

Genetics Test Review

Genotype - the letters (BB, Bb, bb)

Phenotype - the physical trait that you can see (hair color, nose shape, skin color)

Heredity - parents passing traits to offspring

Allele - one of two forms of a gene (BB, Bb, bb)

Dominant - always shows if it is a genotype, represented by capital letters

Recessive - only shows up if paired with another recessive, represented by lower case letters

Incomplete Dominance - offspring looks like a mix of both parents

Co-Dominance - offspring shows the dominant trait of both parents

Homozygous - Same (BB or bb)

Heterozygous - Different (Bb) - always shows the dominant trait

Homozygous Dominant - Same and Big Letters (BB)

Homozygous Recessive - Same and little letters (bb)

Sexual Reproduction - 2 parents, offspring looks like a mix of both parents

Asexual Reproduction - 1 parent, offspring looks exactly like the parent

Punnett Square - a tool to show the probability of what offspring will look like

Gregor Mendel - the father of genetics, famous for crossing pea plants

Double Helix - the twisted ladder shape of DNA

DNA Bases (A-T, G-C) - the chemicals that make up the genes of DNA

Gene - a section of DNA

Trait - a characteristic that is passed from parent to offspring

Offspring - the child, kid, product of parents, receive traits from parents

Chromosome - inside nucleus, made of DNA, males - XY, females - XX

Purebred - homozygous (BB or bb)

Hybrid - heterozygous (Bb)

1. What is the hidden or masked trait called?
recessive
2. What is another name for heterozygous? Homozygous?
Hybrid, purebred
3. How many genes for each trait does an offspring receive from each parent?
1
4. What tool is used in genetics to show the probability of offspring?
Punnett square
5. Bill is homozygous for freckles. Sally, his wife, is heterozygous for clear skin. If they have a child, what chance is there the child will have freckles? Show your work.
Key = C - Clear Skin, c - freckles
Bill - cc
Sally - Cc
Chances of having offspring with freckles? 2:4 or 50%
6. What are the two ways that a GENOTYPE should look if it shows the dominant trait?
BB or Bb
7. What is the only way a GENOTYPE can look if it shows the recessive trait?
bb
8. What is an organism's expressed physical trait?
phenotype
9. What is a name for an organism's two identical alleles?
Homozygous or PUREBRED
10. How many chromosomes do people have in the nucleus of each cell?
23 pair or 46
11. Put in order from smallest to largest: cell, chromosome, nucleus, DNA, gene
Gene, DNA, chromosome, nucleus, cell
12. What information is on the x axis of a graph? Y axis?
X = independent variable, y = dependent variable
13. Mom has red hair and dad has green hair, which is recessive. What two possibilities of genotypes does mom have? What is dad's genotype? What genotype is Mom if all of the offspring is heterozygous? Show your work with Punnett squares.
Mom - Rr or RR
Dad - rr
If all are Heterozygous mom = RR
14. Make your own Punnett square word problem like the one above and work it out.