

How many chromosomes are in a typical body cell in a human?

46

What 2 cells combine in sexual reproduction?

Sperm and Egg

How does the number of chromosomes in the baby compare to the parents?

the baby has the same number of chromosomes as the parents

How does the number of chromosomes in the sex cells compare to the body cells?

The sex cells (sperm and egg) have half the number of chromosomes as the body cells

March 2, 2020

Objective: The student will be able use vocabulary to describe changes that take place in meiosis vs. mitosis.

Upcoming:

Monday- Mitosis vs. Meiosis vs. Fertilization

Tuesday: Meiosis simulation

Wednesday: Review and myMCPS quiz on Meiosis

Thursday: Mutations

Friday: Study Guide in Class

Monday: Review of whole unit

Tuesday: Unit Test on Cell Cycle, Cancer Genes, Gene Expression, DNA vs. RNA, Protein Synthesis and Meiosis

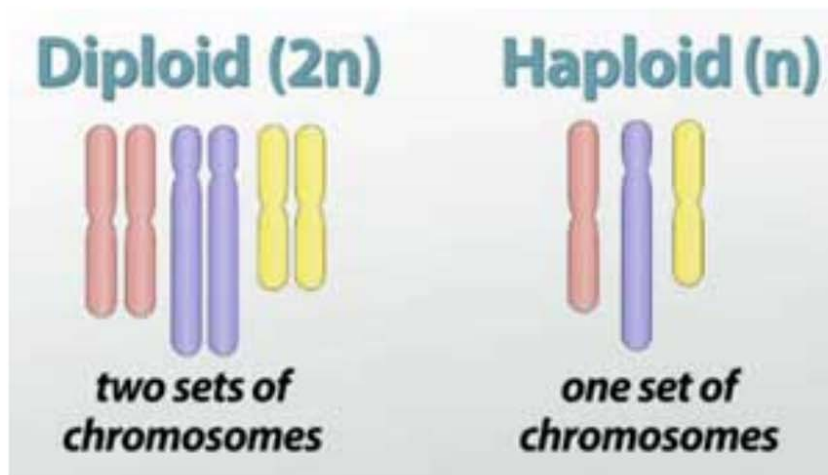
Homework: Finish back of mitosis vs. Meiosis worksheet

	Mitosis	Meiosis	Fertilization
Start	1 diploid cell	1 diploid cell	2 haploid gametes
End	2 identical diploid cells	4 haploid gametes	1 diploid zygote
Purpose	Grow and replace worn out cells	Make egg OR sperm	Reproduction: sperm + egg = baby



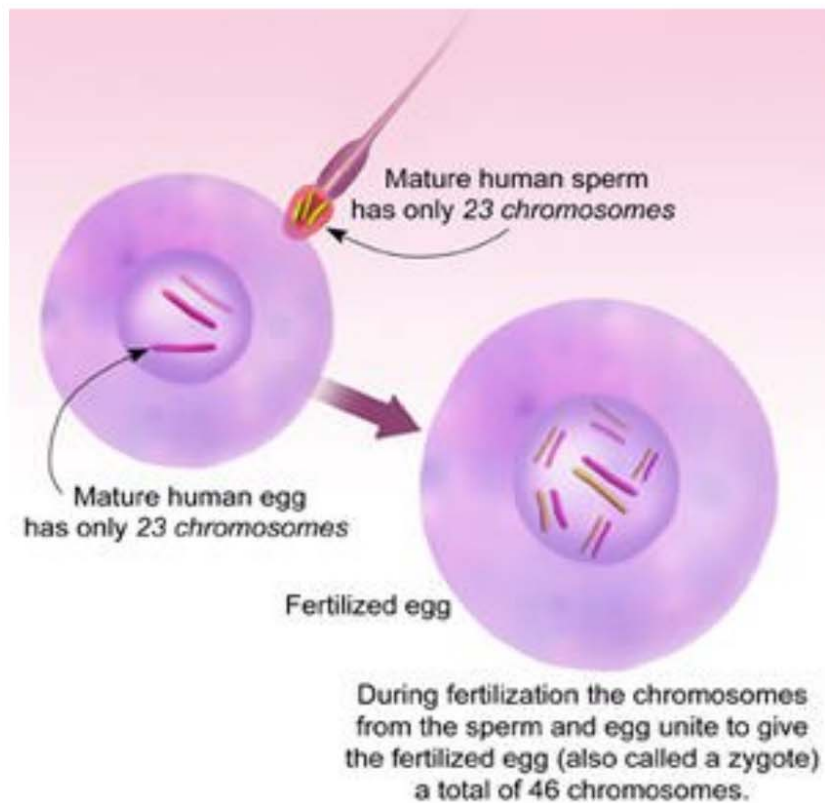
Vocab:

