



Food Supply System

Brainstorm and write your answers in your Mission Journal

Food Supply

1. Review the basic food groups. What are examples of food in each? What basic jobs for the body does each group perform?
2. Make a list of the foods and liquids everyone in your family consumed in the past 24 hours. Put each food group in a different column. Cross out all the items you consider "junk food." Cross out each item made from an animal that must eat another animal to live.
3. We all know that, except for carnivores, animals eat plants. But what do green plants "eat" besides carbon dioxide, sunlight, and water? Look up information about the nitrogen cycle to learn ways green plants obtain nitrogen.
4. Space in the Mars colony will likely be limited. Protein sources like cattle and vegetable sources like corn require substantial space to produce. What are other sources of protein that take less space? Other fruits and vegetables? Review your list in #2 to help you out.
5. Research Mars facts. What sunlight conditions exist on Mars?

Remember: Air Supply, Water Supply, and Temperature Control systems will be designed and built by other crews. Also, all original stocks of plants and animals must be transported from Earth.

Identify four "Mars Facts" that impact the design of a Food Supply System and write them in your Mission Journal.

6. Design a Food Supply system for the Mars colony inhabitants which 1) supplies the inhabitants with all of their nutritional needs; 2) is self-sustaining without additional stock from Earth, and 3) provides products appealing enough that the inhabitants will enjoy eating their meals. Sketch a blueprint of your design in your Mission Journal and include labels explaining how it will work.

