2.1 and 2.2: The importance of cell division

There are 3 main functions in a cell's life: _____ ,

_____, and _____

_____: cells are limited by the _____:_____ ratio, so in order to have a larger organism, you need many cells

_____: cells fix themselves, or replace broken or dead cells altogether. A human has over 100 trillion cells, so there are new cells replacing old cells every second. Single celled creatures repair themselves too, but by replacing worn out organelles.

_____: all living things reproduce, but oddly enough not all cells are capable of reproduction. For example, human

_____ cells cannot reproduce. Other human cells

(like _____ cells) can reproduce in a matter of a few hours. All single celled creatures are able to reproduce.

_____ cell: a cell without membrane bound

organelles. They tend to be smaller than _____ cells and are all single celled organisms.

_____ cell: a cell with membrane bound organelles.

They tend to be larger than _____ cells are can be single or multicellular organism.

You should have learned all about the organelles of plant and animal cells last year. You will be responsible for this

information this year. Pg 39 and 40 have diagrams of plant and animal cells. We will focus on a few now that have a direct impact on cell division.

_____: the control center of the cell. A special

membrane called the _____ surrounds the

nucleus. Much like the cell membrane, it has small _____ in it that allow some things in and out of the nucleus, but not other things.

DNA: _____. This is the blueprint of life. All cells contain DNA. Normally DNA is somewhat

_____ inside the nucleus in a form called_____, but when a cell is about to divide it condenses into structures

called _____. Different organisms have a different

number of_____, and more does not mean it is "better" or "more advanced". Ex: humans = ___ pairs

fruit flies = _____ pairs strawberry = ____ pairs

More on _____ in the next section.

_____: this is an "organelle" not mentioned last

year. The _____ looks like a small, dark nucleus inside the main nucleus. However, it does not have it's own

_____. In fact it is just a collection of newly produced

_____, which are made inside the nucleus. Once

assembled, the _____move outside the nucleus.

_____: protein factories of the cell

_____: organelle responsible for packaging materials for transportation inside the cell. They also help "put the finishing touches" on certain molecules. There are 2 types:

_____ER: called this because it is covered in

_____. _____ ER transports proteins.

_____ ER: called this because it has no _____.

_____ER manufactures and transports fat molecules.

_____: organelles made of special microtubules (protein) that assist greatly in cell division. Found in almost all animal cells.