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| 36    Gametes  Chromosomes  Homologous Chromosomes | * Organisms that reproduce \_\_\_\_\_\_\_\_\_\_\_\_ are made up of \_\_\_\_ different types of cells. * **\_\_\_\_\_\_\_\_ \_\_\_\_\_ are “body” cells and contain the normal number of chromosomes ….called the “\_\_\_\_\_\_\_\_” number (the symbol is \_\_\_\_). Examples would be … \_\_\_\_\_\_\_\_\_\_\_, brain cells, etc.** * **\_\_\_\_\_\_\_\_\_are the “sex” cells and contain only \_\_\_ the normal number of chromosomes…. called the “\_\_\_\_\_\_\_” number (the symbol is \_\_\_)….. \_\_\_\_\_\_\_\_ cells and \_\_\_\_\_ are gametes.** * **The Male Gamete is the \_\_\_\_\_\_\_ and is produced in the male gonad the Testes.** * **The Female Gamete is the \_\_\_\_\_\_\_ and is produced in the female gonad the Ovaries.**   **The \_\_\_\_\_\_\_\_\_ of a sperm and egg to form a \_\_\_\_\_\_\_\_\_\_\_\_.**  **A zygote is a \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_**   * If an organism has the \_\_\_\_\_\_\_\_\_\_ number (2n) it has two matching homologues per set. One of the homologues comes from the \_\_\_\_\_\_\_\_\_ (and has the mother’s \_\_\_\_\_).… the other homologue comes from the \_\_\_\_\_\_\_\_\_\_(and has the father’s \_\_\_\_\_\_\_). * Most organisms are diploid. Humans have \_\_\_\_ sets of chromosomes… therefore humans have \_\_\_\_ total chromosomes….. The \_\_\_\_\_\_\_\_\_\_ number for humans is 46 (46 chromosomes per cell). * **\_\_\_\_\_\_\_\_\_ of chromosomes (maternal and paternal) that are \_\_\_\_\_\_\_\_\_\_ in shape and size.** * **Homologous pairs (\_\_\_\_\_\_\_) carry \_\_\_\_\_\_\_ controlling the \_\_\_\_\_\_\_ inherited traits.** * **Each \_\_\_\_\_\_\_ (position of a gene) is in the same position on homologues.** * **Humans have \_\_\_\_ pairs of homologous chromosomes.** * **22 pairs of \_\_\_\_\_\_\_\_\_\_\_\_\_** * **\_\_\_\_ pair of sex chromosomes** |
| Sex Chromosomes  Meiosis  Interphase  Meiosis 1  Prophase 1  Crossing Over | The Sex Chromosomes \_\_\_\_\_ for the sex of the \_\_\_\_\_\_\_\_\_\_\_\_. \*\* If the offspring has \_\_\_\_\_\_ “X” chromosomes it will be a \_\_\_\_\_\_\_\_\_\_.  \*\* If the offspring has \_\_\_\_\_ “X” chromosome and \_\_\_\_\_ “Y” chromosome it will be a \_\_\_\_\_\_\_\_.    is the process by which ”\_\_\_\_\_\_\_\_\_” (sex cells) , with half the number of chromosomes, are produced.  During \_\_\_\_\_\_\_\_\_ diploid cells are reduced to \_\_\_\_\_\_\_\_\_\_ cells  \_\_\_\_\_\_\_\_\_ (2n) → \_\_\_\_\_\_\_\_\_\_ (n)  If Meiosis did not occur the chromosome number in each new generation would \_\_\_\_\_\_\_\_\_\_…. The offspring would \_\_\_\_\_\_.  Meiosis is Two cell divisions  (called \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_)  with only \_\_\_\_\_\_ duplication of chromosomes.  Similar to \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_.  Chromosomes \_\_\_\_\_\_\_\_\_\_\_\_  Each duplicated chromosome consists of two \_\_\_\_\_\_\_\_\_\_\_ sister chromatids attached at their centromeres.  Centriole pairs also replicate.  Cell division that reduces the chromosome number by \_\_\_\_\_\_\_\_\_\_\_\_.  four phases:  a. \_\_\_\_\_\_\_\_\_\_\_\_  b. \_\_\_\_\_\_\_\_\_\_\_\_  c. \_\_\_\_\_\_\_\_\_\_\_\_  d. \_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_and most complex phase.  90% of the meiotic process is spent in Prophase I  \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_.  \_\_\_\_\_\_\_\_\_\_\_\_\_ occurs: homologous chromosomes come together to form a tetrad.  \_\_\_\_\_\_\_\_\_\_ is two chromosomes or four chromatids (sister and nonsister chromatids).  Tetrad Crossing Over     * **Crossing Over is one of the Two major occurrences of Meiosis** * **(The other is Non-disjunction)** * **During Crossing over segments of nonsister chromatids break and reattach to the other chromatid. The Chiasmata (chiasma) are the sites of crossing over.** |