**Plant & Soil Science**

**Plant Cell Structure and Functions Study Guide**

1. What are the two types of cells?

Compare and Contrast Prokaryotic and Eukaryotic cells:

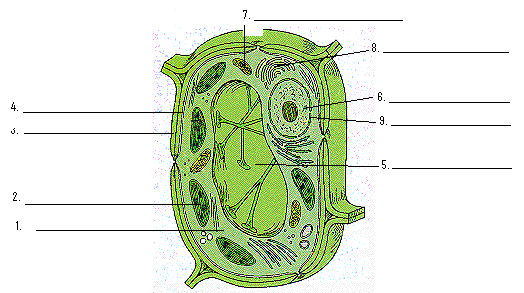
Write the prokaryotic characteristics in red and the Eukaryotic characteristics in blue:

|  |  |
| --- | --- |
| Prokaryotic | Eukaryotic |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Draw an example of each cell type:
2. What type of cell are plants made up of?
3. Compare plant and animal cells?

|  |  |  |
| --- | --- | --- |
|  | Animal Cells | Plant Cells |
| Cell Wall |  |  |
| Plastids  (Chloroplasts) |  |  |
| Centrioles |  |  |
| Vacuoles |  |  |
| Lysosomes |  |  |
| Cilia and Flagella Absent in Plants | | |

1. Label the plant cell and its parts. Also explain the function of each part you label.



1. What does it mean that plant cells are totipotent?
2. Define cell cycle:
3. Draw the cell cycle and label it:
4. Name the Phases of Mitosis!
5. What is cytokinesis?
6. How many daughter cells do you get from mitosis?
7. Compare and Contrast Mitosis and Meiosis:

|  |  |
| --- | --- |
| Mitosis | Meiosis |
|  |  |
| Not every cell does this | Reduces Chromosome number by 1/2 |
| Four Stages | Eight Stages |
| Results in: | Results in: |
|  |  |

1. What types of cells undergo meiosis?
2. What is the purpose of meiosis?