

# STEAM Family Night

## Space Lander Engineering Challenge

We adapted one of our favorite classroom STEM challenges, the Space Lander, into the perfect STEM Family Night station. [Read more on this popular challenge here.](#) Instead of testing with two jumbo marshmallows, which can create a nasty mess, we use 2 ping pong balls. We also replaced the mini marshmallows with cotton balls. All supplies are bagged into kits that are ready to go for a big event!

## Tower Building

Everyone loves a good building activity! Challenge students to compete with their parents in building the tallest tower with provided materials. We provide a stack of 100 index cards plus 1 foot of masking tape for each team. Sometimes we set a 10 minute timer, but usually we just let teams build as long as they want. Final towers are measured, and we record top heights on a leaders board for a school-wide competition. You can find more tower challenge ideas [here](#) and [here](#):

## Forensics Fun

Bring CSI to your STEM Family Night! Reveal a student's heat signature and unique fingerprints through interactive forensics activities! Families use graphite and clear tape to record fingerprints while learning how they are used in forensics. A second part of the station includes a thermal camera for students to explore the infrared world! We recommend the [SEEK camera](#) that attaches to an Android tablet or iPad. A thermal camera can be used to reveal a body heat signature as well as explore heat created by friction. We created a free worksheet with all the details in [our Vivify resource section.](#)

## Stop motion Animation

Combine storytelling with STEM! Setup the scene with a theme or story line such as a mission to Mars and allow families to create a movie using provided props. To create the videos, use iPads, Kindles, or Chromebooks along with a blank backdrop such as trifold boards. Provide each family with a set of action figures or toys. We love using [Stikbots](#)! We created a freebie of instructions plus 3 STEM story lines in our [Vivify Resources page.](#)

## Paint with Sphero

Do you have a set of [Sphero](#) robots? If not, [read more here](#) on the basics of Sphero plus 3 STEM challenges. In previous STEM Family Nights, we created a maze with painter's tape for families to practice driving SPRK robots. This year, we worked with the art teachers to create a robot

mural station! Another set of free instruction for the station set-up are found in our [Vivify Resources page](#).