

Lesson Quiz

Human Inheritance

If the statement is true, write *true*. If the statement is false, change the underlined word or words to make the statement true.

- _____ The body cells of humans contain 46 pairs of chromosomes.
- _____ A widow's peak is a trait controlled by many genes.
- _____ In the case of sex-linked traits, only females can be carriers.
- _____ In females, a recessive allele on the X chromosome often has no matching allele on the Y chromosome.
- _____ The only thing determined by the genes carried on a sex chromosome is a person's sex.
- _____ Colorblindness is a trait controlled by a dominant allele on the X chromosome.

Fill in the blank to complete each statement.

- The sex chromosome carried by a human egg will always be a(n) _____ chromosome.
- A person who has one recessive and one dominant allele for a trait is called a(n) _____.
- The only pair of human chromosomes that do not always match are the _____.
- Genes found on the X and Y chromosomes are often called _____ genes.

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Assess Your Understanding

Human Genetic Disorders

How Are Genetic Disorders Inherited in Humans?

1a. EXPLAIN Which of the two major causes of genetic disorders is responsible for Down syndrome?

b. INFER Why is hemophilia more common in males? _____

got it?.....

I get it! Now I know that the two major causes of genetic disorders are _____

I need extra help with _____

How Are Genetic Disorders Traced, Diagnosed, and Treated?

got it?.....

I get it! Now I know that genetic disorders are traced, diagnosed, and treated by _____

I need extra help with _____

Lesson Quiz

Human Genetic Disorders

Write the letter of the correct answer on the line at the left.

1. ___ Which of the following is a genetic disorder that results when two mutated alleles are inherited?
A Down syndrome
B colorblindness
C cystic fibrosis
D hemophilia
2. ___ Which of the following is the protein that is **NOT** normal in people with sickle-cell disease?
A mucus
B clotting protein
C karyotype
D hemoglobin
3. ___ Which of the following is a genetic disorder that results from having an extra chromosome?
A Down syndrome
B colorblindness
C cystic fibrosis
D hemophilia
4. ___ Which is not a cause of human genetic disorders?
A changes in the number of chromosomes
B abnormal hemoglobin
C changes in the structure of chromosomes
D mutations in the DNA of genes

Fill in the blank to complete each statement.

5. To trace the occurrence of a trait through several generations of a family, you could create a(n) _____.
6. A couple that have a family history of a genetic disorder might wish to receive advice from a(n) _____.
7. The allele for the sickle-cell trait is _____ with the normal allele.
8. _____ is a genetic disorder caused by a recessive allele on the X chromosome.
9. A doctor may use a(n) _____ to examine the chromosomes in a cell.
10. A condition in which a person's skin, hair, and eyes lack normal coloring is called _____.

Assess Your Understanding

Advances in Genetics

How Can Organisms Be Produced With Desired Traits?

- 1a. **IDENTIFY** The technique of crossing two individuals with similar characteristics is (inbreeding/hybridization).
- b. **EXPLAIN** Why are identical twins not clones according to the text definition? _____

- c. **APPLY CONCEPTS** Lupita has a houseplant. Which method would be the best way of producing a similar plant for a friend? Explain your answer.

got it?

- I get it! Now I know that the three ways of producing organisms with desired traits are _____

- I need extra help with _____

Lesson Quiz

Advances in Genetics

If the statement is true, write *true*. If the statement is false, change the underlined word or words to make the statement true.

1. _____ In the process of cloning, breeders cross two genetically different individuals.
2. _____ Crossing two individuals that have similar desirable characteristics is called genetic engineering.
3. _____ In selective breeding, organisms with desired traits are chosen to be parents of the next generation.
4. _____ The process by which genes from one organism are transferred into the DNA of another organism is called inbreeding.
5. _____ Through gene therapy, a genetic disorder may be corrected by inserting copies of a gene directly into a person's cells.
6. _____ Hybridization results in an organism that has exactly the same genes as the organism from which it was produced.

Fill in the blank to complete each statement.

7. Small rings of DNA called _____ are found in some bacterial cells.
8. Some people are concerned that _____ of crops may cause harm to the environment or health problems in humans.
9. By using a stem cutting from an African violet, it is easy to produce a new plant, which is a(n) _____.
10. A hybrid organism has two different _____ for a trait.


Assess Your Understanding

Using Genetic Information

What Are Some Uses of Genetic Information?

1a. **DEFINE** What is a genome? _____

b. **CHALLENGE** Do you think it is ethical for doctors to share a patient's medical records? Explain. _____

c. **ANSWER**  How can genetic information be used? _____

got it?

I get it! Now I know that there are positive and negative ways of using genetic information such as _____

I need extra help with _____

Lesson Quiz

Using Genetic Information

If the statement is true, write *true*. If the statement is false, change the underlined word or words to make the statement true.

1. _____ The Genetic Information Nondiscrimination Act made it legal for health insurance companies and employers to tell an individual to have a genetic test done.
2. _____ DNA technology used in the Human Genome Project can show whether people are related.
3. _____ Identical twins have identical DNA.
4. _____ A person's medical records may contain information about a person's genetics, such as whether he or she drinks alcohol or smokes.
5. _____ The goal of the Human Genome Project was to identify the DNA sequence of part of the human genome.
6. _____ Genetic fingerprints can be used to preserve skeletal remains.

Fill in the blank to complete each statement.

7. _____ is the study of principles about what is right and wrong, fair and unfair.
8. An organism's full set of DNA is called its _____.
9. Some people fear health insurance companies or employers could use a person's genetic information to _____ against him or her.
10. Selected fragments of DNA from a person's cells can be used to produce a unique pattern called a DNA _____.