



Name _____ Class _____ Date _____

1 The shape, size and internal structure of the **mitochondrion** have been revealed by



- A studies of the chemical activity of enzymes
- B the development of wet-mount techniques
- C electron-microscope studies
- D detailed studies of chromosomes

3 The **least genetic variation** will probably be found in the offspring of organisms that reproduce using

- A mitosis to produce a larger population
- B meiosis to produce gametes
- C fusion of eggs and sperm to produce zygotes

2 **Lipase, maltase, and protease** are members of a group of **catalysts** known as



- A enzymes
- B hormones
- C carbohydrates
- D fats

4 Cells that develop from a single **zygote** all contain **identical DNA** molecules. However, some of these cells will develop **differently** because

- A different groups of cells containing the DNA may be exposed to different environmental conditions
- B only the DNA in certain cells will replicate
- C some of the DNA in some of the cells will be

5



PREVIEW

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7

- C chromosomes
- D setae

- B a yeast
- C a bacterium
- D a virus

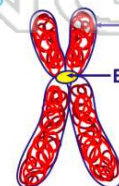


9 One **difference** between cell division in **plant cells** and in **animal cells** is that

- A plants form a cell plate between daughter cells but animals do not
- B more cytoplasm forms in animal cells than in plant cells
- C centrioles form in plant cells but not in animal cells
- D a double nucleus forms in animal cells but not in plant cells

10 The diagram below represents a microscopic structure observed during **cell division**. Which parts of the structure are indicated by arrows **A** and **B**, respectively?

- A centriole and tetrad
- B autosome and allele
- C homologous chromosome and spindle fiber
- D chromatid and centromere





ANSWER KEY

The shape, size and internal structure of the **mitochondrion** have been revealed by



- A** studies of the chemical activity of enzymes
- B** the development of wet-mount techniques
- C** electron-microscope studies
- D** detailed studies of chromosomes

(C)

Lipase, maltase, and protease are members of a group of **catalysts** known as



- A** enzymes
- B** hormones
- C** carbohydrates
- D** fats

(a)

The **least genetic variation** will probably be found in the offspring of organisms that reproduce using

- A** mitosis to produce a larger population
- B** meiosis to produce gametes
- C** fusion of eggs and sperm to produce zygotes
- D** internal fertilization to produce an embryo

(a)

Cells that develop from a single **zygote** all contain **identical DNA** molecules. However, some of these cells will develop **differently** because

- A** different groups of cells containing the DNA may be exposed to different environmental conditions
- B** only the DNA in certain cells will replicate
- C** some of the DNA in some of the cells will be removed by chemical reactions
- D** DNA is functional in only 10% of the cells of

(a)

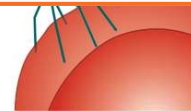


PREVIEW

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D setae

- C** a bacterium
- D** a virus



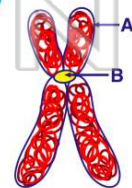
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(a)

The diagram below represents a microscopic structure observed during **cell division**. Which parts of the structure are indicated by arrows **A** and **B**, respectively?

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- B** autosome and allele
- C** homologous chromosome and spindle fiber
- D** chromatid and centromere



(d)