



## MATH ACTIVITIES

# Recycling

### CAREER CONNECTION

Do you like math and recycling? Consider a career in chemical engineering or mechanical engineering. The recycling industry will continue to grow as companies invent new ways to use recycled materials.

How many aluminum soda cans will be recycled in one week in your town?

**Fermi problems** require you to make a quick estimate of a quantity that seems difficult or impossible to determine precisely. They were named after Enrico Fermi, the Italian physicist who used this problem solving method to predict how atoms would work long before scientists had the technology to actually see atoms. Fermi problems emphasize the **process** of solving problems over getting the exact answer.

### STEPS IN SOLVING THESE PROBLEMS

1. What is the question asking you to do?
2. Make a wild guess!
3. Make an educated guess using a line of reasoning and calculations based on your experiences and estimations.
4. Gather data to help you make a better educated guess. This includes performing experiments, measuring, and searching for data to help you make a more precise estimate.
5. Write a conclusion. State your final answer with possible sources of error. List facts you learned and other questions you still have.