

Chose the correct answer.

What is heredity?

- A. Traits passing from offspring to parents
- B. Traits passing from parents to offspring.
- C. Plants that are cross-pollinated
- D. The ratio of dominant to recessive traits.

What step did Mendel take to be sure that his pea plants cross-pollinated?

- A. He used two white plants.
- B. He removed the anthers of one plant.
- C. He added anthers to both plants.
- D. He used plants that were not true breeding.

When a plant fertilizes itself, it is called a(n):

- A. Allele plant.
- B. True-breeding plant.
- C. Self-pollinating plant.
- D. Cross-pollinating plant.

What happens when a true-breeding plant self-pollinates?

- A. One of its offspring has the same traits as the parent.
- B. Some of its offspring have the same traits as the parent.
- C. All of its offspring have the same traits as the parent.
- D. None of its offspring have the same traits as the parent.

What is a feature that has different forms in a population? 5

- A. Pedigree
- B. Characteristic
- C. Fertilization
- D. Trait

A plant with two dominant OR two recessive alleles is said to be:

- A. Heterozygous.
- B. Cross-pollinating.
- C. Homozygous.
- D. True breeding.

Instructions for an inherited trait are called:

- A. Alleles.
- B. Phenotype.
- C. Albinism.
- D. Genes.

The different forms of a gene that decide a characteristic are known as:

- A. Alleles.
- B. Phenotype.
- C. Albinism.
- D. Genes.

What did Mendel discover about recessive traits?

- A. Recessive traits reappear in the second generation.
- B. Recessive traits disappear altogether.
- C. Recessive traits never appear in the second generation.
- D. Recessive traits become dominant.

What is a phenotype?

- A. The way an organism feels
- B. A group of 5 alleles
- C. A dominant gene
- D. The way an organism looks

When there is incomplete dominance

- A. one allele has more influence than the others
- B. each allele has its own degree of influence
- C. the alleles have no influence.
- D. there are no alleles present.

Use the figure to answer the following questions.

Why are all first generation flowers gray?

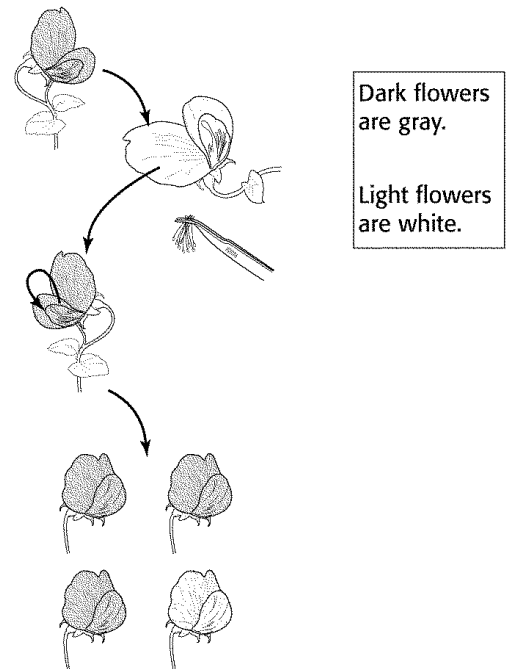
- a. Gray is the dominant color.
- b. Gray is the recessive color.
- c. Gray is the darker color.
- d. It is just a coincidence.

What ratio explains the gray flowers and white flower in the second generation?

- a. 1 to 1
- b. 2 to 1
- c. 3 to 1
- d. 4 to 1

What is the difference between the pollination in the first generation and the second generation?

- A. The first one was natural and the second was selective breeding.
- B. The first one was selective breeding and the second one was natural.
- C. They were both natural, but new plants were added before the second pollination.
- D. They were both selective breeding, but the second one was not controlled.



What kind of bacteria cause harm to grain, fruit, and vegetable crops?

- A. Bioremedial bacteria
- B. Insulin-producing bacteria
- C. Nitrogen-fixing bacteria
- D. Pathogenic bacteria

When bacteria reproduce by binary fission

- A. Two cells produce a third cell.
- B. One cell produces two cells.
- C. Two cells produce two more cells.
- D. One cell produces three or more cells.

Which of the following is NOT a shape of bacteria?

- A. Crystal
- B. Cocci
- C. Spirilla
- D. Bacilli

All bacteria have:

- A. One cell
- B. Two cells
- C. Three cells
- D. Four or more cells

A cell with no nucleus is called a(n):

- A. Prokaryote.
- B. Endospore
- C. Host
- D. Eukaryote

Which of the following is NOT a true statement about binary fission?

- A. The cell's DNA is copied before cell division.
- B. As the cell grows, the loops of DNA become separated.
- C. The DNA and its copy attach to the inside of the cell membrane.
- D. The new bacterium is genetically different from the parent bacterium.

Use the figure below to answer the following questions.

- a. In which box is Pp? \_\_\_\_\_
- b. In which box is PP? \_\_\_\_\_
- c. In which box is pp? \_\_\_\_\_

	<i>P</i>	<i>p</i>
<i>P</i>	<b><i>a</i></b>	<b><i>b</i></b>
<i>p</i>		<b><i>c</i></b>

Use the figure below to answer the following questions.

	<i>P</i>	<i>p</i>
<i>P</i>	<i>PP</i>	<i>Pp</i>
<i>p</i>	<i>Pp</i>	<i>pp</i>

- a. Look at the table. What is this table called? \_\_\_\_\_
- b. Look at the diagram. If purple (P) is dominant, and white (p) is recessive, what color will one out of every four of the offspring be?
- c. Look at the table. What is the probability that the offspring will be pp?

Explain the relationship between traits and heredity.

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What did Mendel call the trait that appeared in all of his first-generation plants?

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In rabbits, the allele for black fur,  $B$ , is dominant over the allele for white fur,  $b$ . Suppose two black parents produce one white and three black bunnies. What are the genotypes of the parents?

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Explain the difference between dominant and recessive traits.

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Describe three exceptions to Mendel's observations.

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