

## Comparing a Cell to a Factory

Job in the Factory	Cell Organelle	Function of the organelle
Shipping/Receiving Department	Plasma membrane	Regulates what enters and leaves the cell; where cell makes contact with the external environment
Chief Executive Officer (CEO)	Nucleus	Controls all cell activity; determines what proteins will be made
CEO's office	Nuclear membrane	Regulates what enters and leaves the nucleus
Factory floor	Cytoplasm	Contains all of the organelles; site of most cell activity
Assembly line (where employees do their work)	Endoplasmic reticulum (ER)	"Highway of the cell"; where the ribosomes do their work
Human Resource Department – hiring office	Nucleolus	Helps make ribosomes
Employees in the assembly line	Ribosomes	Build the proteins
Finishing/packaging department	Golgi bodies	Prepares proteins for use in the cell or export out of the cell
Maintenance crew	Lysosomes	Responsible for breaking down and absorbing materials taken in by the cell
Support beams (walls, ceilings, floor)	Cytoskeleton	Maintains the cells shape
Power plant	Mitochondria/Chloroplasts	Transforms one form of energy into another
Storage rooms	Vacuoles	Stores food, water, and minerals for the cell
Factory office – Xerox machines	Centrioles	Aid in cell reproduction; making a copy of the cell
Blueprints/specs for the items produced by the factory	Chromosomes	Contain the DNA; information that determines the traits of the organism
Building shell – outer brick, siding, roof	Cell wall	Protects and supports the cell