Unit 1: Inventions in our World

Content Area: **Gifted and Talented**
Course(s): **Gifted and Talented**
Time Period: **Week 1**
Length: **10 Weeks**
Status: **Published**

Unit Overview

Within this unit, students will work on identifying inventions that influence their daily lives and learn about how these inventions have evolved over time. Students will consider what various inventions allow them to do and will draw a connection between needs, resources, and inventions.

Standards

SCI.3-4.5.1.4.B.3	Formulate explanations from evidence.
SCI.3-4.5.1.4.B.4	Communicate and justify explanations with reasonable and logical arguments.
SCI.3-4.5.1.4.C.1	Monitor and reflect on one's own knowledge regarding how ideas change over time.
TEC.3-4.8.2.4.A.1	Investigate factors that influence the development and function of products and systems.
TEC.3-4.8.2.4.B.3	Explain the positive and negative effect of products and systems on humans, other species and the environment.
TEC.3-4.8.2.4.B.4	Compare and contrast how technology transfer happens within a technology, among technologies, and among other fields of study.
TEC.3-4.8.2.4.F.2	Explain how resources are processed in order to produce technological products and systems.

Essential Questions

1) How do inventions change the way one lives?

2) Why is technology constantly changing?

3) How do the available resources influence inventions?

Application of Knowledge and Skills...

Students will know that...

- 1. Inventions change the way people are able to live.
- 2. Technology is dependent upon the availability of resources.
- 3. Inventions have a specific purpose and function.
- 4. Inventions and technology allow for further technological advancement.

Students will be able to...

- 1. Identify inventions that they use everyday.
- 2. Explain what various inventions allow them to accomplish.
- 3. Examine different components that comprise an invention.
- 4. Distinguish among various types of inventions and their uses.
- 5. Investigate the technologies that needed to be created before one of our most modern inventions.
- 6. Debate which inventions are the most important to the way one lives.

Assessments

- Mystery Inventions: Drawing Conclusions Summative: Other written assessments Using the mystery inventions, have students profile one of the inventions. They decide on the resources they would need to create the invention, the possible functions of the invention, and the intended purpose of the invention. Students support their conclusions with reasoning and evidence.
- Guess the invention Formative: Other oral assessments Using the inventions' intended purpose, students brainstorm inventions that fulfill that purpose. For example: Communication, students may suggest the Internet, mail, telephones, etc.
- KWL Diagnostic: Self Assessment What is an invention?
- Technology in the classroom Formative: Other written assessments Have students analyze technology in the classroom from several different perspectives including how different teachers or subject areas use technology and how technology has changed over time.

Activities

- K-W-L: What is an invention?
- Brainstorm inventions in your classroom
- Parent interview: Describe their elementary school classrooms. Contrast parent's classroom with classrooms today with a focus on inventions.
- Class discussion: Do you need power for all inventions? Give examples.
- Field trip around the school to observe how different people in the school use different inventions: example, gym class vs. traditional classroom, performing arts room vs. main office.
- Deconstructing an invention: Students brainstorm about what a particular invention allows people to do (i.e the iPhone). Then have them think about how people did these things before iPhones.

- Guess the invention: Write invention description cards that tell students what an invention does and have them guess the invention. How many invention options can they come up with for each scenario?
- Mystery Invention Stations: Bring in a few inventions that students with which the students may not be familiar. Have students manipulate the inventions and determine their intended use.

Activities to Differentiate Instruction

- Activities allow for students to move around the classroom and school building in order to gather information and interact with others.
- Students are encouraged to touch, diagram, and manipulate different inventions to determine their purpose.
- To show relationships, create a graphic organizer or visual chart to draw connections.

Integrated/Cross-Disciplinary Instruction

Coordinate with the science teacher to discuss ways that students approach scientific inquiry and investigation.

Resources

"Inventions" accessible to teacher