**The Cell Cycle**

**Remember**:

There are 3 basic reasons why a cell divides. 1) to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and

3) to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Remember**: What these organelles do 1) nucleus \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) cell membrane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Where we find chromosomes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and

What chromosomes do \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What are some other organelles? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

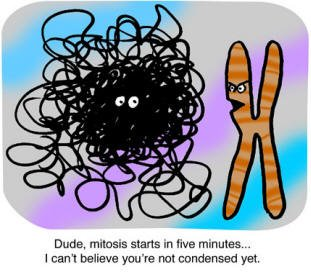
**The cell cycle** = the \_\_\_\_\_\_\_ stages a cell goes through as it grows and divides (into 2)

1. Interphase = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. mitosis = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (PMAT)

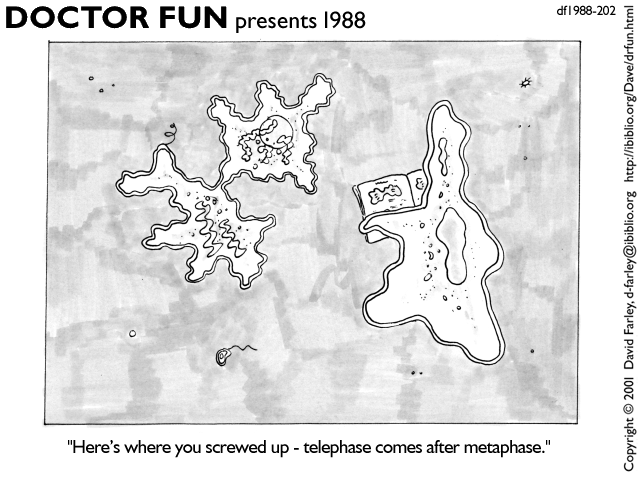
3. cytokinesis = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



Memory trick: ‘inter’ means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

‘cyto’ sounds like \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Extra: **d**eoxyribo**n**ucleic **a**cid = \_\_\_\_\_\_\_\_\_\_(chromosomes)

**Modelling Mitosis -** modeling mitosis helps you learn it! There are 4 stages of mitosis.

**CREATE** the stages with plasticene. **DRAW** in the result.

Interphase – at the end, all the chromosomes doubled

**Prophase** – The chromosomes thicken. On plasticene sheet, draw a nucleus that will fit 3 chromosomes. Create 3 doubled, thick chromosomes – each a different colour. Put them inside the nucleus**. Label ‘chromosomes’ and** ‘**chromatid’**. (see the front board).

**Metaphase** – the nucleus disappears (erase it).

Now the doubled chromosomes line up in

the middle of the cell.

Attach some spindle fibres. (see front board). **Label ‘spindle fibres’.**

Memory trick – **m**etaphase <-> **m**iddle

**Anaphase** – The doubled chromosomes separates and one chromatid goes to one end of the cell and the other (sister) chromatid goes to the other end. **Draw** in spindle fibres pulling

Chromatids apart

**Telophase** – a nucleus forms around

*each set of chromosomes.* ***Draw*** *this in.* **Label** *the nucleus.*

**Teacher Notes:**

Draw a doubled chromosome on board, labeling ‘chromosomes’ and also ‘chromatid’.

Show on the board that the chromosomes go to separate sides of the cell to a ‘point’ (centriole). Spindle fibres ‘reel in’ the chromosomes. Show home to draw spindle fibres.