Mitochondria: Chemical Energy Conversion

-outer membrane; intermembrane folded into cristae; matrix



Chloroplasts: Capture of Light Energy

-chlorophyll; structures include: thylakoids/granum, stroma (internal fluid); plastids



-hydrogen peroxide (byproduct of cellular metabolism); regulation of oxygen levels -develop hydrogen production from breaking down fatty acids (and produces Acetyl-CoA that is used in mitochondria in glycolysis)

6.6

The Cytoskeleton

-microtubules; microfilaments; intermediate filaments

-support and mobility of the cell are its main functions

-Microtubules: shaping the cell, organization of the cytoplasm and the intracellular movement of macromolecules, movement(cilia and flagella), cell division (mitotic spindle fibers)

-Centrosomes and centrioles: centrosome (microtubule-organizing center)

-Cilia and Flagella: share a common structure ("9 by "2 array), basal body (anchor), dynein (motor protein)

-Microfilaments (Acton Filaments)

-Actin: provide stiffness, structure, and shape to the membrane; responsible for all protrusion of cells (microvilli or phagocytic protrusion)

-in mitosis, cytokinesis is the result of contractile actin-myosin II fibers