

Comparing a Cell to a Factory: *Answer Key* The Cell as a System

Fill in the chart below while reading information at the following website:

A Busy Factory

<http://www.beyondbooks.com/lif71/4a.asp>

In the second column of the chart, write the name of the organelle that functions most like the factory worker described in the first column. In the third column, write a brief description of the function of the organelle in the cell.

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
Factory floor	Cytoplasm	Contains the organelles; site of most cell activity
Assembly line (where workers do their work)	Endoplasmic Reticulum (ER)	Where ribosomes do their work
Workers in the assembly line	Ribosomes	Build the proteins
Finishing/packaging department	Golgi apparatus	Prepares proteins for use or export
Maintenance crew	Lysosomes	Responsible for breaking down and absorbing materials taken in by the cell
Support beams (walls, ceilings, floors)	Cytoskeleton	Maintains cell shape
Power plant	Mitochondria/chloroplasts	Transforms one form of energy into another