



INTERACTIVE STAGE STEAM MAKER PROGRAM DESCRIPTION (2019-2020)

Overview

This 3 module curriculum focuses on interdisciplinary applications of all aspect of STEAM (Science, Technology, Engineering, Arts and Math) through various performing arts using Baby Monster Group's Interactive Stage. Students' objective is to create stagecraft leveraging the science and technology skills students will tinker and learn. Various robotic games, maker tools and special guests will be introduced to help them understand concepts and inspire them to incorporate into their group projects. They will make puppets and props using various art and recycled materials, and woo the audience with special technical effects. Instructors' goals are to build students' interest and confidence in STEM through hands-on collaborative activities.

Fall trimester Project Description: *Space travel shadow puppet show*

We will celebrate the 50th anniversary of the moon landing by taking our astronauts beyond the moon. We will investigate and create the look and feel of the planet of student's choosing for their shadow puppet stage. Students will have a chance to do video conferencing with real rocket engineers during the project to ask questions. Students will share their final performance with their family and friends at the last session.

Concepts students will be exposed and explore include:

- Scientific Methods
- Rocket physics and current space science topics
- Math concepts such as shapes, distance and 3D spatial perspectives of planets
- Science of Lights including shadows and property of light
- Shadow puppet stage prop maker activities



Winter trimester - Carnival float parade

- Engineering Design Process
- Science of colors (additive and subtractive) and magnets
- Programming robots to dance on the float using color sensors
- Parade float prop making arts

Spring trimester- Interactive candy commercial

- Arts and sciences of writing an original commercial
- Science of candy making
- Engineer motorized props for the commercial set
- Math concepts such as timing, beats and color patterns
- Candy commercial performance

About the main instructor

Linda Chen holds a bachelor's degree in Computer Science from MIT, Masters in Statistics from Columbia University and an MBA from London Business School. She has two decades of experience leading product innovation at startups and Microsoft. In the last three years, she researched and developed Interactive Stage with a brand new curriculum to empower young students to learn STEM through play.