High School Grade: Year Course: 2020/2021

Unit Title	Established Goals	Standards	Enduring Understanding Essential Questions	Evidence and Assessment
Interactive Animations and Games	To create programmatic images, animations, interactive art, and games. To practice design, testing, and iteration, To see that failure and debugging are an expected and valuable part of the programming process.	CSTA K-12 Computer Science Standards (2017)	• What is a computer program? • What are the core features of most programming languages? • How does programming enable creativity and individual expression? • What practices and strategies will help me as I write programs? • How do software developers manage complexity and scale? • How can programs be organized so that common problems only need to be solved once? • How can I build on previous solutions to create even more complex behavior?	Formative and Summative Assessments through assignments, class participation, online quizzes, and projects.
Data and Society	How computers can help us use data to solve problems. Explore different systems used to represent information in a computer. How collections of data are used to solve problems, and how computers help	CSTA K-12 Computer Science Standards (2017)	• Why is representation important in problem solving? • What features does a representation system need to be useful? • What is necessary to create usable binary representation systems? • How can we combine systems together to get more complex information? • How does data help us to solve problems? • How do computers and humans use data differently? • What parts of the data problem solving process can be automated? • What kinds of problems do computers use data to solve in the real world?	Formative and Summative Assessments through assignments, class participation, online quizzes, and projects.

	automate the steps of this process.			
Physical Computing	To develop programs that utilize the same hardware inputs and outputs that we see in many modern smart devices. To see how a rough prototype can lead to a finished product. Design challenge to use physical devices as the basis for an innovation of their own design.	CSTA K-12 Computer Science Standards (2017)	• How does software interact with hardware? • How can computers sense and respond to their environment? • What kind of information can be communicated with simple hardware outputs? • How do programmers work with larger amounts of similar values? • How can complex real-world information be represented in code? • How can simple hardware be used to develop innovative new products?	Formative and Summative Assessments through assignments, class participation, online quizzes, and projects.