

Biology Chapter 7 Final Test

Austin Brown, this is an open note test. Take your time and do the best you can.

The Gene Revolution

Multiple Choice - Select the One Best Answer

Organisms that contain genes from other species are called:

- Recombinant species
- Recombinant organisms
- Clones
- Transgenic organisms
- Hybrids

What are the single-stranded ends created by the cutting of piece of DNA by a restriction enzyme called?

- Sticky ends
- Base pairs
- Tacky ends
- Complementary ends
- Restriction zones

Which of the following is **NOT** a means by which bacteria can gain new genetic material?

- Mutation
- Organization
- Congujation
- Transduction
- Transformation

Which of the following presents a simple definition of cloning?

- Self-fertilization
- The creation of offspring with similar characteristics to the parent
- The creation of a genetically identical offspring via sexual reproduction
- The creation of a genetically identical copy of an original individual
- The creation of at least thousands of offspring from one individual

In which cycle does a virus inject its genetic material into a bacterial cell, replicate, and then release numerous cloned virus cells, resulting in the death of the bacterial cell?

- Lysogenic cycle
- Krebs cycle
- Menstruation cycle
- Photosynthetic cycle
- Lytic cycle

What are plasmids?

- Junk DNA
- Long stretches of repeating DNA sequences
- DNA enzymes
- Strands of genetic material made up of RNA
- Small, circular segments of DNA

What is the name for the enzyme used to glue together the strands of DNA in making recombinant DNA?

- DNA ligase
- DNA gyrase
- DNA vaccine
- DNA polymerase
- DNA splicer

Which of the following is the type of bacterial gene transfer that involves the construction of a bridge between two bacterial cells?

- Transformation
- Conjugation
- Transduction
- Cytoplasm
- Transference

Why might a clone show different physical characteristics than its parent?

- The clone receives different genes from another parent
- The environment influences the clone's phenotype in a manner different from its parent
- Clones are always physically different from their parent
- Genes change each generation and thus the clone has different genetic material than its parent
- Cloning involves the recombination of genetic material resulting in genetic variation

What are the small circular pieces of bacterial DNA commonly used as vectors?

- Plasmids
- Cosmids
- Haploids
- Diploids
- Capsids

Which field of study explores the use of living organisms to perform operations useful to humans?

- DNA technology
- Biotechnology
- Genetics
- DNA manipulation
- DNA engineering

Essay Questions

Describe the method scientists use to create recombinant DNA.

Describe the process used to clone Dolly the Sheep.

What questions of safety and ethics might arise from the use of biotechnology in gene transfer between organisms?