|  |  |
| --- | --- |
| **During Mitosis, The Nucleus Of The Cell \_\_\_\_\_, Forming -** | *Divides ----Two Nuclei With Identical Genetic Information* |
| **Many Organisms Are Capable Of Combining \_\_\_\_ \_\_\_\_ From Two Parents To Produce Offspring.** | *Genetic Information* |
| **Sex Cells Are Produced Through -** | *Meiosis* |
| **Meiosis Allows Sexually Reproducing Organisms To Produce -** | *Genetically Differing Offspring* |
| **The Many Body Cells Of An Organism Can Be \_\_\_\_\_ To Perform Different Functions, Even Though They Are All Descended From A Single Cell And Contain Essentially The Same Genetic Information.** | *Specialized* |
| **\_\_\_\_ Produces Two Genetically Identical Cells.** | *Mitosis* |
| **Meiosis Occurs In Sexual Reproduction When A \_\_\_\_ Germ Cell Produces Four \_\_\_\_\_ Daughter Cells That Can Mature To Become \_\_\_\_ (Sperm Or Egg).** | *Diploid ---Haploid Gametes* |
| **A Typical Cell Goes Through A Process Of Growth, Development, And Reproduction Called-** | *The Cell Cycle* |
| **Mitosis And Meiosis Refer To Division Of The -** | *Nuclear Material* |
| **The Division Of The Cytoplasm And Organelles Is Called -** | *Cytokinesis* |
| **What Are The Stages Of Mitosis?**  | *Prophase, Metaphase, Anaphase, And Telophase* |
| **Geneticists Apply Mathematical Principles Of \_\_\_\_ To Mendel’s Laws Of Heredity In Order To Predict The Results Of Simple Genetic Crosses.** | *Probability* |
| **The Genetic Make-Up Of An Organism-** | *Genotype* |
| **The Organism’s Appearance Based On Its Genes-** | *Phenotype* |
| **\_\_\_\_ Individuals Have Two Identical Alleles For A Particular Trait.** | *Homozygous* |
| **\_\_\_ Individuals Have Contrasting Alleles For A Particular Trait.** | *Heterozygous* |
| **When One Allele Masks The Effect Of Another, That Allele Is Called \_\_\_\_ And The Other\_\_\_-** | *Dominant --- Recessive* |
| **When An Intermediate Phenotype Occurs And No Allele Dominates, The Result Is -**  | *Incomplete Dominance* |
| **Genetically \_\_\_ Populations Are More Likely To Survive Changing Environments.** | *Diverse* |
| **What Makes Genetic Diversity?** | *Recombination and Mutation* |
| **New Gene Combinations Can Either -**  | *Have Little Effect**Produce Organisms That Are Better Suited To Their Environment**Can Be Deleterious (Not Good)* |
| **The Sorting And Recombination Of Genes In Sexual Reproduction Results In -** | *A Great Variety Of Gene Combinations In The Offspring Of Any Two Parents* |
| **Genes Can Be Altered By:** | *Inserting, Deleting, Or Substituting DNA Bases* |
| **An Altered Gene May Be Passed On To Every Cell That Develops From It, Causing -** | *An Altered Phenotype* |
| **An Altered Phenotype May Be:** | *Beneficial Or Detrimental* |
| **Sometimes Entire Chromosomes Can Be Added Or Deleted, Resulting In:** | *A Genetic Disorder* |
| **Trisomy 21 Is:** | *A Genetic Disorder - Down Syndrome* |
| **DNA Stores The Information For Directing The Construction Of:**  | *Proteins Within A Cell* |
| **\_\_\_\_\_ Determine The Phenotype Of An Organism.** | *Proteins* |
| **The Genetic Information Encoded In DNA Molecules Provides Instructions For:**  | *Assembling Protein Molecules* |
| **The Genetic Code Is Virtually The Same For All Life Forms. (True Or False)** | *True* |
| **Before A Cell Divides, The Instructions Are \_\_\_\_ So That Each Of The Two New Cells Gets All The Necessary Information For Carrying On Life Functions.** | *Duplicated* |
| **The Genetic Code Is A Sequence Of \_\_\_ \_\_\_\_ In The Nucleus Of Eukaryotic Cells.** | *DNA Nucleotides* |
| **\_\_\_\_ Is A Polymer Consisting Of Nucleotides.** | *DNA* |
| **A DNA Nucleotide Is Identified By The Base It Contains:**  | *Adenine (A), Guanine (G), And Cytosine (C) Or Thymine (T).* |
| **DNA Is A \_\_\_\_\_-\_\_\_\_\_\_ Molecule.** | *Double-Stranded* |
| **Like Rungs On A Ladder, The DNA Strands Are Connected By:** | *Complementary Nucleotide Pairs (A-T And C-G)* |
| **The Ladder (DNA Strands) Twists To Form A \_\_\_\_\_ \_\_\_\_ .** | *Double Helix* |
| **The Genetic Code Is The Sequence Of:** | *DNA Nucleotides* |
| **In Order For Cells To Make Proteins, The DNA Code Must Be:**  | *Transcribed (Copied) To Messenger RNA (mRNA)* |
| **The Mrna Carries The Code From The Nucleus To:**  | *The Ribosomes In The Cytoplasm* |
| **\_\_\_\_ Is A Single-Stranded Polymer Of Four Nucleotide Monomers.** | *RNA* |
| **A RNA Nucleotide Is Identified By The Base It Contains:**  | *Adenine (A), Guanine (G), And Cytosine (C) Or Uracil (U).* |
| **At The Ribosome, Amino Acids Are Linked Together To Form:**  | *Specific Proteins* |
| **The Amino Acid Sequence Is Directed By The:**  | *mRNA Molecule* |
| **Cells Pass On Their Genetic Code By:** | *Replicating (Copying) Their DNA* |
| **During DNA Replication, Enzymes \_\_\_\_\_\_\_\_\_\_\_\_\_ And Each Strand Serves As A Template For Building A New DNA Molecule.** | *Unwind and Unzip The Double Helix* |
| **Free Nucleotides Bond To The Template (A-T And C-G) Forming A Complementary Strand. The Final Product Of Replication Is:**  | *Two Identical DNA Molecules* |
| **DNA Technologies Allow Scientists To:**  | *Identify, Study, and Modify Genes* |
| **Genetic Engineering Techniques Are Used In:**  | *A Variety Of Industries, In Agriculture, In Basic Research, And In Medicine* |
| **An Example Of The Application Of DNA Technology Is:** | *Forensic (Criminal) Identification* |
| **Some Useful Products That Might Be Developed Through Genetic Engineering Could Be:** | *Human Growth Hormone, Insulin, and Pest-and Disease-Resistant Fruits And Vegetables* |
| **A Pseudo-Science Movement Throughout The Twentieth Century, Worldwide As Well As In Virginia, That Demonstrated A Misuse Of The Principles Of Heredity Was:** | *Eugenics* |
| **What Was Eugenics?** | *Selective Pro-Creation (Hitler)* |
| **What Is The Human Genome Project?**  | *A Collaborative Effort To Map The Entire Gene Sequence Of Organisms.* |
| **Why Will It Be Useful To Map The Entire Gene Sequence Of Organisms?** | *This Information Will Be Useful In Detection, Prevention, and Treatment Of Many Genetic Diseases.* |
| **What Is Cloning?**  | *The Production Of Genetically Identical Cells And/Or Organisms.* |