

2.4 The Cell Cycle and Mitosis

A cell (like all living things) has a life cycle. It “is born”, _____ hopefully _____, and dies.

The life cycle of a cell is called the _____

Only a small amount of time of a cell’s life is spent dividing into two. The phase of a cell’s life that includes the growing and working phases is called _____.

A normal cell spends about _____ of its life in interphase.

As a cell matures and grows, it makes copies of its _____. Eventually, before _____, it will also make a copy of its _____. Note: This is still part of _____. After the _____ is replicated, you have two copies of each _____. These genetically identical copies are called _____.

DNA reminder: Most of the time (that is, during _____) DNA is in a loosely coiled bunch called _____. Once the cell hits the _____ phase, it supercoils into structures called _____.

After cell division, you have two cells that should be genetically _____.

The original cell is called the _____ cell. After cell division both cells are called _____ cells.

Cell division is composed of two processes: _____ and _____.

Note that there is a little overlap between the two: _____ starts while _____ is just finishing up. _____ is the process of dividing up the nuclear material. It makes sure that the DNA is split up into _____ and each pile has a copy of each _____.

There are 4 stages to mitosis:

_____: This is the first stage of mitosis. During _____ the _____ condenses into visible _____. The

_____ gets broken down and disappears and the _____
is no longer visible. In _____ cells the _____
move apart to the "poles" of the cell and _____ begin to form.

_____: This is the second stage of mitosis. During _____
the _____ are all in a row in the middle (equator) of the cell. The
_____ are complete and attached to the _____.

_____: This is the third stage of mitosis. During _____ the
_____ are pulled apart, ensuring one copy of each _____ goes
to each new cell.

_____: The last stage of mitosis. This is basically _____ in
reverse. The _____ start to unwind back into _____. The
_____ starts to form. The _____ start to
disappear. The _____ starts to reappear. Frequently _____
begins during _____.

The last part of cell division is _____. This is the part where the
over-sized parent cell splits into two _____ cells. _____
is also an area where there is a noticeable difference between plant and animal cells.

In _____ cells, the cell membrane just pinches together, eventually
forming two cells. In _____ cells, however, vesicles form between the
two new nuclei. Eventually the vesicles fuse together to form a cell plate. The cell
plate grows and extends until the parent cell has been split into two new
_____ cells.

_____ → _____ → _____