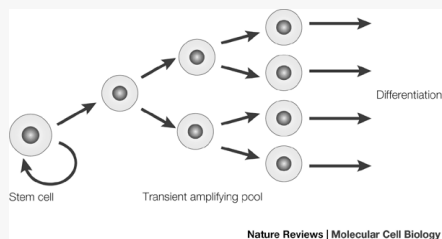


Cell Cycle

Zygote Grows until large enough for cell division, it divides into **Progeny Cells**

Progeny Cell Cell Growth Cell Division

Sequence of Cell Division



Cell Cycle Before Mitosis

Growth 1

Replication Phase

Growth 2

Now ready for Mitosis

Growth 1

Longest Phase

Most growth in cell size

Replication

DNA in cell nucleus are copied

2 Identical sets of DNA

Growth 2

Cell keeps growing

Until Ready for Mitosis

Interphase

Growth 1, Replication Phase, Growth 2

These 3 stages together are referred to as

Interphase

Mitosis

Mitosis is cell division that produces genetically identical cells

Chromosomes

DNA molecules attached to proteins structures

DNA

Interphase DNA is long thin strands

Mitosis DNA tightly coiled chromosomes become more visible

Glossary

Autosomes Chromosomes other than a sex chromosome

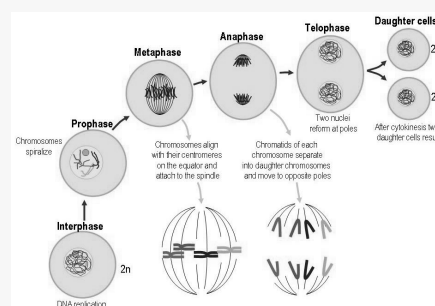
Diploid Diploid cells where autosomes have a partners

Centromere Point of attachment of replicated chromosomes

Chromatids Replicated DNA pair

Cytoplasm Cytoplasm is a thick solution that fills each cell and is enclosed by the cell membrane

Mitosis Picture



Mitosis 4 Divisions

Prophase

Metaphase

Anaphase

Telophase

Think PMAT for Mitosis Stages

Chromatids are double the number of chromosomes

46 chromosomes for humans

23 pairs of chromosomes for humans

46 Chromatids at start of mitosis

Prophase

Membrane surrounding Chromosomes disappears

Cell no longer has a nucleus

Chromosomes have identical Chromatids joined at centromere

Metaphase

Chromosomes line up along the middle of the cell

Become attached by centromeres

By spindle fibres

Anaphase

Chromatids now separate

Spindles pull chromatids to opposite ends of the cell

Chromatids are now chromosomes

Telophase

Chromosomes at opposite ends uncoil

Nuclear envelope forms around each group

Two Nuclei

Cytoplasm Divides

Now 2 Daughter cells

Genetically Identical

Daughter cells start the Cell cycle