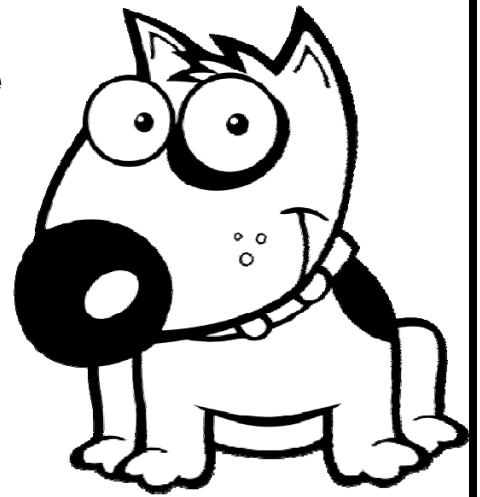# Mean Absolute Deviation Lesson

The <u>Mean Absolute Deviation</u> of a data set is a measure of the average distance between each value and the mean.

You can find the <u>Mean Absolute Deviation</u> of a data set by:

1. Finding the mean of the data set.

2. Find the distance between each data value and the mean.

3. Find the average of those differences.

Let's use this to solve the problem below:

Rover digs up bones all over the neighborhood. Bobby kept track of the number of bones that Rover finds over 8 days. The data chart below shows the number of bones Rover found on those days. What is the <u>Mean Absolute Deviation</u> of the data set?

5	8	4	3	5	7	8	1

Step 1: Find the mean:

Mean = Sum of all data / number of values

Sum = 5 + 8 + 4 + 3 + 5 + 7 + 8 + 1 = 41   Number of values = 8

Mean = 41 / 8 = 5.125

Step 2: Find the distance between each data value and the mean:

5.125 – 5 = 0.125	8 – 5.125 = 2.875	5.125 – 4 = 1.125	5.125 – 3 = 2.125
5.125 – 5 = 0.125	7 – 5.125 = 1.875	8 – 5.125 = 2.875	5.125 – 1 = 4.125

To avoid negative numbers, subtract the big number by the little number.

Step 3: Find the average of those differences.

(0.125 + 2.875 + 1.125 + 2.125 + 0.125 + 1.875 + 2.875 + 4.125) / 8 = 1.90625 or 1.91