**One plan for a LUNAR BASE**

**The floorplan**

- **Research laboratories**
  - Mission Control where space functions are monitored; includes Earth communications, telerelays lab in which robotic machinery is controlled, soil storage and upkeep where space extravehicular activity (EVA) suits are kept.
  - Physical Sciences where geology, biology, and botany are studied; plant growth chamber is located here.
  - Human Sciences where psychology, life sciences, and health maintenance are studied.

**Crew facilities**

- Crew quarters and personal hygiene area.
- Bounding Platform to second floor.
- In vertically undertaken, the Earth-gravity allows for greater efficiency.
- Utility rooms for social gatherings, includes library, cafe, recreation area, and exercise facility.

**A cutaway**

- 3-meter thick covering of lunar soil acts as a radiation shield.
- Soil-stabilizing fabric.
- Crew quarters and personal hygiene area.
- Bounding Platform to second floor.
- In vertically undertaken, the Earth-gravity allows for greater efficiency.
- Utility rooms for social gatherings, includes library, cafe, recreation area, and exercise facility.

**SPECIFICATIONS**

- Crew: 13
- Ring diameter: 18.3 meters
- Airlocks: 3

**Also:**

- Manufactured on Earth, the foldable lunar habitat structure can be quickly erected on the Moon. The habitat is inflated, then structural foam is injected to provide strength.
- EVA time will be needed to deliver some of the interior components, but most of the interior outfitting can be done in a shirt-sleeve environment.
- The domed crew facilities fill the ring-shaped research laboratories area. This architectural design creates a psychological separation between work and home.

**What do we do there?**

**Ideas for taking advantage of the Moon**

- **Observe Earth and the rest of the universe**
  - Telescopes on Earth must deal with several obstacles.
  - A remote lunar observatory could be built using new technology and the Moon's unique environment.

- **Beam solar power to Earth**
  - As Earth's population increases, more and more energy will be required to support it.
  - An array of solar power collectors on the Moon could capture solar energy which would be converted to microwaves and beamed back to Earth.

- **Mine Helium-3**
  - Nuclear energy resulting from fusion yields hazardous radioactive wastes.
  - Nuclear energy from fusion, with Helium-3 as fuel, yields much less radioactive waste and is more efficient.
  - Nuclear reactors powered by Helium-3 on Earth could provide a sustainable energy source.

**Sources:**

- University of Wisconsin-Milwaukee
- NASA JSC Advanced Design Program
- 1994 University of Wisconsin

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**FINAL FRONTIER**