Vocabulary: Biology Unit: 8: Genetics Date:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Picture** | | **Word** | | **Definition** |
|  | | Karyotype | | A picture/photograph that shows homologous chromosomes, arranged by size, used to identify abnormalities in fetuses.  --Shows chromosomal mutations only |
|  | | Nondisjunction | | The failure of homologous chromosomes to separate during meiosis.  --This results in gametes having multiple copies of a chromosome or missing chromosomes.  --trisomy 21 (extra 21), Turner’s syndrome (X), Klinefelter’s syndrome (XXY) |
|  | | Autosome | | Chromosome pairs 1-22  --There are no differences between males and females. |
|  | | Sex Chromosome | | Chromosome pair # 23  --Determines gender: XX=female, XY = male  --X chromosome is larger and contains more genes than the Y chromosome. Reason why more males show sex-linked recessive traits. |
|  | | DNA Fingerprinting | | A technique that is used to compare unknown samples of DNA to known samples.  --Used in paternity testing and crime scenes |
|  | | Gene | | -A section of DNA that contains the instructions to build the proteins that will determine traits. |
|  | | Trait | | - The physical expression of a gene that varies among individuals.  - Examples: hair color, hair texture, eye color, height |
|  | | Allele | | - The different forms of a trait  - Example: tall or short, blue or brown, curly or straight |
| **Picture** | | **Word** | | **Definition** |
|  | | Homozygous | | - Contains two alleles in the same form.  - Pure breeding, true breeding  -Can be dominant or recessive. |
|  | | Heterozygous | | - Contains two alleles in different forms.  - Hybrid, carrier  -Contains one dominant and one recessive allele |
|  | | Punnett square | | - Used to predict the possible genetic outcomes of different test crosses. |
| A | | Dominant | | - The form of a trait that is shown if it is present.  -Example: Tall = Tt or TT |
| a | | Recessive | | -The form of a trait that is only shown if a dominant allele is absent. If dominant is present, recessive is hidden.  -Ex: Short = tt |
|  | | Monohybrid cross | -A test cross involving only one gene (trait).  -Ex: Tt x tt  -Tall x short | |
|  | | Dihybrid cross | -A test cross involving two genes (traits)  -Ex: TtYy x ttYY  -Tall and yellow x Short and yellow | |
|  | | Hybrid | -Heterozygous, contains one form of each allele.  -Aa | |
|  | | Purebred | -Homozygous, true breeding  -Contains same form of allele  -AA or aa | |
|  | | Carrier | - Heterozygous individual  -The trait is not exhibited in an individual but the individual can pass the recessive allele to its offspring. | |
| **Picture** | | **Word** | **Definition** | |
|  | | Phenotype | -Physical appearance  -Tall or short, blue eyes or brown eyes, green or yellow | |
|  | | Genotype | -The genetic makeup of a trait.  -TT, Tt, tt | |
|  | | Codominance | -When there is more than one allele that is dominant, the dominant alleles share dominance.  -Ex: RR = red, WW=white, RW= red and white | |
|  | Incomplete dominance | | -When there is more than one allele that is dominant, the dominant alleles mix or blend when in the heterozygous form is present.  -Ex: RR = red, WW= white, RW = pink | |
|  | Sex-Linked trait | | -Any gene that is found on the sex chromosomes.  -Determine gender XX=femaile, XY = male  -more common in males. | |
|  | Pedigree | | A chart used to represent the genetic inheritance of a particular trait.  --Like a family tree but for genes  --Can be used to show autosomal dominant traits, autosomal recessive traits and sex-linked traits. | |