

- **Open notes quiz, format the same way you would quiz corrections (correct answer, why it's correct, why each other answer is NOT correct).**
- **You can talk about the answers with others, but your answers have to be in your own words.**
- **Extra credit if you type your responses.**

Heredity Quiz

1. What molecule allows hereditary information to be passed from generation to generation?
 - A. DNA
 - B. ATP
 - C. Lipids
 - D. Proteins

2. Which situation below is most likely the result of a gene mutation?
 - A. Skin cancer in a young child exposed to too much sunlight.
 - B. A blister-like growth from an infection of the upper jaw of a wild pig.
 - C. A polar bear shedding as it ages.
 - D. A human baby losing its baby teeth as it grows up.

3. Which statement below is true of both mitosis and meiosis?
 - A. Mitosis results in the production of identical diploid cells, while genetic variation is the result of haploid cell production in meiosis.
 - B. Mitosis results in the production of identical haploid cells, while genetic variation is the result of diploid cell production in meiosis.
 - C. Meiosis results in the production of identical diploid cells, while genetic variation is the result of haploid cell production in mitosis.
 - D. Meiosis results in the production of identical haploid cells, while genetic variation is the results of diploid cell production in mitosis.

4. Given the Punnett square results below, predict the genotypes of the parent organisms.
 - A. Both parents are genotype *Bb*, thus they are homozygous.
 - B. Both parents are genotype *Bb*, thus they are heterozygous.
 - C. At least one parent is genotype *BB*, thus the parent is homozygous recessive.
 - D. Both parents are genotype *bb*, thus they are heterozygous.

5. What does a pedigree chart reveal about recessive genetic disorders?
 - A. Recessive genetic traits are passed on from generation to generation until descendants develop the genetic disorder, having received a recessive allele from only one parent.
 - B. Recessive genetic traits are passed on from generation to generation until descendants develop the genetic disorder, having received a recessive allele from both parents.
 - C. Recessive genetic traits are passed on from generation to generation until descendants develop the genetic disorder, having received a recessive allele from a spouse.
 - D. Recessive genetic traits are passed on from generation to generation until descendants develop the genetic disorder, having received a recessive allele from a sibling.

6. A change in the base sequence of DNA is known as

- A. a gene mutation.
- B. an amino acid.
- C. a pedigree.
- D. a karyotype.

7. Which Punnett square below demonstrates the cross between two heterozygous brown-eyed dogs that produces a blue-eyed offspring?

A.

BB	BB
BB	BB

B.

Bb	Bb
BB	BB

C.

BB	Bb
Bb	bb

D.

BB	Bb
BB	Bb

8. Which of the following is a TRUE statement about human reproduction?

- A. Each parent contributes an equal number of chromosomes to their offspring.
- B. Mothers contribute a higher number of chromosomes to daughters than sons.
- C. Fathers contribute a higher number of chromosomes to sons than daughters.
- D. Mothers contribute a higher number of chromosomes to sons and daughters.

9. A difference between sexual and asexual reproduction is that the offspring of

- A. asexual reproduction have fewer chromosomes than their parents, while offspring of sexual reproduction have the same number of chromosomes.
- B. sexual reproduction have fewer chromosomes than their parents, while offspring of asexual reproduction have the same number of chromosomes.
- C. asexual reproductions are clones of their parents, while offspring of sexual reproduction are genetically different from their parents.
- D. sexual reproduction are clones of their parents, while offspring of asexual reproduction are genetically different from their parents.

10. A process in which one organism produces genetically identical offspring, by itself, is known as

- A. sexual reproduction.
- B. asexual reproduction.
- C. meiosis.
- D. mitosis.

11. Having a hitchhiker's thumb is a recessive trait to having a straight-thumb. When a straight-thumbed homozygous person has offspring with a hitchhiker's thumbed homozygous person, the offspring will

- A. have a 50% chance of having hitchhikers thumb.
- B. have a 50% chance of having straight thumb.
- C. all be heterozygous with a straight thumb.
- D. all be heterozygous with a hitchhikers thumb.

12. A colony of *E. Coli* bacteria asexually reproduce every 20 minutes. If the colony begins with 10 individuals, how many individuals will be in the colony after 1 hour?

- A. 20
- B. 40
- C. 60
- D. 80