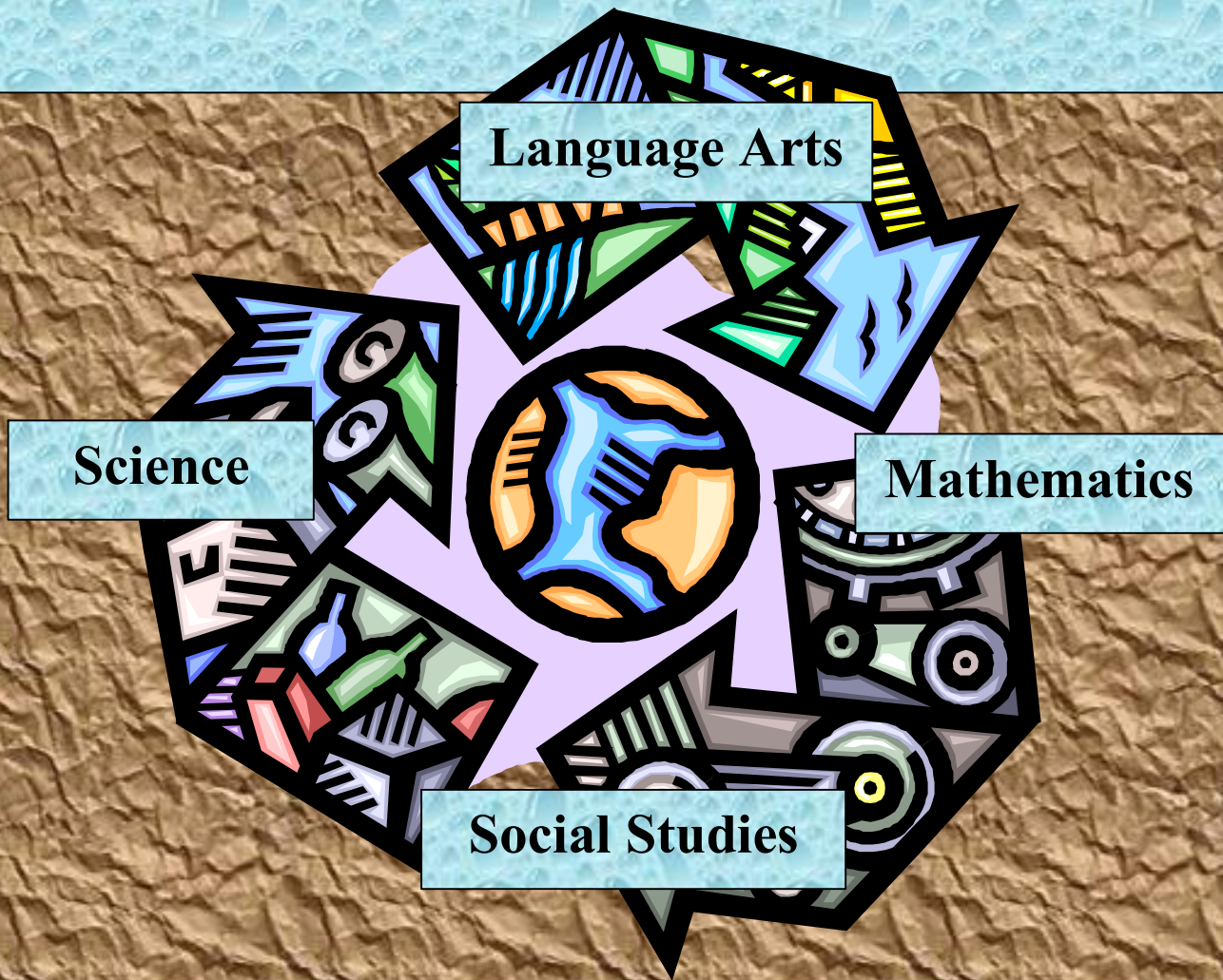


Garbology

A Thematic Unit about Trash

By Nancy L. Wilkinson



Garbology
Statistical Analysis in Mathematics
Lesson 10
Statistical Analysis

Objective:

Students will find the average (mean), median, mode and range of their trash.

Materials:

Copy worksheet 10 for the students or show the class data on the garbage collected.

