

# The Trouble with Tribbles

Name ANSWER KEY

## Measurement and Volume

Tribbles are cute, furry creatures that exist in the world of *Star Trek*. A tribble can produce a litter of 10 babies every 12 hours. One tribble gets trapped in the grain hold of the starship Enterprise for 3 days. Science officer, Spock, proclaims that there were 1,771,561 tribbles in the grain hold at the end of this time.



1. The average tribble is approximately the size of a 12 cm by 12 cm by 9 cm rectangular solid. Determine the volume of an average tribble.  $V = lwh = 12 \cdot 12 \cdot 9 = 1296 \text{ cm}^3$

2. How many cubic centimeters are in one cubic meter? 1,000,000  $\text{cm}^3$

3. How many tribbles would fit into one cubic meter of space? Round your answer as to not include portions of a tribble. 771 tribbles

4. Measure your classroom to determine its width, length and height in meters (or you may use a typical classroom measurement of 10m by 8m by 3 meters.)

Width = 10m Length = 8m Height = 3m

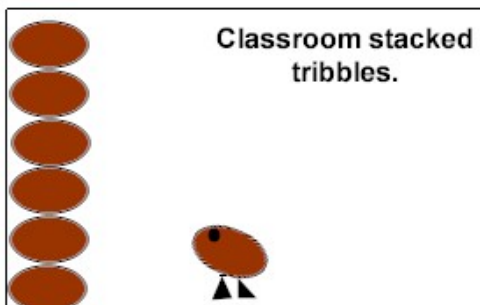
5. Calculate the volume of your classroom in cubic meters. 240  $\text{m}^3$

6. How many tribbles are needed to fill your classroom to the ceiling? 185,040 tribbles

7. If the height of a tribble is 9cm, how many tribbles can be stacked one on top of the other from the floor to the ceiling in your classroom? 33.33 or 33 tribbles

8. What is the volume, in cubic meters, of the grain hold on the starship Enterprise? 2295943056  $\text{cm}^3$  or 2295.943  $\text{m}^3$

9. How many classrooms will fit into the grain hold? 9.556



10. If the grain hold is a cube, what are the approximate measurements of the grain hold, in meters? 13.192 x 13.192 x 113.192 meters