

STUDY GUIDE Life Science 7th Chapter 4 Test – Modern Genetics

**** Students and Parents, we are continuing to transition from elementary to junior high school. So, it is increasingly important to BEGIN studying way ahead of time. Also learning to take notes in class discussions is a vital skill for later years. REMEMBER that you will not always get GIFT GUIDES. Your goal should be to learn how to study notes and chapters independently. This means reading, outlining and condensing notes/chapters, memorizing key terms, drawing any diagrams for visual memory, etc.**

Famous Creation Geneticist: KNOW WHO DR. SANFORD IS AND WHY HE IS IMPORTANT

Multiple Choice & Free Response (2 points each)

1. What does it mean when a trait is controlled by **multiple alleles** in the population? Be able to explain how this is different from a trait controlled by only 2 alleles.
2. What blood type shows that A and B are **codominant**?
3. Be able to explain why some human traits can be altered by variations in **environment**.
4. Which combination of sex chromosomes results in a **male** human being versus a **female**?
5. **Sex-linked** genes are found on which two chromosomes?
6. Be able to explain why males are more likely to have sex-linked genetic disorders.
7. When a person is called a “**carrier**”, what does that mean? Explain why a carrier does NOT have the genetic disorder.
8. What is a pedigree chart and how is it used by doctors and genetics researchers?
9. What causes genetic **disorders** and how does this contradict the theory of macroevolution?
10. **Down** syndrome most often is caused by what genetic problem?
11. What genetic disorder results in abnormally shaped blood cells?
12. Which genetic disorder causes the body to produce unusually thick mucus in the lungs and intestines?
13. What is a **karyotype** and how do doctors and geneticists use it?
14. Which form of selective breeding crosses genetically **different** individuals (Inbreeding or Hybridization)?
15. Which form of selective breeding crosses parents with the **similar** sets of alleles?
What would be the different breeding goals for each of these two types of selective breeding?
16. **Cloning** results in two organisms that are genetically (identical, similar, or different)?
Why would a clone NOT have the same personality as the original creature?
17. What are examples of the benefits to humans of genetic engineering?
18. Be able to explain why identical twins are the only way that two people can have the same DNA.
19. What is the purpose of the **Human Genome Project** (HGP)? (**look it up on the internet**)* A bonus is to describe what the head of the HGP, Dr. Collins admitted to Mr. Galloway at a science conference.
20. Be able to explain what a **genome** is?

Fill in the Blank (**NO word bank**) (3 points each)

Amniocentesis Carrier Chromosome Diet DNA fingerprints Down	Environment Genetic engineering Genome Hemophilia Human Genome Project Hybridization	Inbreeding Multiple Alleles Pedigree Phenotypes Sickle-Cell X & Y chromosomes
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