Unit 3: Intro to App Design

Content Area: **Mathematics**
Course(s): **Generic Course**
Time Period: **Semester 1**
Length: **2 weeks**
Status: **Published**

Standards

CS.9-12.8.1.12.AP.7	Collaboratively design and develop programs and artifacts for broad audiences by incorporating feedback from users.
CS.9-12.8.1.12.AP.8	Evaluate and refine computational artifacts to make them more usable and accessible.
CS.9-12.8.1.12.AP.9	Collaboratively document and present design decisions in the development of complex programs.
CS.9-12.8.2.12.ITH.2	Propose an innovation to meet future demands supported by an analysis of the potential costs, benefits, trade-offs, and risks related to the use of the innovation.

Essential Questions

How do programmers collaborate?

What are the function and purpose of programs?

How do we design and develop programs?

Enduring Understandings

- Incorporating multiple perspectives through collaboration improves computing innovations as they are developed.
- Developers create and innovate using an iterative design process that is user-focused, that incorporates implementation/feedback cycles, and that leaves ample room for experimentation and risk-taking.
- The way statements are sequenced and combined in a program determines the computed result. Programs incorporate iteration and selection constructs to represent repetition and make decisions to handle varied input values.
- Programmers break down problems into smaller and more manageable pieces. By creating procedures and leveraging parameters, programmers generalize processes that can be reused. Procedures allow programmers to draw upon existing code that has already been tested, allowing them to write programs more quickly and with more confidence.

Knowledge and Skills

Students design their first app while learning both fundamental programming concepts and collaborative software development processes. Students work with partners to develop a simple app that teaches classmates about a topic of personal interest. Throughout the unit, they learn how to use Code.org's programming

environment, App Lab, to design user interfaces and write simple event-driven programs. Along the way, students learn practices like debugging, pair programming, and collecting and responding to feedback, which they will be able to use throughout the course as they build ever more complex projects. The unit concludes with students sharing the apps they develop with their classmates.

Transfer Goals

Being able to explain a process in its simplest form.

Complicated things can be made of the creative use of simple building blocks.

Resources

1. Various YouTube videos that visually explain concepts and ideas.

2. Various widgets found on code.org.

3. Test banks created on Edulastic and code.org

4. Use of Google Classroom, Google Slides, Google Docs and Google Sheets