

Study Guide # 3 Probability and Heredity

1. What is heredity?

Passing of traits from parent to offspring

2. What is a trait?

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Physical characteristics studied in genetics

3. What is genetics?

Scientific study of heredity/ inheritance

4. What is a gene?

A factor that controls a trait

5. What are alleles?

Different forms of a gene

6. How many copies do organisms have of each gene? two

7. Why do genes exist in pairs?

One gene from each parent

8. What controls the inheritance of traits in organisms?

The genes inherited from the parents

9. What are dominant and recessive alleles?

Dominant alleles can mask recessive alleles.

10. What are Punnett squares? (know how to work one, too!)

A chart or tool used to predict possible genotypes of offspring

11. How is probability related to genetics?

Probability can be used to predict the result of a genetic cross

Define the following terms and give an example of each:

12. Purebred- always produces the same trait. Two of the same alleles (ex: tt or BB)

13. Hybrid- two different alleles (ex: Tt or Bb)

14. Dominant- can hide or mask a recessive. Trait always shows up if a dominant allele is present. Written with a CAPITAL letter (ex: T or B)

15. Recessive- can be hidden. Must have 2 recessive alleles to have the trait. Written with lowercase letters (ex: t or b)

16. Homozygous- 2 of the same alleles (ex: TT, tt, BB, or bb)

17. Heterozygous- 2 different alleles (ex: Tt or Bb)

18. Phenotype- physical appearance (ex: Eye color, hair color)

19. Genotype- genetic makeup/ actual alleles (ex: Bb or WW)

20. Codominance- both traits appear blended in the offspring

21. Probability- a number that predicts the likelihood that an event will occur