Diploid- Cells with 2 copies of every chromosome

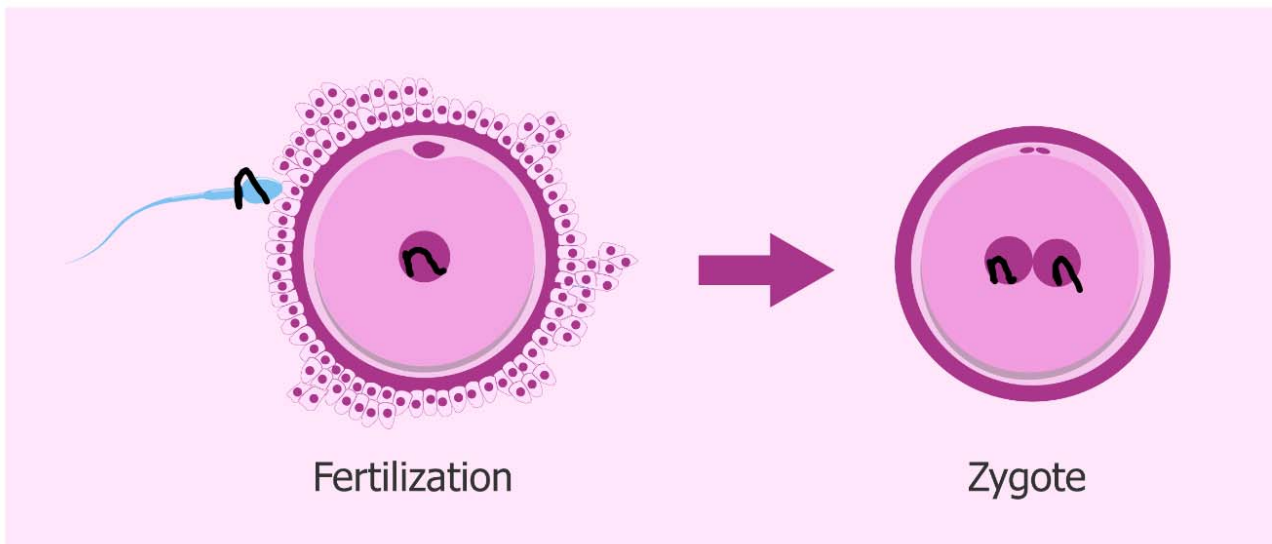


Haploid- Cells with only 1 copy of each chromosome

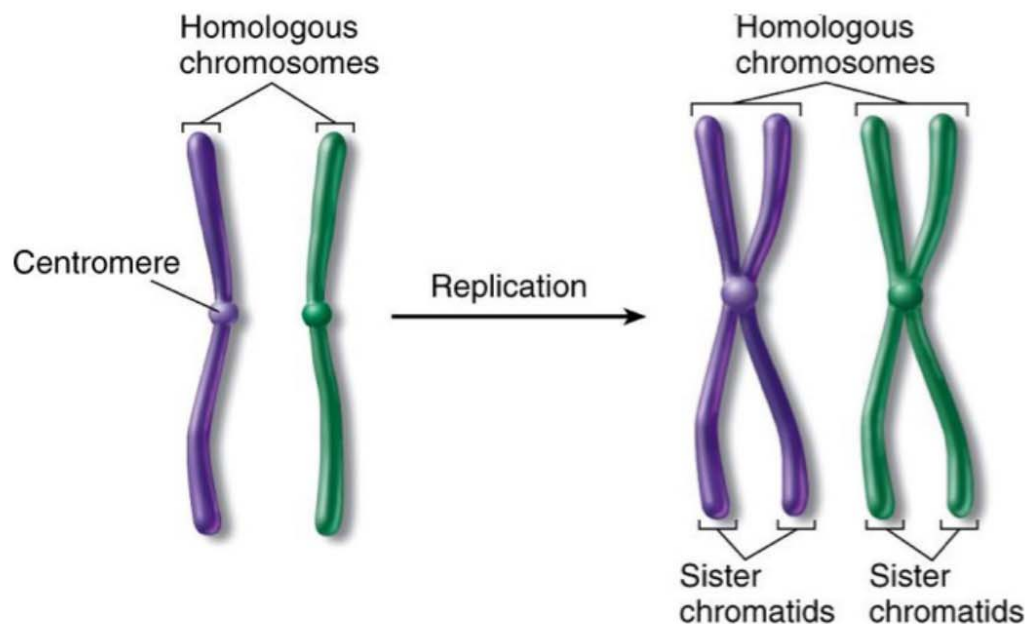
Gamete: Cells used for reproduction. Haploid Sperm or Eggs



