



Name _____ Class _____ Date _____

- 1 The diagram below shows a process that can occur during **meiosis**.
-
- The most likely result of this process is
- A a new combination of inheritable traits that can appear in the offspring
 - B an inability to inherit these chromosomes
 - C a loss of genetic information
 - D an increase in the chromosome number

- 3 A change in the order of **DNA bases** that code for a **respiratory protein** will most likely cause
- A the production of a starch that has a similar function
 - B the digestion of the altered gene by enzymes
 - C a change in the sequence of amino acids determined by the gene
 - D

- 2 A sudden change in the **DNA** of a **chromosome** can usually be passed on to future generations if the change occurs in a
- A skin cell
 - B liver cell
 - C sex cell
 - D brain cell



- 4 During meiosis, **crossing-over** (gene exchange between chromosomes) may occur. **Crossing-over** usually results in
- A overproduction of gametes
 - B fertilization and development



5
W
m
A
B
C
D



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

- 7
- B do not occur at random
 - C result in different genetic sequences
 - D occur to meet the needs of a species

- sunlight is present
- B a different species of corn that is produced in sunlight
- C the effect of sunlight on the number of chromosomes inherited
- D the effect of environment on gene expression

- 9 What determines the kind of **genes** an organism possesses?
-
- A type of amino acids in the cells of the organism
 - B sequence of the subunits A, T, C, and G in the DNA of the organism
 - C size of simple sugar molecules in the organs of the organism
 - D shape of the protein molecules in the organelles of the organism

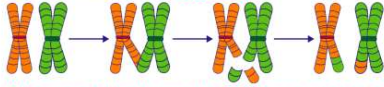
- 10 If a set of instructions that determines all of the characteristics of an organism is compared to a book, and a chromosome is compared to a chapter in the book, then what might be compared to a **paragraph** in the book?
- A a starch molecule
 - B an egg
 - C an amino acid
 - D a DNA molecule





ANSWER KEY

The diagram below shows a process that can occur during **meiosis**.



The most likely result of this process is

- A** a new combination of inheritable traits that can appear in the offspring
- B** an inability to inherit these chromosomes
- C** a loss of genetic information
- D** an increase in the chromosome number

(a)

A sudden change in the **DNA** of a **chromosome** can usually be passed on to future generations if the change occurs in a

- A** skin cell
- B** liver cell
- C** sex cell
- D** brain cell



(c)

A change in the order of **DNA bases** that code for a **respiratory protein** will most likely cause

- A** the production of a starch that has a similar function
- B** the digestion of the altered gene by enzymes
- C** a change in the sequence of amino acids determined by the gene
- D** the release of antibodies by certain cells to

(c)

During meiosis, **crossing-over** (gene exchange between chromosomes) may occur. **Crossing-over** usually results in



(d)

- A** overproduction of gametes
- B** fertilization and development
- C** the formation of identical offspring

W
m
A
B
C
D



PREVIEW

Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

D occur to meet the needs of a species

- B** a different species of corn that is produced in sunlight
- C** the effect of sunlight on the number of chromosomes inherited
- D** the effect of environment on gene expression

What determines the kind of **genes** an **organism possesses**?

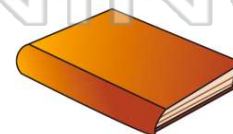


- A** type of amino acids in the cells of the organism
- B** sequence of the subunits A, T, C, and G in the DNA of the organism
- C** size of simple sugar molecules in the organs of the organism
- D** shape of the protein molecules in the organelles of the organism

(b)

If a set of instructions that determines all of the characteristics of an organism is compared to a book, and a chromosome is compared to a chapter in the book, then what might be compared to a **paragraph in the book**?

- A** a starch molecule
- B** an egg
- C** an amino acid
- D** a DNA molecule



(d)