

Maine School Administrative District #75 Technology Education Curriculum at Mt. Ararat Middle School

Introduction. Technology, as one can imagine, is an integral part of the Technology Education Curriculum. For our students, a computer is another tool to utilize in order to solve a particular problem. Computers play a vital role in almost every activity we do each trimester with all students. The activities that incorporate extensive computer use are as follows:

Grade 8 Yellow Brick Logo 6 week unit. During this activity, students brainstorm, design, build and program creations made from Legos®. Each creation must operate realistically upon completion. Students program the operation of their creations using a logo-based software, Microworlds Yellow Brick Logo. Each creation can have up to three input devices (touch sensors, temperature sensors, light sensors and rotation sensors), or up to three output devices (motors, lights and sound elements). Students are challenged to be creative and must think logically in order for their solution to solve the problem. Students are assessed on their ability to: Construct, Program, Problem Solve and Cooperate.

Grade 8 Rube Goldberg Contraption 6 week unit. During this activity, students brainstorm, design and build a machine that solves a special problem. Students must work cooperatively and collaboratively with their group members to solve any problems they encounter during the building and testing process. Part of this activity requires that each group create a presentation that will be given to all the groups on the last day of class. When all the other requirements have been met, students challenge their mechanical ability solving computer generated puzzles incorporating the skill they have just learned. This activity teaches the use of simple machines. Students are assessed on communication, creativity, problem solving, time on task, decision-making and quality of work.

Grade 7 Microworlds 4 week unit. During this activity, students learn the basics of computer programming using the logo-based software Microworlds. Each student has to create an original animation that tells a story. Students are challenged to be creative and must problem solve, as they use computer language to express their ideas. Students are assessed on their ability to be creative, problem solve and program- while adhering to a theme.

Key elements of Technology Education Curriculum. Technology Education is designed for all students to engage them in the practical application of skills learned in other content areas.

Grade 7 Four Week Units

CO2 Race Car
Working individually, students use these skills:
Creativity
Brainstorming
Design
Scale Drawing
Tool Use & Safety
Self Assessment

Group Problem Solving
Working in class size groups, students use these skills:
Creative Thinking
Cooperation
Communication
Problem Solving
Leadership
Self Assessment

Microworlds
Working individually, students use these skills:
Creativity
Problem Solving
Computer Programming
Self Assessment

Grade 8 Six Week Units

Rube Goldberg Contraption
Working in groups of three, students use these skills:
Brainstorming
Design
Creativity
Cooperation
Communication
Problem Solving
Time Management
Tool Use & Safety
Computer Problem Solving
Self Assessment

Yellow Brick Logo
Working in groups of two, students use these skills:
Brainstorming
Design
Creativity
Cooperation
Communication
Problem Solving
Time Management
Computer Programming
Self Assessment