Name: _____ Date: _____ Class: _____

Word Zone: Chromosomes and Genes

trait – *(n)* characteristics passed on from parents
gene locus – *(n)* the location of a chromosome
mitosis – *(n)* the way cells divide to create new cells (cell division)
centromere – *(n)* where chromatids are connected at the center
gametes – *(n)* germ cells containing only half the chromosomes – creates new life (egg and sperm)
zygote – *(n)* a new cell with the normal number of chromosome pairs – a fertilized egg
crossing over – *(n)* the exchange of genetic material, where gene swapping occurs
dominant – *(n)* the form of the gene that will mask the other from having effect
allele – *(n)* – different forms of the same gene
homozygous – *(n)* – having the same alleles for the same gene - AA, or aa

Choose the best word from the vocabulary box to finish the sentences below.

1. Chromatids are joined together at the _____.
2. An _____ is a different form of the same gene.
3. When cells divide, they go through _____.
4. An example of a _____ includes eye color, earlobes, and dimples.
5. A gene that masks the others is known as a _____ gene.
6. The swapping of genes is known as _____.
7. When an egg is fertilized, it forms a _____.
8. New life is created from _____.
9. When an organism has the same alleles for a gene, it is said to be _____.
10. A location on the chromosome where a gene might be found is _____.

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Quiz Time: Chromosomes and Genes Quiz

Directions: Write the letter of the best answer in the space provided, or write true or false for each statement.

1. _____ What are three things you can find inside a cell?

   a. cell membrane, nucleus, alleles
   b. cell membrane, chromosomes, cytosine
   c. nucleus, DNA, cytoplasm
   d. chromosomes, cytosine, alleles

2. _____ Where are genes found?

   a. on chromosomes
   b. on DNA
   c. in the nucleus
   d. in interphase

3. _____ True or False? Chromosomes are tiny threads of proteins and DNA.

4. _____ What does DNA stand for?

   a. Difference in the number of alleles
   b. Dominant number of alleles
   c. Deoxyribonucleic Air
   d. Deoxyribonucleic Acid

5. _____ What are the four phases of mitosis?

   a. prophase, metaphase, cytokinesis, telophase
   b. prophase, metaphase, anaphase, telophase
   c. prophase, interphase, cytokinesis, anaphase
   d. interphase, metaphase, anaphase, cytokinesis

6. _____ What is it called when the cytoplasm divides into two new cells?

   a. mitosis
   b. DNA
   c. meiosis
   d. cytokinesis

7. _____ What are the three parts of the cell cycle?

   a. meiosis, mitosis, interphase
   b. prophase, mitosis, cytokinesis
   c. interphase, mitosis, cytokinesis
   d. cytokinesis, prophase, interphase

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8. _____ What do you call a matching chromosome?

   a. chromatid
   b. homologue
   c. heterologue
   d. heterologue

9. _____ True or False? Mitosis produces clones and meiosis produces zygotes.

10. _____ Who was an important part of genetics?

   a. Gregory Mendel
   b. Adam Mendel
   c. Einstein
   d. Thomas Edison

11. _____ True or False? The genetic makeup is called the genotype and the observable trait is called the phenotype.

12. _____ What are the four different nitrogenous bases in DNA?

   a. guanine, chromosomes, cytosine, thymine
   b. adenine, cytosine, cytoplasm, thymine
   c. adenine, cytosine, guanine, thymine
   d. cytosine, guanine, thymine, cytoplasm

13. _____ True or False? Adenine pairs with thymine.

14. _____ Three nitrogenous bases make up a _____.

   a. nucleus
   b. chromosome
   c. guanine
   d. codon

15. _____ What is the name of the project that has scientists trying to make clones by mapping every gene in a human and where they are located?

   a. Human cloning project
   b. Human Genome Project
   c. Dolly's project
   d. Joe's science project