



2022 MCGT Conference Children's Program Class Descriptions

Ocean Wonderland

Grades K-2

The world of the ocean is filled with fascinating creatures. In this underwater adventure, we will learn about a variety of sea creatures and their habitats through music and movement! From dolphins to sharks to starfish, we will move, sing, write, draw, and use our own bodies as instruments for exploring the lives of sea creatures. *Instructor: Dr. Laura Wiebe is a certified Dalcroze instructor and a music professor at the University of Minnesota Morris. In addition to her academic work, Laura teaches children's music classes for the National Children's Chorus Online Conservatory, and in the summer at the Interlochen Center for the Arts in Michigan.*

Wolves and Beanstalks and Mice, Oh My: Engineering Fun!

Grades K-2

Help characters from fairy tales and nursery rhymes better their lives by using the Engineering Design Process. We will use problem solving skills, including math and measuring to build sturdy structures, including a ramp, house, and bridge. All engineers are welcome to join in the fun! *Instructor: Andrea McCarty has been an educator in the Eden Prairie Schools for 28 years. She loved teaching first and second graders for 22 years before transitioning to her Gifted and Talented Specialist role in 2017.*

Lego Technics

Grades 3-4

Tinkering is a playful approach to creative problem-solving. In this class, students will use LEGO Technic pieces to build in response to engineering challenges. Design a claw that can pick up a pencil. Build a geared contraption. Create a vehicle that can travel down a zipline. Learn about levers, gears, and pulleys. Apply math concepts: Gear trains involve ratios. Spinning tops are about balance and symmetry. Measure weight and spin time of various tops to determine a possible ratio between variables. *Instructor: Peter Hoh teaches science in informal educational settings such as museums, libraries, and after-school programs. A former schoolteacher, he likes to design hands-on activities that engage curiosity and encourage creativity. He's part of the team that launched the Saint Paul Tool Library, where he continues to play an active role.*

Harry Potter School of Wizardry: Potions Class

Grades 3-4

In Potions class, Professor Snape admonished, "You are here to learn the subtle science and exact art of potion-making. As there is little foolish wand-waving here, many of you will hardly believe this is magic. I don't expect you will really understand the delicate power of liquids that creep through the human veins, bewitching the minds, ensnaring the senses... I can teach you how to bottle fame, brew and even stopper death—if you aren't as big a bunch of dunderheads as I usually have to teach."

Prove that you're not a dunderhead! In this class, you'll become a chemistry wizard and experiment with acids, bases, and more! Learn the secrets of dragon's breath, experiment with a chilling art technique, and take home a fizzing unicorn egg. *Instructor: Jessica Helm, instructor at the Science Museum of*

Minnesota, states, "I love developing and presenting programs that get young people excited about STEM, and I look for opportunities to foster science literacy wherever I can."

Real Foods, Real Fun!

Grades 3-7

Curious about how and why food helps us feel great? In Real Foods, Real Fun, we'll analyze how food can help us feel our grooviest. Applying our five senses, we'll explore how art and science can come together every day in our kitchen. Together, we will make decisions about ingredients, seasoning, cooking times, and plating before enjoying our tasty chef creations together. ***Wear clothing appropriate for food preparation, and bring small food containers for leftover deliciousness.** *Instructor: Mariam Kayali has been a vegan and dedicated student of the physical sciences for six years. She is currently a gluten-free bagel maker and assistant baker. In her home state of Oklahoma, Mariam has worked as a volunteer coordinator at the regional food bank and held a position as an education assistant at the Fred Jones, Jr. Museum of Art. This fall, she will begin work on a master's degree in public health and nutrition.*

Alien Worlds

Grades 5-7

If you love movies like STAR TREK, LILO AND STITCH, and MUPPETS FROM SPACE...and think those aliens are kinda dumb...then think again. ALIEN WORLDS is for you! Look at real stars that have real planets, then choose one of the stars. Add a few more planets, and select one in the "Goldilocks Zone" to create LIFE FORMS for it. Hold to the laws of biology, chemistry, and physics! Choose ONE life form that your alien is related to (like we're primates -- five fingers, eyes looking forward...) to create a civilization for your aliens -- complete with language, customs, and technology. *Instructor: Guy Stewart taught 3rd-12th graders science, everything from Astronomy to Zoology for 30 years. For ten more years, he was a school counselor. In retirement, he has published science fiction in ANALOG, CRICKET, and others. Guy's also taught alien world building and writing Sci-Fi and fantasy at Young Author's Conferences, COMPAS Writers and Artists in the Schools, the Minnesota Conference for Gifted and Talented, and at West Suburban Summer School.*