**Chromosome Numbers – background for Mitosis and Meiosis**

Interphase DNA = mostly as chromatin

Mitosis/Meiosis DNA grouped/condensed as chromosomes

‘Single’ *chromosome*:

* One chromatid (with centromere) – this is complete chromatid/chromosome
* They come in pairs – like matching sets (homologous)
* Humans = 23 pairs (so 46)

But when DNA has been replicated in S phase (interphase) – there is two sets of DNA, so there should be double chromosomes when they condense for division:

‘Double’ chromosome:

* Two identical chromatids joined together at centromere (called sister chromatids)
* One is the exact copy of the other (DNA from replication in S phase)
* Look like X shape
* Still part of a homologous pair X X
* 23 pairs = 46 (in duplicate form)

Humans – DIPLOID

* When you have 23 pairs (duplicated or not)

Humans – HAPLOID

* When you have only one from each pair set – ie. 23

**Single**

chromosomes

(chromatids)

**Duplicated**

chromosomes

**Note:** just one of the pair (purple or green) can be called a homologue (singular)