

**Summer STEM Program
2019
Course Descriptions**



Rainbow STEM

Instructor: Chloe Martin

Kindergarten

In this class, we will be discovering colors and observing how they mix together, creating rainbow science experiments, exploring colorful engineering activities and every colorful activity in between!

Let's Get to the Heart of the Matter

Instructor: Marie Spence

Kindergarten-1st Grade

This STEM course is a wonderful way to engage our youngest scientists in activities that explore and document the three states of matter and even how substances can move through more than one of those states. Activities will be hands-on and include daily journal entries as well as whole-group and small-group discussions to make predictions and cover the results of our activities. Get ready to roll up your sleeves and navigate your way through the heart of the matter during this fabulous summer course!

Mo Fun with Mo Willems

Instructor: Amy Bartels

1st Grade

Each day we will read a new Mo Willems book and create a STEM project to help solve a problem in each book. Elephant, Piggie, Pigeon, and many more friends need our help!

All Things Weather & Life Cycles

Instructor: Jennifer Foerstel

1st-2nd Grade

Rain, snow, wind, clouds, lightning, you name it! We will be learning about various weather topics and animal life cycles through fun and exciting experiments and hands-on activities. We will be meteorologists for a day and explore the tools used to predict our weather. We will watch caterpillars turn into butterflies. We will read fun books about the weather and life cycles. This aims to be a fun and exciting way to discover and explore science!

STEM St. Louis

Instructor: Michelle Vaughan

2nd Grade

Does X really mark the spot? Solve the mystery of buried treasure around our city with a map, compass, and other forensic tools. Head outdoors for a modern-day treasure hunt with geocaching.

Adventures with Mo Willems

Instructor: Sheila Hasse

2nd Grade

Each day we will read a new Mo Willems book and create a STEM project to help solve a problem that pops up in our story. Elephant, Piggie, Pigeon, and many more friends need our help!

Hands-On Science

Instructor: Megan Hoffmann

2nd-3rd Grade

This class will focus on learning about science through exploration. We will focus on learning about the scientific method through hands-on science experiments. We will learn about living and non-living things, force, and motion, and matter through interactive and hands-on science experiments. Our day will be filled with amazing learning through hands-on and minds-on science exploration.

It's Time to Get Your Code On!

Instructor: Meghan Hayes

2nd-3rd Grade

Come join us as we learn the basics of coding. You will learn what goes into creating codes and by the end you will have created your own game! We will also be exploring with Sphero's, Botley's, Bee- Bots, Code-N-Go Mouse, and so much more. When you return to school in the fall, you will be able to apply those coding skills into your everyday learning!

Design, Discover, & Develop STEM!

Instructor: Sarah Lococo

2nd-3rd Grade

Science is everywhere! Our class will use science, technology, engineering, and math to develop a strong sense of critical thinking as future innovators. Students will participate in many hands-on and minds-on lessons. STEM makes math and science fun and interesting and helps students do much more than just learn.

Storybook STEM

Instructor: Stephanie Humburg

3rd Grade

Students will engage in different STEM challenges based on the characters and problems in various fictional stories. Students will work together in groups to plan and develop structures with a variety of materials.

Stemitizing

Instructor: Michelle Lunders

3rd Grade

Stemitizing through reading and the use of everyday items. We will use books to connect to STEM and learn how to use everyday items to do STEM activities.

Design Squad!

Instructor: Laura Bates

3rd-4th Grade

Do you love science and engineering? Do you like to be creative and help others? Come join the Design Squad! You will work with others to use your problem-solving skills through the engineering design process to find answers to fun and engaging STEM challenges. We will design toys and games as well as use engineering to discover how we can help others in our home and in our world. Design Squad is the place to be this summer!

Diving into Reading

Instructor: Meghan Tumbrink

3rd-4th Grade

This course will take reading much deeper. We will practice the activities that happen in our books and incorporate STEM challenges into our reading. Not only will we read our books, but also will experience our reading.

Novel Engineering

Instructor: Jenny McConnaughay

3rd-4th Grade

We will read books together and help the characters solve their problems by designing solutions using the materials around us.

Discover More with Dr. Seuss!

Instructor: Veronica Micke

3rd-5th Grade

Dr. Seuss characters had to deal with many challenges. Discover the different challenges and ways to make it better. The class will focus on many Dr. Seuss books, we will read the book, learn about the challenge that were faced and then completes STEAM activities related to the book. Some activities will be creating the strongest cage for the animals (If I Ran the Zoo), protecting eggs from a fall (Horton Hatches the Egg), a solid or a liquid (Bartholomew and the Oobleck), dealing with an oil spill (The Lorax), all about turtles (Yertle the Turtle), and more from other Dr. Seuss books.

We Have the Power!

Instructor: Joe Harrington

4th Grade

This class is all about energy. We will design and test solar water heaters, compare solar cookers, design a solar city as well as investigate how water is transformed into energy. Get ready to roll up your sleeves and try some new things.

