Understanding Concepts – Pg 23 Questions 2-5

2) Rough ER more prevalent in cells that secrete digestive enzymes like the stomach. Many ribosomes attached to ER for protein making.

Smooth ER has no ribosomes attached and this structure is mostly used to make fat or lipids, but also make steroid hormones in animal cells that secrete them. Developing seeds have a lot of Smooth ER.

3) Mammals being warm blooded require a lot of energy to maintain a body temperature within a certain range. This homeostasis requires more mitochondria than cells in animals that allow for much broader fluctuations in temperature (cold blooded).

4) Muscles cells require more mitochondria then fat cells, because of the different energy needs of each of the cells. Fat cells are generally less active then muscles cells, which spend a lot of time using energy as an organism moves around.

5) The golgi apparatus is a structure that packages proteins into vesicles. This structure functions in both: exocytosis – sending materials out of the cell

Endocytosis – Bringing/receiving materials into the cell

Vesicles with proteins to be packaged arrive from the ER on the Cis –golgi (side facing the ER). These proteins will then be sorted and package by the golgi apparatus to be sent to their destinations.

Vesicles with proteins inside will bud from trans-golgi (the side facing the cell membrane) and move to the cell membrane where the contents of the vesicle will be removed from the cell.