

8th Grade STEM
Course Description
Mount Vernon Middle School

Instructor: Mr. Voigt

Year: 2025-2026

Period: 3rd

Room: 150

COURSE DESCRIPTION

This course aims to help build a foundation in students' understanding in select STEM areas by encouraging exploration, collaboration, and critical thinking. Students will work individually and in teams, participate in exciting experiments, engage in meaningful discussions, and complete foundational tasks to enhance their understanding of STEM. By the end of the course, they will have a deeper appreciation for how STEM disciplines interconnect and how they apply to everyday life and future careers.

STANDARDS & LEARNING TARGETS

The learning in this course is organized around three standards. Two of those standards have one learning target and one has two.

STANDARDS	1. STEM Knowledge and Application
LEARNING TARGETS	I can demonstrate a solid understanding of key STEM concepts and principles and apply concepts correctly and effectively in most situations.

PROFICIENCY SCALE

The codes 1, 2, 3, 4, and M below will be used to communicate student progress in each learning target.

4	3	2	1	M	INC	NE
Mastery (Exceeds Proficiency)	Meets Proficiency	Approaching Proficiency	Beginning Proficiency	Missing Evidence (can be made up)	Students turned in evidence that was not complete (can be made up)	Missing Evidence (can not be made up)

PERFORMANCE ASSESSMENTS

All assessment of student learning will be based on the above standards. Not all work or actions of students will be directly and formally evaluated, these activities are aimed at teaching them how to do things and allowing practice (these actions are called formative assessments). Students will always know when things they are being asked to do will be formally assessed as part of their grade and they will always have had a chance to learn and practice before these assessments (these actions are called summative assessments).

All summative assessments will show up in the gradebook and are used to determine the grades of students. Only some of the formative assessments will be entered in the gradebook, and these will not count towards student grade determination and are only there so students can track if they have done the work/practice to prepare for the summative assessments.

SPECIFIC COURSE TOPICS OF STUDY

8th Grade STEM	Measurement Theory Measurement Diversity Measurement of Length in Woodworking Measurement of Volume in Woodworking Electrical Circuit Theory Basic Definitions Electrical Circuit Theory Series Circuits Electrical Circuit Theory Parallel Circuits Simple Machine Descriptions Simple Machine Calculations Simple Machine Experiments Robot Cars as Simple Machines Computer Logic Robot C Computer Logic Turing Tumble
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REQUIRED RESOURCES

Google Classroom	All classroom materials will be distributed via Google Classroom(GC). Students must sign up for this class in this application per given instructions.
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MAKEUP POLICY

Assessments that are missed will be marked missing “M” or Incomplete “Inc” in the gradebook until completed. Students must work out how and when they will make up work with Mr. Voigt in a timely manner. Missing and Incomplete assessments can eventually become No Evidence “NE” of the student’s understanding and may cause a student to fail under certain circumstances.

GRADE DETERMINATION

PowerSchool will house all assessments used as evidence towards a final letter grade.

The semester letter grade will be informed by the student’s learning proficiencies over the semester-long body of work with consideration to retain proficiencies and growth over time. Mastery of learning targets leads to mastery of course standards which in turn leads to mastery of the course.	
Semester Letter Grade	Exceeds Mastery (4) Demonstrates Mastery (3) Approaching Mastery (2) Developing Foundational Skills (1) Trends in Proficiency Levels on Course Standards
A	All standards achieved at “3” or “4” levels
B	All standards achieved at “2”, “3” or “4” levels with at most one standard at “2” level
C	All standards achieved at “2”, “3” or “4” levels with two or more standards at “2” level
D	All standards achieved at “1”, “2”, “3” or “4” levels with at most one standard at “1” level
F	All standards achieved at “1”, “2”, “3” or “4” levels with two or more standards at “1” level
Important Note: If a student has missing evidence in the form of M (can be made up) or N (cannot be made up) in any amount, then the student runs the risk of failing the course. In these cases, there may not have enough evidence to determine target proficiency nor a course grade.	

SCALED LEARNING TARGETS

Students will be given feedback on their level of proficiency towards mastery in each learning target using the gradations below.

TARGET 1- STEM Knowledge and Application			
Description: 8th Grade STEM (Science, Technology, Engineering, and Mathematics) classwork will encompass a wide range of activities and subjects designed to build foundational knowledge and problem-solving skills across these disciplines. Students will participate in conceptual learning, experiments/labs, projects, and research to build an introductory understanding of a wide range of select topics in the STEM field.			
<u>EXCEEDS MASTERY (4)</u> I can exhibit a thorough and deep understanding of key STEM concepts and principles and apply concepts in complex and novel situations with high accuracy.	<u>DEMONSTRATES MASTERY (3)</u> I can demonstrate a solid understanding of key STEM concepts and principles and apply concepts correctly and effectively in most situations.	<u>APPROACHING MASTERY (2)</u> I can show a basic understanding of key STEM concepts but have some gaps or inaccuracies in knowledge.	<u>DEVELOPING FOUNDATIONAL SKILLS (1)</u> I can demonstrate minimal understanding of key STEM concepts and principles. I struggle to apply basic concepts and often make errors in fundamental calculations or procedures.

