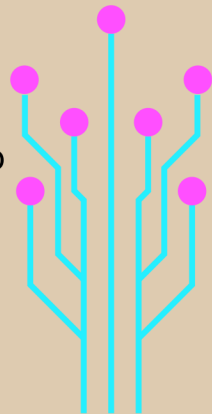


S.T.E.A.M.

Topics We Will be Covering This Year

- Engineering
- Crafting
- Carpentry
- Coding
- Electrical Circuits
- Energy: Heat, Light, and Sound
- Environmental Engineering
- Force and Motion
- Momentum
- Natural Disasters
- Robotics
- STEM Careers
- Structures
- Video Game and App Design
- and so much more!



S.T.E.A.M.

@M.S. 936
Arts Off 3rd

Teacher:
Mrs. Rodriguez

Principal: Mr. Proudfoot
Assistant Principal: Ms. Manduchi



What is S.T.E.A.M.



STEAM is integrated instruction across the content areas of **Science, Technology, Engineering, Arts, and Math**. In integrating these key areas with an interdisciplinary approach, we encourage students to use critical thinking skills to solve problems they encounter.

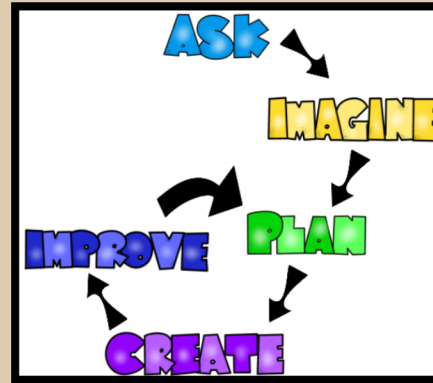
Why is S.T.E.A.M. Important?

STEAM can help students:

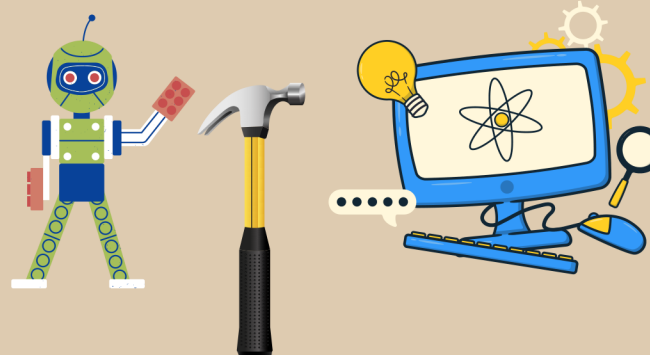
- communicate more effectively, both with their teammates and explaining ideas
 - collaborate in a team to solve problems, persevere and develop grit
 - hone technical and critical thinking skills
 - use creativity to solve problems
 - get hands-on experience: working with tools, using fine motor skills
 - and so much more!
-

Engineering Design Process

We will be following the engineering design process to solve problems.



- 1) **Ask** - What problem are we trying to solve?
- 2) **Imagine** - Brainstorm some possible solutions.
- 3) **Plan** - Create a detailed and labeled sketch of a design.
- 4) **Create** - Construct a prototype and test it.
- 5) **Improve** - Make changes to the prototype and test again.
- 6) **Share and Reflect** - Think about what worked well and what didn't. Share your results!



Just some of our many S.T.E.A.M Projects

1. String Art

Using a hammer and nails, students will design artistic patterns using precise measurements. Students will use yarn and various colored string to let their creativity shine in 3-D!

2. Hydraulic Lift System

Using a variety of craft and construction materials, students will engineer a hydraulic system using the scientific application of air pressure in their system.

3. Autonomo Design

Students will engineer a free moving automaton machine that makes parts appear and disappear, move up and down, spin in circles, or all of these together! Using materials such as cardboard and skewers, students will create a design, apply accurate measurements, and skillfully use cutting tools to bring the energy of their design to life!

4. Lego-Mindstorm

Students design programmable robots that fulfill exciting different functions. Students will learn the basics of coding languages as they assemble, then program robots to dance, "fight", and play sports.

5. 3-D Printing

Students will engage in the development of creating real-working prototypes based on problem solving.

...and so much more!