**Calculating Seeds and Beaks**

Use the tables to calculate the seeds consumed during each round and the number of seeds collected by each beak size.

1. After each round fill in the total number of seeds collected for each beak size.
   1. At the bottom of each column the total number of seed size collected is tallied.
   2. At the end of each row the total number of all seeds collected for each beak size is tallied.
   3. **The total number collected by beak size and by seed size are equal – it is the grand total collected.**
2. The number collected by beak size is divided by the grand total collected to determine the ‘success’ by beak size. This number is divided by the total number of birds (8, in the example spread sheet). The resulting number is rounded and used to determine the starting beak sizes for the next round (the blue line on the example spread sheet).
3. How do we calculate the number of seeds of each size needed for the next round? First subtract the number of seeds collected from each seed size from the starting number to determine the number remaining (in blue on the spread sheet).
4. Use the Grand Total Left Over to divide the seeds left over for each size to determine the percentage of each seed size remaining. **Remember – the more seeds left equals ‘success’ for the tree. So seed sizes that are more ‘consumed’ are not replaced at a lower amount as seed sized which are *not* ‘consumed’.**
5. We use the percentage remaining and multiply that by 200 for the next generation to determine the new ratios of seeds.
6. But some of the seeds were NOT consumed and we want the new starting total number to equal 200. So, we just subtract the seeds remaining from the first round from the number needed for the next generation to determine the number of seeds to add to the existing stock (the red arrow in the spread sheet).
7. Repeat for as many rounds as you like using the same operation.