Elementary Computer Science Program

2015-2016 School Year

Program Overview

Starting in January, 2016, MUFSD will be extending its computer science curriculum to the elementary level, making coding part of the school day for all third, fourth and fifth graders. In addition to learning how to use computers during their regularly scheduled visits to the computer lab, young students will begin to learn how to program computers. Utilizing web-based software available through Code.org and Scratch, students will write programs to solve problems, create digital art, and craft interactive stories. Along the way, students will practice computer science terminology, hone their collaborative skills and consider what it means to be a digital citizen.

Curriculum Development

In developing this new program, administrators and teachers focused on creating a logical progression from elementary through high school grades, with the ultimate goal of graduating students who go on to pursue careers in computer science, engineering and design.

Standards Correlation

The new curriculum has been designed to align with the standards established by the Computer Science Teachers’
Association as well as the National Curriculum for Computing recently adopted in the United Kingdom.

The questions at the core of the curriculum are:

- How do computers work?
- What terms do programmers use to describe what they do?
- How can working together make us more successful?
- What tools can we use to make better programs?
- How can we use computer science to solve problems or create new ideas?
- How do computers change our communities and the larger world?

Lesson Design

The new program will offer students a variety of experiences both on the computer and off. “Unplugged” lessons will give students a better understanding of new concepts through hands-on activities, while online lessons will confront students with increasingly-complex programming challenges. At the end of each grade level, students will design a unique digital creation to share with their classmates.

Computer Science Terminology

Help your child to talk like a programmer!

- **algorithm** a list of steps that you can follow to finish a task
- **code** a set of instructions that a computer performs to solve a problem
- **debug** the process of identifying and removing errors in a program
- **loop** the action of doing something over and over again
- **pixel** the smallest square of color on a computer screen

Questions? Contact jdancy@mamkschools.org.