Unit 1: The Problem Solving Process

Content Area: **Business**
Course(s):
Time Period: **Semester 1 & 2**
Length: **3 weeks**
Status: **Published**

Standards

CS.9-12.8.1.12.CS.3	Compare the functions of application software, system software, and hardware. A computing system involves interaction among the user, hardware, application software, and system software. Successful troubleshooting of complex problems involves multiple approaches including research, analysis, reflection, interaction with peers, and drawing on past experiences. Engineering design evaluation, a process for determining how well a solution meets requirements, involves systematic comparisons between requirements, specifications, and constraints.

Essential Questions

- How do computers help people to solve problems?
- How do people and computers approach problems differently?
- What does a computer need from people in order to solve problems effectively?

Enduring Understanding

- Identify the defined characteristics of a computer and how it is used to solve information problems.
- Use a structured problem solving process to address problems and design solutions that use computing technology.
- Create a collaborative classroom environment where students view computer science as relevant, fun, and empowering.

Knowledge and Skills

Students will learn:

- the problem-solving process
- the input-output-store-process model of a computer
- how computers help humans solve problems.

Students end the unit by proposing their own app to solve a problem.

Transfer Goals

Problem Solving and Computing are highly interactive and collaborative parts of the computer science field.

Computers input, output, store, and process information to help humans solve problems.

Resources

- Code.org Videos
- Code.org Demonstration Apps
- Code.org Activity Guides
- Aluminum foil and pennies for Aluminum Boat activity.
- Posterboard and art supplies -- markers, pens, crayons, highlighters, colored pencils, scissors, etc.