Zygote: Fertilized Egg- Diploid

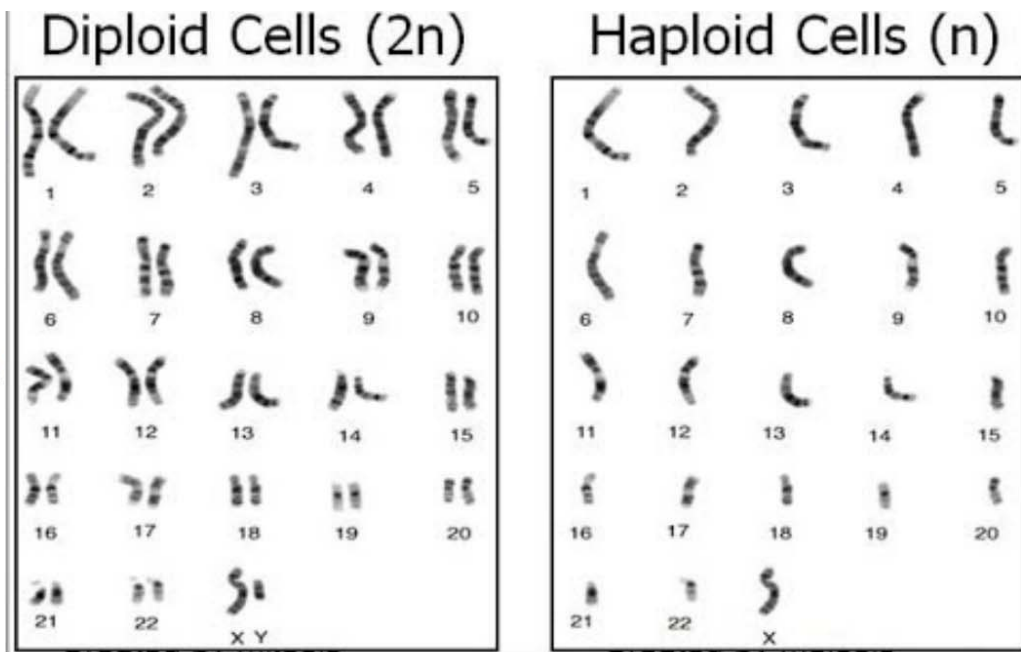


Homologous chromosomes- 2 different chromosomes with the same genes at the same location (1 came from mom, 1 came from dad)



Sister Chromatids: Replicated DNA held together by a centromere. (2 sides of the X)

Body Cell
or
zygote



Gamete

Diploid Cell with 2 copies of each chromosome
Chromosome 1 from mom and Chromosome 1 from Dad
each have the same genes...but not always the same
versions of those genes (ex: Blue eyes vs. Brown eyes)

Haploid Cells have 1 copy of each chromosome. Just
one version of each gene.

