

Name: _____

Period: _____

Unit 8: GENETICS 2008 Test Review

Use your Genetics Vocabulary and Notes to answer the following:

- _____ 1. Physical appearance of an organism (what you see).
- _____ 2. Genetic makeup of an organism (the letters).
- _____ 3. Scientific study of heredity
- _____ 4. Physical characteristics passed on from one generation to the next.
- _____ 5. Characteristic that helps an organism survive.
- _____ 6. Production of offspring by a single parent.
- _____ 7. Production of offspring by two parents, combining of a sperm cell and an egg cell.

8. Double Bubble Asexual verses Sexual Reproduction.

Use your Genetics Notes for the following questions.

- 9. Who is known as the "Father of Genetics"? _____
- 10. What were his studies the beginning of? _____
- 11. In sexual reproduction, each parent contributes _____ of the offspring's genetic information.
- 12. In humans how many chromosomes are present? _____
How many chromosomes came from the egg cell? _____
How many chromosomes came from the sperm cell? _____
- 13. DOMINANT + DOMINANT = _____ trait
- 14. DOMINANT + recessive = _____ trait
- 15. recessive + recessive = _____ trait
- 16. Using the letter R, write a genotype to represent purebred. _____
- 17. Using the letter B, write a genotype to represent hybrid. _____

18. What are Punnett Squares? _____

19. What are dominant traits represented by? _____

20. What are recessive traits represented by? _____

Make a Punnett Square using the following information and then answer the questions that follow it.

- **Brown hair is dominant to blonde hair. Bob is a hybrid for Brown hair. His wife Bobbie Sue is purebred for blonde.**

21. Phenotype of Bob: _____ Phenotype Bobbie Sue: _____
Genotype Bob: _____ Genotype Bobbie Sue: _____

22. Create a Punnett Square that shows the probability of hair color for their offspring.

23. What are the phenotypes and genotypes of their children? Please include the percentage chance that each genotype will be passed on.

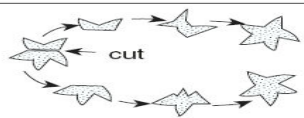
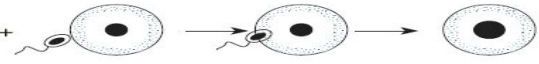
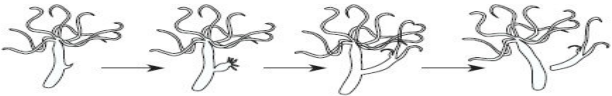
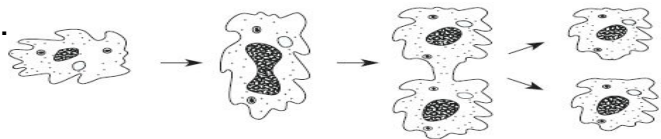
Phenotypes 1: _____ Genotype: _____ Percentage _____
Phenotypes 2: _____ Genotype: _____ Percentage _____

Label each of the following examples as a product of Asexual or Sexual Reproduction.

A=Asexual B=Sexual Reproduction

- 24. _____ Hydra budding
- 25. _____ Kitten
- 26. _____ One-celled bacteria dividing
- 27. _____ wildflower blooming in the Spring!
- 28. _____ Potato budding in the pantry

In the picture below, circle what type of reproduction is occurring. If is asexual, label it as budding, binary fission, or regeneration.

1.		<p>Asexual</p> <p>Sexual</p>
2.		<p>Asexual</p> <p>Sexual</p>
3.		<p>Asexual</p> <p>Sexual</p>
4.		<p>Asexual</p> <p>Sexual</p>

(not drawn to scale)

29. Which of the above examples of reproduction would result in offspring that are identical? Explain....

30. Which of the above examples of reproduction would result in offspring that are diverse? Explain...

31. How could parents who both have brown eyes have a blue-eyed offspring?

32. What is the relationship between chromosomes, genes, DNA and traits?

33. How is it possible for two brown-eyed parents to have a blue-eyed offspring?