



Class Title: Orange Mission to Mars: Space Engineering Adventure

Teacher Name: Megan VanderHeide

Class Day: Friday

Class Size: 12

Class Cost: \$55

Class Fee: \$96

Ages or color group served: Orange

What level is this class: Level 1

Prerequisites: Need to be able to independently use scissors, and glue(liquid, glue sticks and hot glue)

Graduation Requirements: HCU Level 1 requirements

Homework Requirements: NA

Class Description:

Blast off on an exciting journey to the Red Planet! In this hands-on STEM class, students become a team of astronauts completing weekly Mars missions using the engineering design process.

Using the Vivify STEM Mission to Mars curriculum, students will design, build, test, and improve real engineering challenges such as straw rockets, space landers, wearable astronaut gear, and Mars rovers. Throughout the semester, students will apply what they learn to the program's culminating challenge: designing and building a Mars habitat capable of supporting life on the Martian surface.

Each mission begins with a message from Mission Control and leads into problem-solving and creative building. This is an activity-rich, highly interactive class designed to build confidence in engineering thinking, teamwork, and perseverance — no prior space knowledge required.

Perfect for curious learners who love building, experimenting, and tackling fun challenges.

Week 1:

Meet the Crew

Team building + astronaut intro

Week 2:

Get to Mars

Paper Rockets Engineering Challenge

Week 3:

Land on Mars
Space Lander Engineering Challenge

Week 4:

Live from Mars
Mars/Earth Matching + communication focus

Week 5:

Collect Samples
Pneumatic Device Engineering Challenge

Week 6:

Collect Samples continue
Pneumatic Device Engineering Challenge

Week 7:

Transport Samples
Mars Rover Engineering Challenge

Week 8:

Transport Samples continues
Mars Rover Engineering Challenge

Week 9:

Design & Build a Habitat
Begin habitat design

Week 10:

Habitat Build Continued

Week 11:

Habitat Testing & Improvements

Week 12:

Mars Habitat Presentation