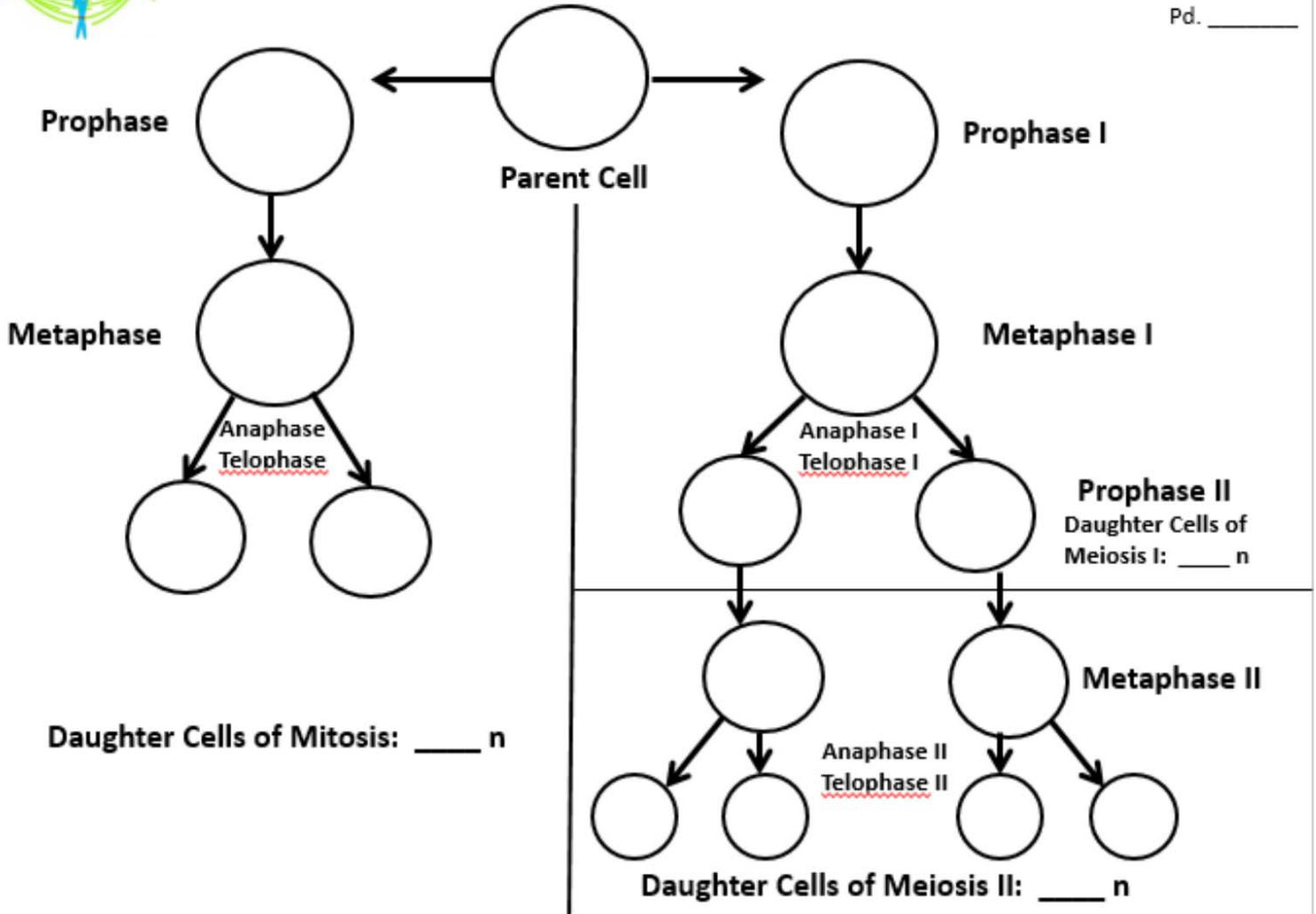


Mitosis VS. Meiosis

Name: _____

Date: _____

Pd. _____



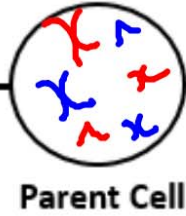


Mitosis VS. Meiosis

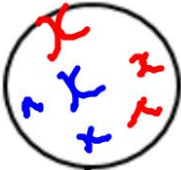
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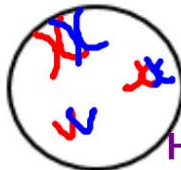
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Prophase

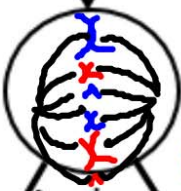


Prophase I



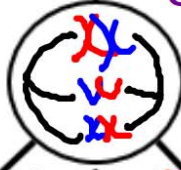
Homologous chromosomes form tetrads: Crossing Over Occurs

Metaphase



Sister chromatids split

Metaphase I

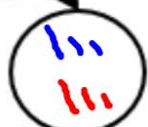


Homologous chromosomes line up (in pairs)

Anaphase I: Homologous chromosomes split

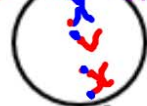
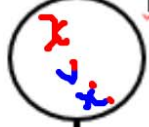
Anaphase

Telophase



Anaphase I

Telophase I



Prophase II
Daughter Cells of Meiosis I: $\frac{1}{2}n$

Daughter Cells of Mitosis: $2n$

Makes identical copies of body cells

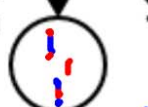


Metaphase II

Sister chromatids split

Anaphase II

Telophase II



Daughter Cells of Meiosis II: $\frac{1}{4}n$

Makes haploid gametes for reproduction

	MITOSIS	MEIOSIS
# of Divisions	1	2
# of Daughter Cells	2	4
Genetically Identical?	Yes	No
Does Crossing Over Occur?	No	Yes
Chromosome # in daughter cell compared to parent cell	Same	Half
Daughter Cells Diploid or Haploid	Diploid	Haploid
Where?	Body Cells	Testis or Ovaries
When?	All of life	After Puberty
Role	Growth replace worn out cells	Preparation for reproduction
Name of Cells	Somatic Cells	Gametes



