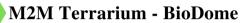
Middle School Engineering Pathways Curriculum



Students learn about engineering, working as part of a team & other skills they will be using in the M2M unit.

My Moon (Mars) Colony Students (1) brainstorm what people would need to live on Mars, (2) design a colony and (3) decide how to

power it.



Students apply understanding of ecosystems, the carbonoxygen cycle and community interactions to design a biosphere and build a prototype.

M2M - Water Purification

Students learn water purification, apply the engineering design process to build a water purifier, and design a water purification system for Mars.

M2M - Water Conservation

Students learn about water conservation in space, mix their own hand sanitizer and make a plan for the infrastructure of their colony.

**Required Core Lessons - specific lessons created to build engineering identity, learn about STEM, and raise awareness of engineering careers

Lessons provide hands-on engaging experiences that:

- Explain **STEM** & how engineering fits into it
- Teach youth to utilize the **engineering mindset**
- Build **engineering identity**
- Tie engineering career paths to activities

Engineering Pathways**

Students will explore different pathways for jobs in engineering or another STEM career interest.

Hydroponics

Students will brainstorm, design and build prototypes hydroponics systems for a Martian colony.

M2M - Space Suit Design

Students design and decorate a space suit that shows their style while preserving key elements of survivability.

Who Gets To Do STEM**

Students learn that all different types of people can do STEM and think about the strengths they bring to STEM.

Are We Alone?

Students conduct a scientific experiment in which they evaluate three simulated "Martian" soil samples and determine if they contain any signs of life.









BSB Eng Pathways Web address