Vocabulary: Biology Unit: 6 DNA/mitosis/meiosis Date:

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| **Picture** | **Word** | **Definition** |
|  | DNA | -Deoxyribonucleic acid  -Contains genetic information to build organism (instructions build proteins)  -Found in nucleus of eukaryotic cells, in cytoplasm of prokaryotic cells.  -Double helix made of nucleotides. |
|  | Nucleotide | -The monomer of nucleic acids  -DNA: deoxyribose sugar, phosphate group, and nitrogenous base  ----bases: A,T,C, and G |
|  | Gene | -A section of DNA that contains the instructions for building a particular protein for the expression of a particular trait. |
|  | Trait | -The physical expression of a gene.  --examples: eye color, hair color, ability to whistle or curl tongue. |
|  | Chromatin | -DNA that is uncoiled  -In the nucleus, during interphase.  -Is not visible, except as darker mass in cell. |
|  | Replication | -The process of making an exact copy of DNA in order to provide a copy for daughter cells.  -Occurs during the S phase of the cell cycle. |
|  | Chromosome | -DNA that has become condensed (coiled up tightly)  -Only visible during cell division.  -Can be replicated (X) or unreplicated (/). |
|  | Chromatid | -one of the “arms” of a replicated chromosome.  -“sister” chromatids are held together by a centromere until separated during cell division. |
|  | Haploid | -One set of chromosomes  -“half” of the instructions necessary to build an organism.  -Number of chromosomes found in a gamete.  - haploid = n |

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| **Picture** | **Word** | **Definition** |
|  | Diploid | -two sets of chromosomes.  -the “full” set of instructions needed to build an organism.  -Number of chromosomes found in an organism after fertilization.  -Diploid = 2n |
|  | Cell Cycle | -The stages that a cell goes though during cell division.  -Consists of the Interphase (G1, S, G2) and the M (mitosis and cytokinesis) phases. |
|  | Asexual Reproduction | -The production of offspring from one parent (one set of DNA).  -Offspring are genetically identical to parent.  -binary fission, mitosis, budding, cuttings. |
|  | Mitosis | -The division of a cell’s nucleus.  -Prophase, metaphase, anaphase, and telophase.  --for growth, tissue repair, cell replacement  --asexual reproduction: 1 cell produces 2 identical daughter cells |
|  | Cytokinesis | -The division of a cell’s cytoplasm to create 2 separate cells.  -Often occurs during telophase (of mitosis). |
|  | Cancer | -The uncontrolled division of cells.  -Occurs when cells continue to divide unchecked without external or internal controls.  -Tumors are produced. |
|  | Meiosis | -The process of producing gametes (sex cells).  -1 diploid cell produced 4 haploid daughter cells that are genetically different from the parent cell. |
|  | Sexual reproduction | -The production of genetically unique offspring by 2 parents (2 sets of DNA).  -gametes produced by meiosis are fertilized to produce a zygote (first cell of organism). |
|  | Homologous chromosome | -A pair of chromosomes that contain the genes for the same traits.  -One of the chromosomes comes from one parent and the other chromosome comes from the other parent.  -These chromosomes pair up during meiosis I in order to reduce the number of chromosomes during division. |