Waste Management System

Brainstorm and write your answers on a separate sheet of paper.

1. Your home, in many ways, is like a miniature town. It has a system for governance, health care, traffic control, a work schedule for its inhabitants, recreation—and waste disposal. To get a better idea of how much waste your miniature town can generate every week, list how many people (plus animals, if there are any) are regularly in your home.

   Next, interview your parents. Ask them: What gets thrown away? How many pounds get thrown away every week? How many pounds of trash is this for every person in the home? (Do the math!) Can any of these items be recycled before disposal? If yes, what are these items? What items are biodegradable? What is the garbage/trash packed in before it's taken away? Where is the garbage/trash taken?

2. Waste is a "hot topic" in our society. Why? Discuss what you know about: "excessive packaging," "landfills," "toxic waste," "disposable plastic goods," "non-biodegradable," "water/air pollution."

3. In movies like those starring "Indiana Jones," ancient artifacts are often found well-preserved in the desert. Scientists often find well-preserved artifacts, like mastodons or ancient people, in polar ice. Why aren't they decayed?

4. Research Mars facts. The Mars **colony** must be an enclosed, self-sustaining settlement. Like your home or school, it must perform the basic functions of a town. Other crews are designing and constructing other systems (air supply, communication, food production/delivery, recreation, temperature control, transportation, water supply). Your crew's job is to dispose of the waste generated by these other systems.

   Identify and write down four "Mars Facts" that impact the design of a Waste Management System.

   1.

   2.

   3.

   4.

5. Design a Waste Management System for the Mars colony. Be sure to decide what roles, if any, the following will play: recycling of materials, biodegradable materials, the planet Mars outside the constructed settlement. You may want to sketch a blueprint showing how your design will look and how it will work.