Course Overview:
This course teaches basic programming. Students learn fundamental computing skills while designing, coding, and debugging their own computer programs. Students will work on games, webpages, basic math and geometry, and visual design. Game designer John Romero says that “programming is a creative art form based in logic”, and this class aims to help students experience this from many angles. Communication and collaboration are emphasized. Projects are the central focus while students learn new skills necessary to publish their work online. Additional topics include data-driven design and animation.

Units and Activities: What will we be learning about and doing in this course?

Our year will be split into these units of study:
1. App Design
2. Variables, Conditionals, and Functions
3. Lists, Loops, and Traversals
4. HTML and Web Design
5. Game Animation
6. 3D Design in A-Frame
7. Interactives
8. Final Project

And here's the basic roadmap of our activities:
Standards: What knowledge and skills will I gain by the end of this course?

Anchor Standards:

Creating Computational Artifacts: Students write programs that combine building blocks to implement algorithms, and judge the efficiency of different approaches to solving problems computationally.

Digital Citizenship: Students work collaboratively to design and develop programs using an iterative development process. Additionally, students explore unintended effects of computing innovations, legal and ethical concerns, and the responsibilities of programmers.

Course Standards: This course builds student knowledge using frameworks from the Computer Science Teachers Association and the College Board, which ask students to learn the following skills:

Creating Computational Artifacts
- CREA-1: program a computer to represent and organize data in multiple ways, in order to find specific solutions to generalizable problems
- CREA-2: use sequencing, iteration, and selection when programming a computer to handle varied input values
- CREA-3: use procedures and parameters to break down problems into smaller pieces that can be reused

Digital Citizenship
- CITI-1: create programs that incorporate multiple perspectives through collaboration
- CITI-2: create programs using an iterative design process that is user-focused, incorporates implementation-feedback cycles, and leaves ample room for experimentation and risk-taking
- CITI-3: translate between data represented internally by a computer and a representation more easily understood by people

Assessment of Learning:
Units are organized around discrete skills. Students learn and practice the skills, then when they are ready the students demonstrate their mastery of a skill. Formative assessments track a student's progress throughout a unit.

Summative assessments are generally composed of two parts:
- Part 1 = a portfolio of the skills you mastered throughout a unit
- Part 2 = a project in which you integrate those skills or apply them in a new context

Distinguished level grades indicate that a student has consistently engaged more deeply with the skills throughout a unit, not just during the summative assessment at the end. A "Spicy 🌶 Menu" describes these opportunities for deeper engagement, and is published at the start of each unit.

For information about assessment types, scoring, and overall grade calculation: click here.

Communication:

How Do I Access Work from Home, and What Should I Expect?
- All work will be posted in Google Classroom.
- The work will be explained during our in-person meetings and/or by video posted to Google Classroom.
- The work will also be explained in our Class Planner posted to Google Classroom.
- If you have any questions, email your teacher.

How Do I Know What My Grades Are?
- On Summative Assessments, teachers will provide both a 4-point grade and a letter grade.
- You can monitor your progress in the following ways:
  - By reading feedback and scoring returned to students on summative assessments.
  - By monitoring the scores and Overall Course Mastery Grade in the Parent/Student portal on JumpRope. Reminders to check grades will be sent from the school.
  - Communicating with your teacher if you are unclear.

Where Can I Find This Syllabus during the School Year?
- This syllabus will be available on the school website in each subject's department tab once the school year is up and running. It will also be available in our Google Classroom.

How Do I See What’s Due?
- Assignment and summative assessment due dates with handouts are posted in Google Classroom, with connection to Google Calendar, for student access.

How Do I See What’s Past Due?
- If a student is missing a grade on an assessment, it will be listed in the red “Missing Assessment” section of the JumpRope Parent/Student Portal along with any attachments. Please contact your teacher if you have any questions.

Materials:
You'll need a laptop with a working internet connection. You can use a personal device or the school can issue you a device on request.

Sometimes you'll be asked to post digital photos of work you've done at home or on paper. For this you'll need access to a phone camera.

Accounts:
To support learning I may ask students to create accounts using your school email on one or more of the following educational or professional websites: github.com, khanacademy.org, glitch.me, code.org, codingbat.com, tinkercad.com, edublogs.org, editor.p5js.org, deltamath.com, runestone.academy, cs50.me, cs50.io, flipgrid.com, voicethread.com, marketwatch.com. (Still reading? Don't worry, you won't use all of those!)

Schoolwide Procedures:
Please see the Student Handbook for Procedures and Policies related to: Due dates and deadlines, extra credit, retaking assessments, and turnaround time for grade entry.

Personal Mobile Devices: This class will follow the procedures outlined in the student handbook.