Building a Moon Base –

The Next Small Step for Humanity in the Cosmos

Step 1 – Understanding Why

Stephenson Talk

Watch Video

Step 2 – Building Knowledge about How

Watch VR Video – What can be learned about the moon’s surface and environment? What can we learn about humans existing in this environment?

Empathize about the needs of people to exist on the moon for a year with minimal outside supplies.

Step 3 – Assignment to a Specific Team and Module Design

General Info (Start Here)

<https://www.lpi.usra.edu/education/explore/beyondEarth/background/>

Examples of Moon Bases

<https://spacehabitats.co.za/base-development>

Habitation Quarters Module – daily living activities – eating, sleeping, downtime, medical

<https://www.lpi.usra.edu/education/explore/space_health/background/>

Transportation Module – Ground, Moon, and Space, and Escape

Observatory Module – Exploration of Space

<https://arstechnica.com/science/2023/04/building-telescopes-on-the-moon-is-becoming-an-achievable-goal/?comments=1&comments-page=1>

Farming Module – Growing/Producing Food/Recycling of waste

<https://www.space.com/moon-farming-lunar-soil-nutrients>

Power Module – Powering the station

Command and Communications Module(could include satellite) – control and meeting centre for all activities on the base/communicate with earth and spacecraft

<https://www.esa.int/Applications/Connectivity_and_Secure_Communications/Lunar_satellites>

Recreation Module – exercise to maintain healthy bone and muscle mass, entertainment.

Laboratory Module – Science experimentation on the moon – biotechnology,

Industrial Module – used to mine moon rock, process it, and use it for future construction

 <https://www.mining-technology.com/features/mining-the-moon/>

Inter-Module Connector Tunnels

Step 4 – Research for the Module’s Design

Habitation Quarters Module – daily living activities – eating, sleeping, downtime

Transportation Module – Ground, Moon, and Space, and Escape

Observatory Module – Exploration of Space

Sustainability Module – Growing/Producing Food/Recycling of waste

Power Module – Powering the station/ oxygen production

Command and Communications Module – control and meeting centre for all activities on the base/communicate with earth and spacecraft

Recreation Module – exercise to maintain healthy bone and muscle mass, entertainment.

Laboratory Module – Science experimentation on the moon – biotechnology,

Industrial Module – used to mine moon rock, process it, and use it for future construction

Inter-Module Connector Tunnels

Step 5 - Drafting a Design

Step 6 – Building a Prototype

Step 7 – Prepare a Presentation