


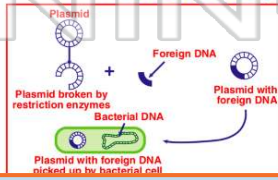


Name _____ Class _____ Date _____

- 1 Some **weed killers, insecticides, and food additives** **alter the DNA** of certain cells. Because of this effect, these substances are known as
- A auxins
 - B mutagens
 - C meristems
 - D autosomes

- 3 The diagram below represents a portion of a **nucleic acid molecule**. The part indicated by arrow X could be
- 
- A adenine
 - B ribose
 - C deoxyribose
 - D phosphate

- 2 Using special enzymes, scientists have successfully **removed the gene** that controls the production of interferon and have **inserted this gene** into the DNA of certain bacteria. These bacteria can now produce interferon. This **technique** is known as
- A amniocentesis
 - B differentiation
 - C genetic engineering
 - D karyotyping

- 4 What substances can be **produced** by this **technique** used in **biotechnology**?
- 




PREVIEW

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- 7
- insulin being inserted into bacteria cells.
- C This insulin is produced as a result of exposing bacteria cells to radiation, which produces a mutation.
 - D This insulin may have fewer side effects than the insulin previously extracted from the pancreas of other animals.

- 9 In an experiment, **DNA** from dead pathogenic bacteria was **transferred** into living bacteria that do not cause disease. These **altered bacteria** were then injected into healthy mice. These **mice died** of the same disease caused by the original pathogens. **Based on this information, which statement would be a valid conclusion?**
- A DNA is present only in living organisms.
 - B DNA functions only in the original organism of which it was a part.
 - C DNA changes the organism receiving the injection into the original organism.
 - D DNA from a dead organism can become active in another organism.

- A cloning
 - B meiotic division
 - C recombinant DNA technology
 - D selective breeding
- 

- 10 The diagrams below represent some steps in a procedure used in biotechnology. **Letters X and Y represent the**
- 
- A hormones that stimulate the replication of bacterial DNA
 - B biochemical catalysts involved in the insertion of genes into other organisms
 - C hormones that trigger rapid mutation of genetic information
 - D gases needed to produce the energy required for gene manipulation



ANSWER KEY

Some **weed killers, insecticides, and food additives** **alter the DNA** of certain cells. Because of this effect, these substances are known as

- A** auxins
- B** mutagens
- C** meristems
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(b)

Using special enzymes, scientists have successfully **removed the gene** that controls the production of interferon and have **inserted this gene** into the DNA of certain bacteria. These bacteria can now produce interferon. This **technique** is known as

- A** amniocentesis
- B** differentiation
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(c)

The diagram below represents a portion of a **nucleic acid molecule**.

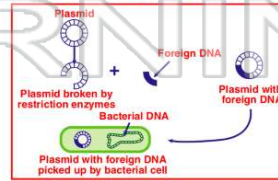
The part indicated by arrow X could be

- A** adenine
- B** ribose
- C** deoxyribose
- D**



(a)

What substances can be **produced** by this **technique** used in **biotechnology**?



- A** insulin & human hormones
- C** disease

(a)



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- bacteria cells to radiation, which produces a mutation.
- D** This insulin may have fewer side effects than the insulin previously extracted from the pancreas of other animals.

- B** meiotic division
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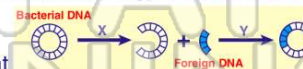


In an experiment, **DNA** from dead pathogenic bacteria was **transferred** into living bacteria that do not cause disease. These **altered bacteria** were then injected into healthy mice. These **mice died** of the same disease caused by the original pathogens. **Based on this information, which statement would be a valid conclusion?**

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(d)

The diagrams below represent some steps in a procedure used in biotechnology. **Letters X and Y represent the**



- A** hormones that stimulate the replication of bacterial DNA
- B** biochemical catalysts involved in the insertion of genes into other organisms
- C** hormones that trigger rapid mutation of genetic information
- D** gases needed to produce the energy required for gene manipulation

(b)