Create, Code, Tell Stories

Instructor: Allyson Liefer

4th Grade

Ever thought about what it is like to be a computer programmer or coder? Well, now you can! We will create our own digital stories through Google's CS *First Storytelling with Scratch*. We will use computers to design our own stories, create and share animations, and learn how technology is used in the film and media industry. Storytelling with Scratch emphasizes creativity by encouraging students to tell a unique digital story each day. Whether you are brand new to computer coding or already have experience in computer science, this course is perfect for you!

Lego Robotics

Instructor: Scott Cleveland

4th Grade

Do you like Legos? Want to see them come alive? Students will work with partners to build a variety of robots. Students will then learn how to program their creation to make them come alive. Students will be able to make robots that can walk, drive, or even solve a Rubik's cube.

It's Electric

Instructor: Emily Eck

4th-5th Grade

This two-week STEM course is designed to help students explore electrical circuits. Students will learn about static electricity, flow of electricity through circuits, what parts are required to make a circuit, and will create circuits. The course will incorporate math and reading skills, hands-on activities, computer simulations, and we will be utilizing small group and individualized instruction.

iPad Graphic Design

Instructor: Doug Small

4th-6th Grade

Are you ready to have the freedom of creating professional looking designs from anywhere? Look no further! Join me in learning how to "Design on the Go" with the iPad in Graphic Design 101! We will be using the app Graphic, which is a full-featured graphic design and illustration app. This will be a class series where I will walk you through using all of the tools and teach you tricks and tips. At the end, you will be able to create professional designs. The sky's the limit!

Movie Magic!

Instructor: Sarah Boyer

4th-6th Grade

Students will learn to use technology to make movies and communicate. We will focus on using different applications and programs to make stop-motion videos. Students will then create a commercial for a product or service using a stop motion video.

Wild & Wacky World

Instructor: Kristen Patti

5th Grade

Welcome to our wild and wacky world! Do you know what a pink blobfish is? Or the difference between a cyclone and a tornado? We will spend our days investigating the wonderful world that we live in. You will learn about the bizarre and interesting animals that sound like they came out of a Dr. Seuss book. You will discover how our earth was created over millions of years and how quickly it can be changed from natural disasters. We will read books together and design and build projects that help solve real-world problems. You even may find yourself learning how to code new games. Come join me as we embark on a journey of epic proportions!

STEM Challenges

Instructor: Stacie Bethmann

5th Grade

In this class, we will research and read about some challenges in the world today. We will be creating projects and participating in STEM challenges to come up with solutions!

Camp Survival

Instructor: Sarah Haller

5th Grade

Students will learn various survival skills while using STEM. Do you have what it takes to survive?

Batter Up!

Instructor: Jeremy Maranan

5th Grade

Are you a baseball fan? Do you like playing baseball? If you answered yes, then this class is for you. We will look at different baseball teams, players, and their salaries. We will investigate the science of baseball through math. We will look at which is faster - to slide feet- or head-first? We will calculate the stolen base percentage against a given catcher or the on-base percentage plus slugging percentage for any given player. By the end of the class, you will have your own team. How much will it cost? There is only one way to find out.

STEM Challenges

Instructor: Michelle Cherry

5th- 6th Grade

Join our class to design an EZ Bake Oven, create a Bungee Jump for Eggbert, build a compound machine perfect a zip line for Barbie, and much more. Come see what you can do!

Exploring STEM

Instructor: Stacy Bauer

6th Grade

Challenge your skills in science, technology, engineering, and math. We will use the STEM process to plan, design, build, construct, test, redesign, and explore various science topics through challenges such as Card Towers, Magnetic Boats, Apples-Afloat, Afar, Annihilator, Ally, and St. Patrick's Snake Snatcher. Incorporating STEM Challenges will allow us to expand our Science and Engineering Practices and Performances into the Next Generation Science Standards.

Novel Engineering

Instructor: Amelia Hicks

6th Grade

Students will develop and create engineering solutions to the problems that the characters in stories are experiencing. We will use the five-step engineering process: 1. Ask what the problem is 2. Imagine Solutions 3. Plan your design 4. Create your plan and test it. 5.

Improve: what worked, what didn't, redesign.

STEM Sports 3.0

Instructor: Dr. Picone/Coach Clements

6th Grade

In this summer session, Physical Fitness, and STEM meet in a combination of athletic events mixed with the Science and Math behind them. We'll be concurring outdoor STEM Sports like never before, everything from the science behind trying to outrun a water balloon launcher, to the doing math while running an obstacle course. We'll be getting fit, getting smart and having fun all at the same time. This is not a summer school session you want to miss.

STEM Solutions

Instructor: Jill Klahn Smith

6th Grade

In this class, students will work through a Solution Forum to research a problem in the world around them and through problem and idea finding, students will identify possible solutions and how they could possibly create their own action plan for helping to solve the problem. This course utilizes the foundations of STEM in order to provide a springboard for students who are interested in volunteering, fundraising, or serving in their communities.