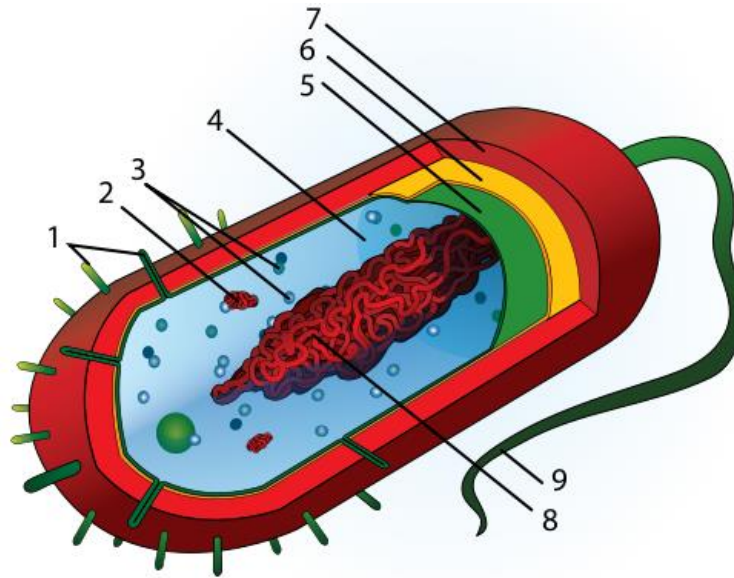


Date:

Plant and animal cells – as well as the cells of fungi and Protista - are so-called eukaryotic cells. An even older cell type can be found in today's bacteria and archaea. This cell type is referred to as a prokaryotic cell. Prokaryotic and eukaryotic cells share a number of similarities, but there also significant differences.

1. Name the cell organelles labeled 1 – 9 in the following sketch of a prokaryotic cell.



Source: https://commons.wikimedia.org/wiki/File:Average_prokaryote_cell_numbered.svg

- | | |
|---|---|
| 1 | 6 |
| 2 | 7 |
| 3 | 8 |
| 4 | 9 |
| 5 | |

2. Assuming that the average plant cell is about 50 μm long and the average bacterial cell is 2 μm , and that both would be shaped like perfect spheres (which, of course, they are not!), calculate roughly how many bacteria would fit inside a plant cell. (To calculate the volume of a sphere, you have to use the following formula: $V = 4\pi r^3/3$)

