Unit 2: Safety in the Workplace

Content Area: **Technology**
Course(s):
Time Period: **September**
Length: **1 week**
Status: **Published**

Enduring Understandings

- Personal protection equipment reduces injuries in the workplace.
- Listening, learning and following safety procedures and using personal will minimize risks of injury.
- Good interpersonal skills are required to effectively work with others and be productive in the workplace.

Essential Questions

- How can injuries be avoided in the workspace?
- What are consequences of not following safety procedures in the workplace?
- What population is at the greatest risk of injury in the workplace?
- Why are interpersonal skills and teamwork important in a work environment?

Content

Skills

- Students will be able to identify and use proper terms for tools and machinery in the classroom.
- Students will be able to explain and demonstrate safe handling practices of tools and machinery in the classroom.
- Students will be able to explain the importance of interpersonal skills and how working with people can affect the outcome of a project in society.

Suggested Activities: Safety skits, scavenger hunts, create safety videos, posters

Resources

Resources:

1. PC or Laptops with internet access, able to run TinkerCAD (or similar program) and the various 3D printer software platforms.

2. TinkerCAD (or other equivalent solid modeling program). TinkerCAD is a free, web-based 3D modelling application which allows users to create objects utilizing constructive solid geometry applications.

3. 3D Printers allow students to realize their designs by producing physical objects from their three-dimensional digital models.

4. Engineers scales allow students to measure items graphically depicted within technical drawings and physical objects according to a set scale.

5. AutoCAD is a computer-aided design (CAD) and drafting program used for producing 2-D and 3-D technical drawings.. AutoCAD is considered an industry standard and was developed and marketed by Autodesk Inc. A free version is available for education.

6. Autodesk Design Academy https://academy.autodesk.com/ , supports educators by providing free, authentic project based learning guides and supporting videos.

7. Monmouth County Executive Airport locally positioned in Wall Township, New Jersey, is a potential location for an authentic learning experience through a field trip, supporting the Exploring Flight unit.

8. Consumable Materials such as bass and balsa wood, foam, hot glue, project kits, aluminum foil, wax paper, balloons, fishing line, cups and other materials are needed to support project based learning. Suggested projects include building a model architectural structure, room or facility, bridge, tower, aircraft and more.

9. Personal protection equipment such as safety goggles and gloves are required when students are at risk of injuring themselves while creating projects or utilizing tools and/or machinery.

10. Hand Tools various hand tools such as easy cutters, craft knives, hot glue guns and hot wire cutting machine will be utilized within the classroom. Safety precautions and training will be taken and provided at all times.

Standards

TECH.8.2.8.B.2	Identify the desired and undesired consequences from the use of a product or system.
TECH.8.2.8.C.1	Explain how different teams/groups can contribute to the overall design of a product.