Opening:

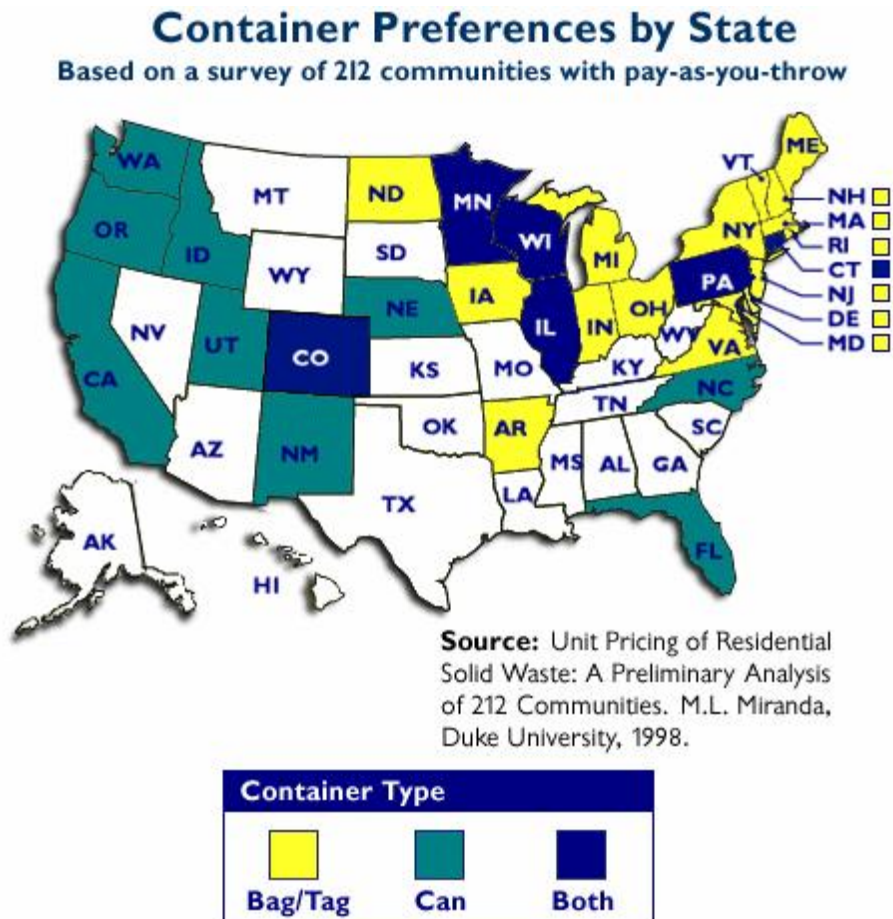
Ask the students if they know the definition of mean, median, mode and range.

Activity:

- 1) Read worksheet 10 with the students.
- 2) Have them write down the mean, median, mode and range of the amount of trash.

Closure:

Ask the students why they think the numbers are all different.



Garbology
Statistical Analysis in Mathematics
Lesson 10, Worksheet 10
Statistical Analysis

Name _____ Period _____

Directions: Read each problem and answer the question.

_____ 1) What is the average number of items found in each category? This is called the mean. This is found by adding up the total number of pieces of recyclable material are in each bag and dividing by the total number of bags of trash. Look at the example below:

Team	1	2	3	4	5	6	7	8
Paper	1	3	4	1	2	1	3	1

In this example, there are 16 pieces of paper and 8 bags of trash, then $16/8 = 2$. Therefore, the average number of pieces of paper is each bag is 2. Find the mean for each category of recyclable items.

_____ 2) What is the median? This is done by looking at each number of recyclable items in each category and writing down how many pieces were in each bag in order. The median is the middle number. In the example above, the amount of paper should be written in order: 1,1,1,1,2,3,3,4. The median is the middle number. In this case, there is and even number of data, so the median is the average of the two middle numbers or $(1 + 2)/2 = 1.5$.

_____ 3) What is a mode? This is found by looking at which number is written down the most. In the example, above, the mode would be 1.

_____ 4) What is the range? This is found by taking the largest number and subtracting the smallest number. In our example, the range would be $4-1 = 3$.

_____ 5) What percent of the total garbage is paper, plastic, glass, metal, aluminum, Styrofoam and non-recyclable material? Remember to take the total in each category and divide it by the total pieces of trash.

