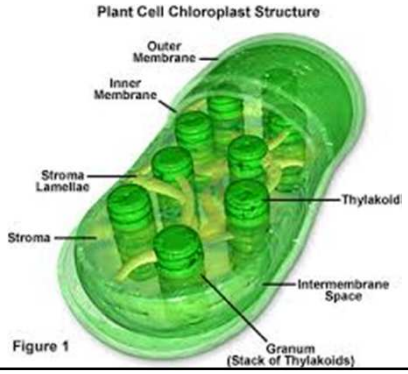
CHLOROPLASTS

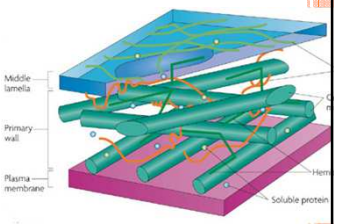
- **USUALLY ONLY IN PLANT CELLS**
- Capture light energy
- Convert light energy to chemical energy through photosynthesis
- Chlorophyll – green pigment which captures sunlight
- Very similar to mitochondria structure
- **PLANTS HAVE BOTH MITOCHONDRIA AND CHLOROPLASTS!**

CHLOROPLASTS



CELL WALL

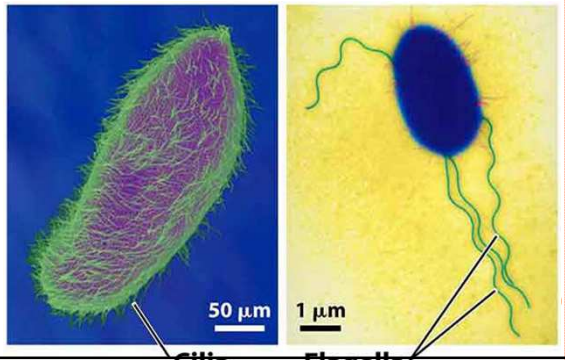
- **USUALLY ONLY IN PLANT CELLS**
- Thick, rigid mesh of fiber
- Surrounds cell membrane
- Lets plants stand at various heights
- Made of carbohydrate called – **cellulose**



CILIA AND FLAGELLA

- **Cilia**
  - short
  - Lots of projections from the cell membrane
  - Look like hairs
  - Maybe be used for motion or found on immobile cells
- **Flagella**
  - Long
  - Less numerous
  - Look like tails
  - Whiplike motion
  - Used for motion

CILIA AND FLAGELLA

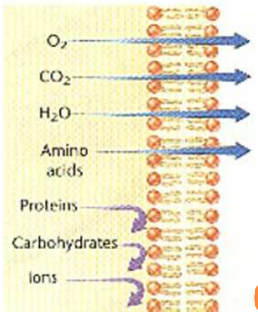


PLASMA MEMBRANE

Section 7.2

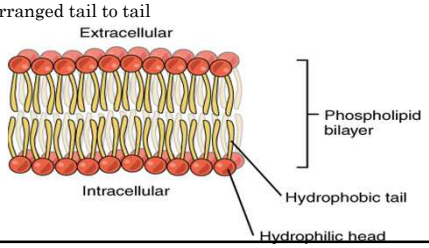
FUNCTION OF PLASMA MEMBRANE

- Responsible for maintaining homeostasis
- Allows nutrients in and out of the cell
- **ALL CELLS HAVE A PLASMA MEMBRANE!**
- Its is <u>selectively permeable</u>
  - Allows some things through but not everything



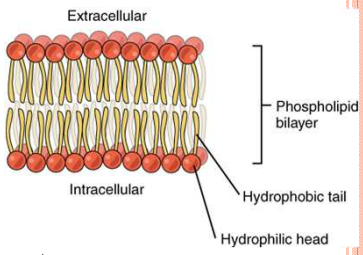
STRUCTURE OF PLASMA MEMBRANE

- Most of the molecules in the membrane are LIPIDS
  - <u>Phospholipid bilayer</u>
  - Glycerol, fatty acid and phosphate group
  - Arranged tail to tail



THE PHOSPHOLIPID BILAYER

- Hydrophobic
  - Nonpolar
  - Dislikes water
- Hydrophilic
  - Polar
  - Attracted to water
  - "like attracts like"
- Arranged so that the tail is inside head is outside near water



THE PHOSPHOLIPID BILAYER

- The bilayer lets non-water soluble things through easily because of the structure
- Contains cholesterol, proteins and carbohydrates
  - Proteins – transmit signals into the cell, anchor the shape
  - Create channels for particles to enter and exit
- **Fluid mosaic model**
  - The bilayer is a "sea" for other molecules