

Mamaroneck UFSD

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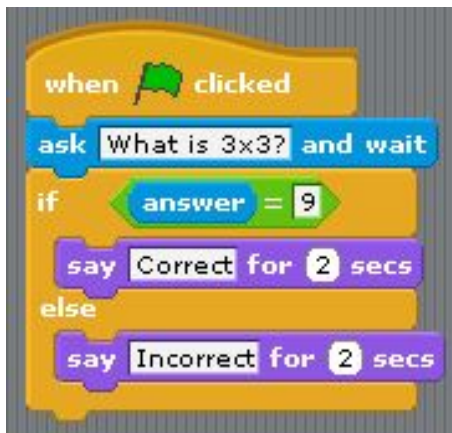
Middle School Computer Science Program

2016-2017 School Year

Program Overview

Starting in September, 2016, MUFSD will be add a ten-week coding course for all eighth graders. Students will build on previous experience with Code.org and Scratch, to expand their computational thinking and problem solving. Students will tell interactive stories, learn to incorporate sensor input, and design their own video games. Students will be challenged to bring together core computer science concepts such as data and variables into creative solutions in a problem-based learning environment.

Curriculum Development



In developing this new program, administrators and teachers focused on continuing a logical progression from the elementary foundation, but posing challenges that were previously introduced in High School. The sixth and seventh grades will each have two weeks of coding embedded in the existing technology course. The ten-week eighth grade course will stand alone. The middle school curriculum will be offered to all students, providing an opportunity to engage a broader group of learners. The end goal is to have agile problem-solvers ready to tackle 21st century problems, inside and out of the STEAM professions.

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 middle school curriculum are:

- *What makes a “good” program?*
- *How can partners and teams coordinate activity?*
- *How can we use more complex structures, such as variables and conditionals, to solve problems?*
- *What does privacy mean in the digital age?*
- *What impact have the changes in information technology had on our society?*

Lesson Design

Students will continue with “unplugged” lessons to introduce core concepts and online lessons to practice and apply them. In addition, students will begin to play with physical computing through digital sensors and programmable circuit boards.

Computer Science Terminology

Help your child to talk like a programmer!

code a set of instructions that a computer performs to solve a problem

variable a place holder for a value that can change

conditionals statements that only run under certain conditions “if....then...”

loop the action of doing something over and over again

Questions? Contact jdancy@mamkschools.org.