Protective layer external to the cell membrane, consists of cellulose	Rough endoplasmic reticulum
Protective layer external to the cell membrane, consists of chitin	Nucleus
Site of photosynthesis; produce food using light energy, CO_2 and H_2O	Golgi apparatus
Channels proteins to transport vesicles, has attached ribosomes	Vacuole
Part of the endomembrane system, sacs of enzymes used to digest food and old, worn out cell parts	Fungus cell wall
Consists of flattened membranous sacs; receives transport vesicles from the ER, modifies ER produces, produces secretory vesicles	Ribosomes

Forms the boundary of the cell, acts as a selective barrier allowing certain materials to pass but not others	Chromatin
Contains most of the genes that control the eukaryotic cell, contains the nucleolus and chromatin	Lysosome
Where the components of the ribosome are synthesized and assembled; found in the nucleus	Mitochondria
Consists of DNA and protein, condenses to form chromosomes	Transport vesicle
Double membrane that forms the boundary between the nuclear contents and the cytoplasm; perforated with pores	Plant cell wall
Site of protein synthesis; suspended in the cytosol or attached to the ER	Cell membrane

Carries ER products to the Golgi	Chloroplast
Membrane bound sacs, larger than vesicles, stores water and dissolved nutrients	Cytoskeleton
Site of cellular respiration, produces ATP from sugar	Nuclear membrane
Supports the shape of the cell, anchors organelles and serves as a “track” for organelles to move on.	Extra cellular matrix
Proteins found outside an animal cell that function in support, adhesion and movement	Nucleolus