

# Space Junk

## Teacher Information

### Background

Before you attempt this activity, find out how many of your students usually bring sack lunches to school. You may or may not want to warn them a day ahead of time that you would like to use their sack lunches for an experiment so that they are sure to bring them on the day of the activity. However, do not tell them what the experiment is because you do not want them to change the way that they pack their lunch.

### Materials

number of sack lunches  
student worksheet (1 per student)  
scales  
pencil

### Procedures (Begin this activity shortly before lunch.)

1. Split the class into groups of 2-4 students so that each group has at least one member who brought a sack lunch.
2. Discuss the following:
  - a. What do you know about astronaut food?
  - b. Why do astronauts have to be careful about what food they take into space?
  - c. Why do astronauts have to be careful about the way that their food is packaged?
3. Have each group weigh their sack lunch(es) before eating. Record the weights in the chart on their worksheet and save the chart for later use.
4. Have lunch. Instruct those students who brought sack lunches not to throw away ANY of their garbage when they are done eating.
5. After lunch, have each group weigh the leftover garbage from their lunch(es) and record the weight in the chart on their worksheet. Then, they should find out what percentage of the weight of their lunch was actually just garbage.
6. Have students answer question #1 on the worksheet.
7. Discuss question #1 and make the following point: In order to stay healthy, astronauts obviously cannot take less food into space. Instead, they find ways to make the food weigh less (dehydrating it) and they take as little garbage packaging as possible. Astronauts make the most of **reduce, reuse, and recycle**.

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8. Have students answer question #2 in their groups.
9. Challenge for tomorrow: Have students bring sack lunches that reduce, reuse, and recycle in order to minimize the amount of garbage in their lunch. Repeat the measurement process to finish filling out the chart on the student worksheet and compare the garbage percentage from day to day. *Stress the importance of bringin a similar lunch (bring the same types of foods on the second day as they did on the first day) in order ot make an accurate comparison.*

## Extensions

- Before the students eat their lunch have them determine how many of each of the food groups they have included. After lunch, discuss the importance of a healthy diet for students and astronauts.
- While the students are eating their lunch, use a camera to take pictures of them preparing and eating their lunch. When they are finished take pictures of the table and floor. When discussing astronauts eating in space, show the pictures of the students. Explain that anything they are not holding onto would be floating in microgravity. Extend this discussion with information about the types of foods astronauts take to space and how they prepare their food.