

## Activity Guide: Space Colony Build

**Purpose:** Grades 3-5

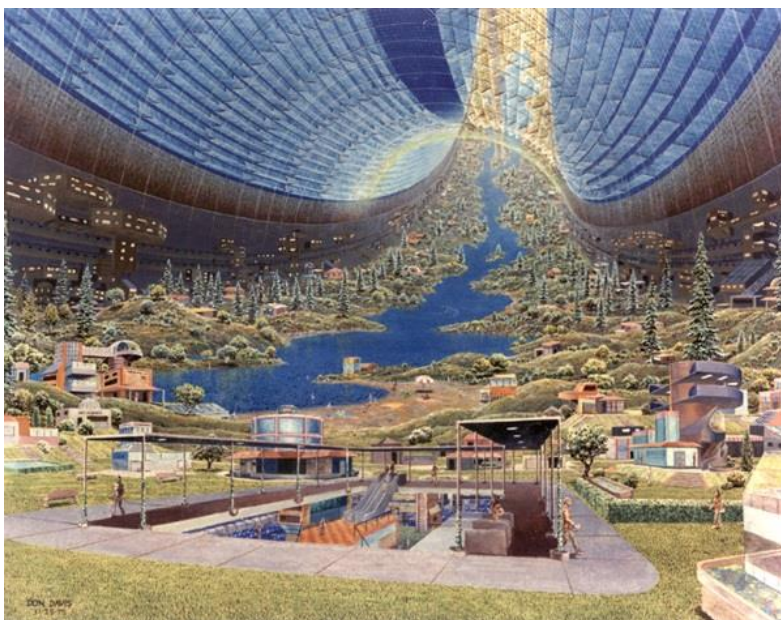
**Museum Connection:** Space Odyssey's Mars Diorama gives a unique opportunity to talk to someone that lives on Mars and ask what it takes to make a colony there! Diorama halls also offer opportunities to review the basic needs for living things.

**Main Idea:** To build a colony that could sustain human life on Mars or anywhere in space. Individuals/groups should be challenged to create a plan ahead of building, including where their colony is located in space.

### Background Information for Educator:

As concerns around the habitability of Earth continue to grow, researchers are looking to space colonization as a possible solution. This presents opportunities to dream about what life in space would be like. Some of the first problems to face are the effects of weightlessness on the body and exposure to radiation living outside of the Earth's protective atmosphere. Other challenges in space to consider are cultivating and sustaining basic human needs of air, water, food, and shelter.

Living in space could also offer other potential benefits not found on Earth, including unlimited access to solar power or using weightlessness to our advantage. Independent companies are beginning to look at how to get to space and how to sustain colonies there.



### Sources:

[Space Colonization & Resources](#)

### Prep (5-10 Minutes):

- Gather materials to build. Can be a mixture of Keva Planks, recyclables, and/or anything you want guests to use.

- Decide if guests will work in groups.
- Make sure the space to be used for the build is open, clear, and ready for use.

**Materials:**

Item	Quantity
Keva Planks	X
Recycables	X
Masking Tape	X
Paper	X
Planning Paper	1 per individual/group
Pencils	X

**Step-by-Step Instructions (Time):**

1. Discuss with guests why we might look to colonize in space and how our impacts on Earth that are currently taking place must be considered before building into Space.
2. Give guests time to plan and discuss (10-15 minutes) how they wish to build their colony (materials & structure) and ask them to consider the different things they will need to make a successful place to live.
  - a. Help guests link their daily lives to the daily life of those that would live in their colony.
3. Allow guests about 30 minutes to build their colony.
  - a. As guests build, ask them prompting questions:
    - b. Where does water come from?
    - c. How are colonist getting their food?
    - d. Where do they live and where do they work? What is their work? Etc.
4. Have guests present their colony to others, explaining each component they build and why.

