

GENETICS: POST-TEST STUDY GUIDE

This is the STUDY GUIDE that the other 7th grade classes used for the GENETICS UNIT POST-TEST (*though I have tweaked it here and there*). This should be your main resource for Thursday's (March 20) Genetics Unit Post-Test in Ms. Makous' class. Also, I suggest that you use the study guide that I created for your Mitosis/Meiosis quiz, as well as any other classwork that is in your Science Notebook and resources that are on my teacher web page. Study well, and good luck!
Ms. Makous, 3/18/2014

1. **What is the purpose of the Mitosis cell division?** Development, repair, and growth
2. **What organisms go through mitosis?** Eukaryotes
3. **List the steps of the Cell Cycle in correct order.** Interphase ⇒ Mitosis ⇒ Cytokinesis
4. **Identify each step of the Mitosis cell cycle and list what occurs in each phase:**

Interphase	<u>Cell is not dividing yet; cell grows to about twice its size; PREPARES for cell division; duplicates DNA</u>
Mitosis – Prophase	<u>Chromosomes form; nuclear membrane disappears</u>
Mitosis – Metaphase	<u>Chromosomes line up</u>
Mitosis – Anaphase	<u>Chromosomes separate</u>
Mitosis – Telophase	<u>New nuclear membrane forms around each group of chromosomes</u>
Cytokinesis	<u>Division of parent cell's cytoplasm</u>
5. **After Mitosis, how many chromosomes are in the daughter cells?** The same as the number in the parent cell
6. **Mitosis produces how many daughter cells?** Two identical daughter cells
7. **What is a chromatid?** A chromosome consists of two of these held together by a centromere
8. **How many chromosomes are in human cells?** 46 **How many pairs of chromosomes?** 23
9. **List three examples of asexual reproduction:** Binary fission, budding, regeneration, (and mitosis)
10. **An unusual change in DNA is a _____.** (mutation)
11. **A genotype is:** An organism's genetic makeup or allele combination
12. **A phenotype is:** An organism's physical appearance. What does it look like?
13. **Homozygous Dominant is:** AA
14. **Homozygous Recessive is:** aa
15. **Heterozygous Dominant is:** Aa
16. **Probability is:** The likelihood that a particular event will occur

17. **What are homologs?** Two chromosomes in a matching pair
18. **A gene is:** A unit of heredity that occupies a specific location on a chromosome and codes for a particular product
19. **A male has XY for its 23rd chromosome pair. A female has XX for its 23rd chromosome pair.**
20. **Gametes are:** Sex cells that contain half the usual number of chromosomes: Sperm and Egg
21. **What is a haploid or 1n cell?** A cell that contains only 1 set of chromosomes (half of what a normal human body cell would usually contain). In humans a haploid cell has 23 chromosomes.
22. **What is a diploid or 2n cell?** A cell that contains 2 full sets of chromosomes. In humans a diploid cell has 46 chromosomes.
23. **What happens to the polar bodies in the female cell?** They dissolve away
24. **Mitosis occurs in Body cells. Meiosis occurs in Reproductive Cells.**
25. **How many times do cell divisions occur in Meiosis?** 2 - Once at the end of Meiosis 1, and once at the end of Meiosis 2.
26. **What is a pedigree?** A chart that shows family relationships, including two or more generations
27. **In a pedigree, a male is indicated by a square □. A female is indicated by a circle ○.**
28. **In a pedigree, how are individuals carrying traits indicated?** A blackened, shaded shape
29. **What do we learn from studying pedigrees?** Whether a specific trait is inherited as dominant or recessive, whether a male and a female have mated, where an offspring may have picked up a specific trait
30. **In a pedigree, what are generations?** All the people born and living at about the same time

