions

What are some of the applications of this technology in our your local community?

What are be some of the jobs or careers that use GIS technology?

How is GIS used in the municipal decision making process?

What are the ethical considerations regarding the use of GIS?

Content

Vocabulary:

Aspect, Azimuth, Base station, Base map, Benchmark, Cartesian coordinate, Cartography, Contour line, Flow direction, Geocoding, Graphic information systems, Latitude, Longitude, Minimum mapping unit, Scale bar, Thematic layer, Topography

Skills

Open and manipulate an existing webmap.

Interpret and communication the information provided by a map.

Create a new map.

Develop a solution to a real-world problem using GIS as a resource.

Resources

Desktop computers

GIS software and/or web-based GIS maps

Standards

TECH.8.1.12	Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.
TECH.8.1.12.A	Technology Operations and Concepts: Students demonstrate a sound understanding of technology concepts, systems and operations.
TECH.8.1.12.A.3	Collaborate in online courses, learning communities, social networks or virtual worlds to discuss a resolution to a problem or issue.
TECH.8.1.12.B.CS1	Apply existing knowledge to generate new ideas, products, or processes.
TECH.8.1.12.D.CS1	Advocate and practice safe, legal, and responsible use of information and technology.
TECH.8.2.12.D.CS3	Assess the impact of products and systems.