




Name _____ Class _____ Date _____

1 **Gregor Mendel** developed heredity principles from his



A mathematical analysis of the results of pea plant crosses
B working model of the structure of DNA
C mapping of the locations of human genes on chromosomes
D extensive study of breeding *Drosophila*

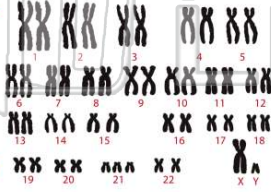
2 A cross between two mice with long tails and brown fur produced the **four types** of offspring listed below:

long tailed with brown fur – long tailed with white fur
short tailed with brown fur – short tailed with white fur

Which best explains the results of this cross?

A intermediate inheritance **C** independent assortment
B gene linkage **D** crossing-over


3 The **chromosomes** of a person with a **genetic disorder** are shown in the diagram.



This genetic disorder resulted from

4 Which **genotype** illustrates codominance of alleles that control **blood type** in humans?

A ii
B I^Ai
C I^AI^B
D I^AI^B



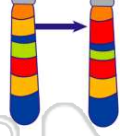
5




PREVIEW

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B loss of a nucleotide
C loss of a nucleolus
D replication of centromeres




A Tay-Sachs disease
B sickle-cell anemia
C PKU
D Down syndrome



9 **Meiosis** and **fertilization** are important processes because they may most immediately result in

A many body cells
B immune responses
C genetic variation
D natural selection



10 The **instructions** for the traits of an organism are **coded** in the arrangement of

A glucose units in carbohydrate molecules
B bases in DNA in the nucleus
C fat molecules in the cell membrane
D energy-rich bonds in starch molecules



ANSWER KEY

Gregor Mendel developed heredity principles from his



- A** mathematical analysis of the results of pea plant crosses
- B** working model of the structure of DNA
- C** mapping of the locations of human genes on chromosomes
- D** extensive study of breeding *Drosophila*

(a)

A cross between two mice with long tails and brown fur produced the **four types** of offspring listed below:

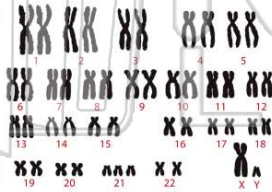
*long tailed with brown fur – long tailed with white fur
short tailed with brown fur – short tailed with white fur*

(c)

Which best explains the results of this cross?

- A** intermediate inheritance
- B** gene linkage
- C** independent assortment
- D** crossing-over

The **chromosomes** of a person with a **genetic disorder** are shown in the diagram.



(b)

This genetic disorder resulted from

- A** hybridization
- C** polyploidy

Which **genotype** illustrates codominance of alleles that control **blood type** in humans?

- A** ii
- B** I^Ai
- C** I^BI^B
- D** I^AI^B



(d)



PREVIEW

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- C** loss of a nucleolus
- D** replication of centromeres

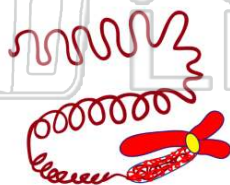


- A** Tay-Sachs disease
- B** sickle-cell anemia
- C** PKU
- D** Down syndrome



Meiosis and **fertilization** are important processes because they may most immediately result in

- A** many body cells
- B** immune responses
- C** genetic variation
- D** natural selection



(c)

The **instructions** for the traits of an organism are **coded** in the arrangement of

- A** glucose units in carbohydrate molecules
- B** bases in DNA in the nucleus
- C** fat molecules in the cell membrane
- D** energy-rich bonds in starch molecules

(b)