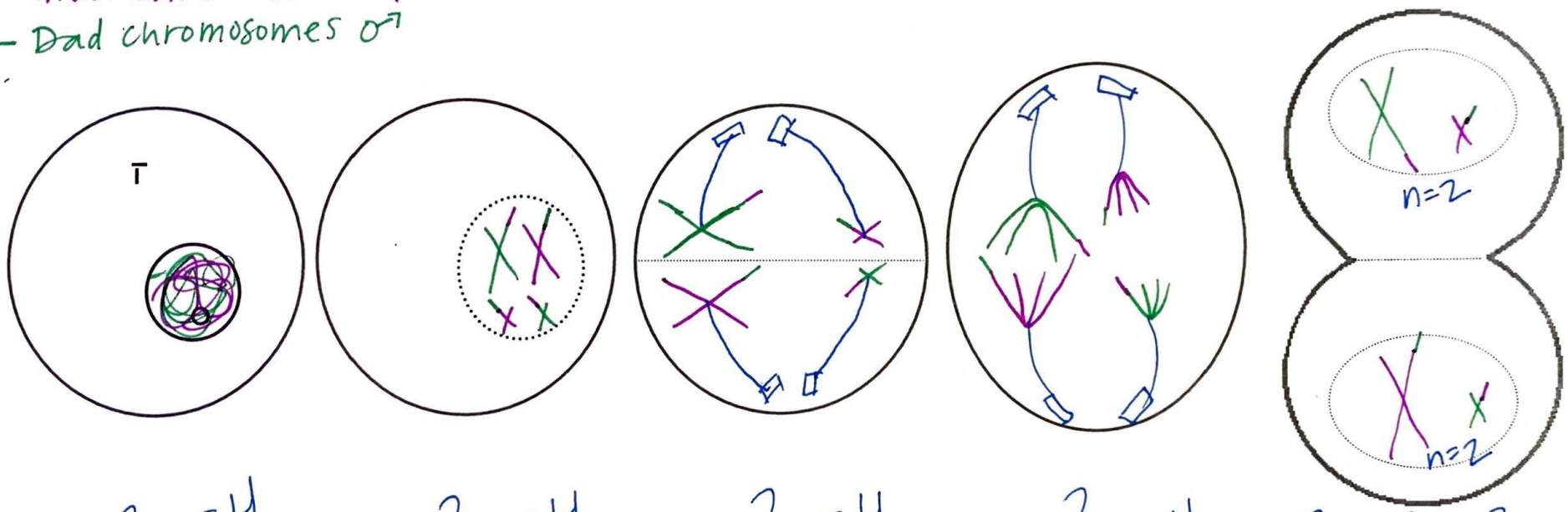
Meiosis

→ produce haploid gametes
→ adds genetic variation
→ cells go from 2n to n
diploid haploid

Meiosis I

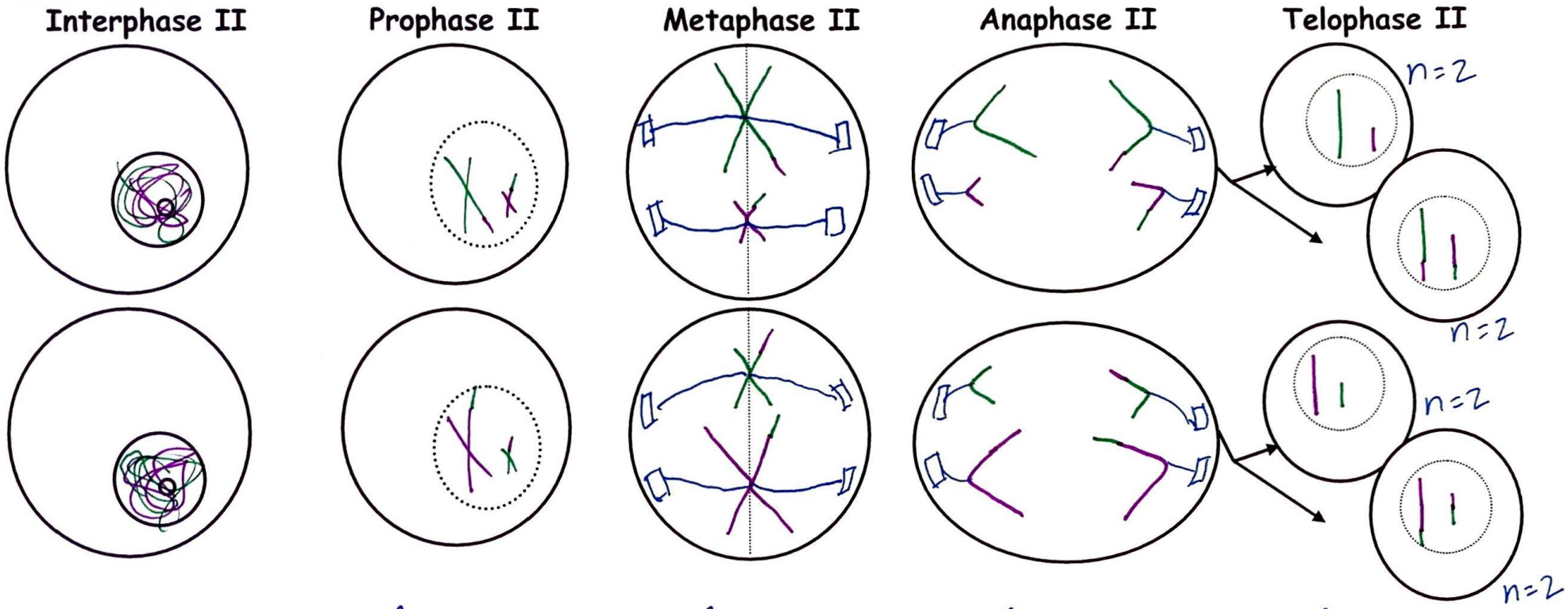
— mom chromosomes ♀
— Dad chromosomes ♂



Interphase I	Prophase I	Metaphase I	Anaphase I	Telophase I
2 n=4	2 n=4	2 n=4	2 n=4	2n→2 n=2
▷ DNA is chromatin ▷ nucleus & nucleolus are still visible ▷ G_1, S, G_2 ↑ DNA Replicated	▷ Homologous chromosomes pair up ▷ nucleus breaks down CROSSING OVER gene segments (aka parts of chromosomes) between homologs can swap ↑ genetic variation	▷ homologous chromosomes straddle the metaphase plate INDEPENDENT ASSORTMENT homologs randomly line up on each side of metaphase plate ↑ genetic variation	▷ homologs separate & move to opposite poles ▷ sister chromatids remain attached	▷ each pole has a haploid set of replicated chromosomes * sister chromatids remain attached

make more haploid cells - Very Similar to PMAT of mitosis

Meiosis II



Interphase II	Prophase II	Metaphase II	Anaphase II	Telophase II
1 n each cell	1 n each cell	1 n each cell	1 n each cell	1 n each cell
Short Phase no DNA replication DNA is chromatin Break time	▷ nucleus breaks down ▷ DNA is double stranded w/sister chromatids ▷ NO homologous pairs ie homologs	Double Stranded chromosomes line up @ metaphase plate	▷ chromatids separate + move to opposite poles ▷ They are now single-stranded chromosomes	▷ DNA uncoils ▷ nuclei form around DNA 4 haploid daughter cells! aka gametes aka sperm or egg