## Cell Theory and the plasma membrane

## Read Chapter 3.1-3.2

**Fill in the blanks**

1. Most human cells are between ____ and ____ micrometers in diameter.
2. The largest human cell is the _____ and the smallest human cell is the _____.
3. Some cell can have special features such as microvilli that increase _____ so that substances can still easily diffuse to all parts of the cell.
4. The following are features of Cell Theory:
    a. All living things are composed of _____.
    b. Cells are the _____ single unit that survive independently.
    c. All cells come from _____.
    d. All cells contain _____ as the genetic material.
    e. All cells are either prokaryotic or _____ and are composed of basically the same types of macromolecules.
5. _____ are not considered living organisms because they are not composed of cells.
6. All cell membranes are composed of _____ arranged in a _____.
7. The _____ of a phospholipid is hydrophilic and the _____ are hydrophobic.
8. The bilayer is arranged so that the _____ face inwards and the _____ face outward.
9. The phospholipid tails are composed of _____ fatty acids.
10. Hydrophobic molecules contain _____ bonds.
11. Hydrophilic molecules contain _____ bonds.
12. A molecule, like a phospholipid that contains both hydrophilic and hydrophobic regions is called _____.
13. Cell membranes contain many different molecules including fats and proteins, and it is fluid like oil, therefore it is referred to as the _____ _____ _____.
14. Another important type of fat found in cell membranes is _____ and it is important for increasing the _____ of the membrane.
15. Some of the most common types of proteins found in plasma membranes include:
    a. Proteins that bind to regulatory molecules such as hormones _____
    b. Glycoproteins that act like cell markers _____
    c. Proteins that act as catalysts for chemical reactions _____

d. Proteins that allow ions to move into or out of the cell _____

e. Proteins that allow substances such as nutrients to move into or out of the cell _____

f. Proteins that play an important role in cellular interactions such as holding cells together _____

g. Proteins that allow cells to directly communicate via small molecules that move between them _____