

Title	Description	Grade Levels	Subjects	Instructor(s)
Coding for Primary Educators	This strand is an introduction for those who work with Kindergarten through 2nd grade students to explore the value of teaching coding as well as how to teach students to code. Participants will work with a variety of “gadgets” that inspire students to learn to code. Time to practice with age appropriate online resources to develop coding experience for students will be provided as well as offline or unplugged activities. This session is intended for individuals who are just learning about code and want to teach novices about coding. *This strand is appropriate for informal educators.	K-2	Science, Technology	Lisa Dreadfulwater and Lynn Wessels
Lego STEM Stations in Primary Classrooms	We will be using Lego kits to create stations that you can use in your classroom, in many different ways. We will be looking at how we can use these stations to promote STEM, and creating new ideas. There will also be a field trip to see a variety of jobs in STEM careers, and gain practical applications for teaching math to primary students.	K-3	Science, Technology, Engineering, Math	Melissa Stroupe and Sheila Frei

Junior Botball Robotics	Come have fun learning about robotics and how to integrate robotics into the classroom or for after school groups. You will build your robot with the help of instructions and use C++ programming to conquer a variety of programming challenges. You will be amazed at what you will be able to do programming your Junior Botball robot. In addition, we will share about our after school Junior Botball program, grant writing, and how to integrate robotics and problem-based learning. We recommend taking the strand with a colleague so you can share robots after taking the workshop. The robots come with a complete curriculum for easy implementation into the classroom or outside of school. The strand is prepared for elementary level students but can easily be adapted for middle and high school students. Come have a ball with Junior Botball! *This strand is appropriate for informal educators.	3-7	Science, Technology, Engineering, Math, Computer Science	Christina Hopper and Penni Aufderheide
UFOs	Given enough thrust almost anything will fly through the air. If you design an object to take advantage of lift and thrust you can design a truly remarkable flying object that will fly with attitude and altitude. Come join us in the adventure of flight and release the inner pilot or engineer in yourself and your students. Participants will participate in classroom ready STEM activities for force, thrust, lift, drag and Newton's three laws of motion. All using objects that fly. This Aviation STEM strand is designed to integrate Science, Technology, Engineering and Math in the science classroom. Science concepts are introduced and reviewed in briefings and debriefing labs. The lab activities are designed to engage students with technology and engineering design. The students learn the math principles needed to analyze data collected and use it in a redesign process.	4-12	Science, Technology, Engineering, Math	Karen Laitinen

Materials Matter: How to Excite Students with ScienceMaterials Is	Science excites students' interest because the student has everyday, hands-on experience with materials. Thus, materials topics are great motivators in any engineering, technology or science course. Materials are also a very important and an integral part of the manufacturing process. During the workshop, teacher participants will learn the basics of Materials Science. They will work hands-on with metals by actually being able to pour molten metal and see properties of heat treatments can do on metals, look at creating water soluble glass beads and other properties of ceramics, explore the many properties of polymers and create and study composites. These activities will develop a greater appreciation for the importance of these materials to modern life. You will see how many project-based activities can excite students to learn science concepts as they complete projects of personal worth to them. Materials can be used as to infuse concepts into an existing science course to increase relevance. A variety of activities and topics will be discussed. Whether you have taken a Mat Sci course before or never been exposed to it, this workshop will provide you opportunities to try hands on activities, labs, and engineering design contests to expose students to the world of materials. Many connections and practical applications will be discussed and many of the supplies of inexpensive to demonstrate the concepts. *This strand is appropriate for informal educators.	4-12	Science, Engineering, Math	Sherri Rukes and Patti Conn
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