Frequency Magnets

Here are the ages of people who go to the Little Ducklings class, but some of the frequencies have fallen off. Your task is to put them in the right slot in the frequency table. Nine children and their parents go to the class, and the mean and median are both 17.

Age	1	2	3	31	32	33
Frequency	3	4	2	2	4	3

We're told there are 9 children, so the frequencies of the children must add up to 9. There must be 4 children of age 2.

The mean is 17. If we substitute in a and b for the unknown frequencies, we get

$$\frac{1\times3 + 2\times4 + 3\times2 + 31\times2 + 32a + 33b}{18} = 17$$

Multiply both sides by 18.

$$3 + 8 + 6 + 62 + 32a + 33b = 17\times18 = 306$$

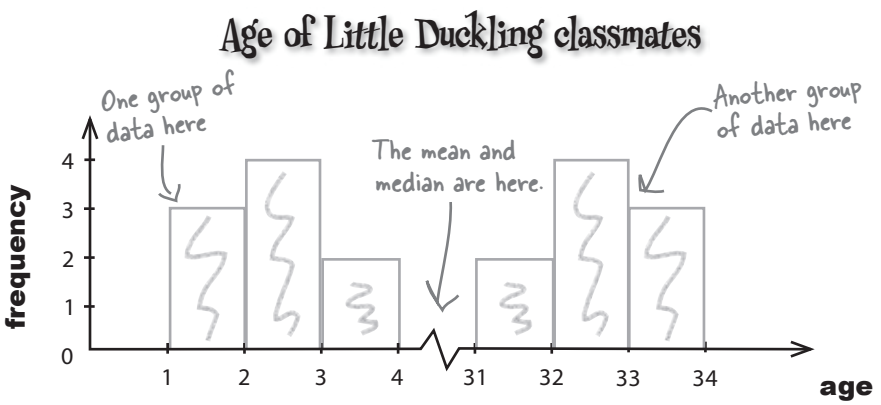
$$32a + 33b = 306 - (3 + 8 + 6 + 62) = 306 - 79$$

$$32a + 33b = 227$$

As 32a + 33b is odd, this means that b must be 3, and a must be 4.

Sharpen your pencil Solution

When you've figured out the frequencies for the Little Ducklings class, sketch the histogram. What do you notice?



It doesn't look like one set of data, but two: one for the parents and one for the children.