

Step 3. Convert the calculated total acorn yield in kilograms to kilocalories. One kilogram of acorns produces approximately 4,500 kcal. Therefore, you should multiply the total number of kilograms you obtained in Step 2 by **4,500**.

Step 4. Relate the number of kilocalories to the population of gray squirrels. Researchers have determined that a 0.5 kg squirrel requires 137 kcal each day for maintenance in the laboratory. Therefore, to find the number of squirrels your oak forest can support in a year, use the following formula:

$$\frac{\text{total number of kilocalories}}{137 \text{ kcal/squirrel} \times \text{day} \times 365 \text{ days}} = \text{number of squirrels/year}$$

Table 3. A Chart for Combining Class Data

Team Number	Species	Number of Trees	Carrying Capacity of Squirrels
1			
2			
3			
4			
5			
		TOTAL of all TREES	

Questions

1. What is the total carrying capacity of squirrels in the EGHS courtyard? _____
2. Do you think the actual carrying capacity was more or less than your calculations? Why or why not?
3. Which species of tree provided the greatest carrying capacity? Why do you think that is?
4. Squirrels are conscience of the type of acorns they eat? Explain why
5. As much as 25% to 50% of the diet of the black bear, raccoon, white-tailed deer, and wild turkey is made up of acorns. What would happen to the carrying capacity of your plot if any of these animals were present?