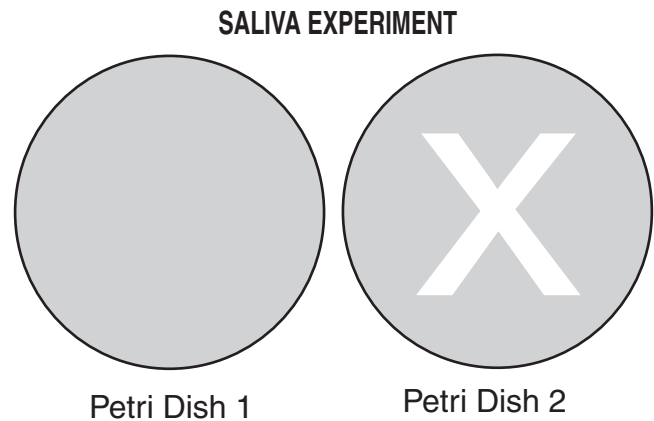


**1** Two students were testing the amount of fertilizer that would best promote the growth of strawberries in a garden. Which of the following could be an unavoidable source of experimental error?

- A length of the study
- B variation in the strawberry plants
- C the cost of watering the plants
- D fertilization during the study

CSB00270

**2** A student filled two Petri dishes with a clear cornstarch gel, then marked the letter “X” invisibly onto the gel in Petri dish 1 with a damp cotton swab. He then placed saliva from his mouth onto a second cotton swab and used that swab to mark the letter “X” invisibly onto the gel in Petri dish 2.



Fifteen minutes later, he rinsed both Petri dishes with a dilute solution of iodine to indicate the presence of starch. The surface of Petri dish 1 turned completely blue, indicating starch. Most of the surface of Petri dish 2 was blue, except the letter “X” was clear, as shown above.

The *most* probable explanation of the clear “X” is that

- A the starch in the gel was absorbed by the damp cotton swab.
- B the iodine reacted with a chemical in the saliva and broke down.
- C a chemical in the saliva broke down the starch in the gel.
- D the saliva prevented the iodine from contacting the starch in the gel.

CSB10285

**3** In most stable freshwater environments, populations of *Daphnia* are almost entirely female and reproduce asexually. However, males are observed in low oxygen environments or when food is scarce. Based on these observations, a researcher suggests that male *Daphnia* develop in response to unfavorable environmental conditions. This is an example of a

- A result.
- B theory.
- C procedure.
- D hypothesis.

CSB10041

**4** A computer model of cellular mitosis can simulate the aspects of cellular division quite well. However, microscopic observation of actual cellular mitosis can improve understanding because actual observations

- A may reveal greater unknown complexities.
- B are easier than a computer model to view.
- C are the same each time.
- D may provide division events in sequence.

CSB00035

**5** Which of the following *best* describes the use of population models in biology?

- A They are generally easy to construct.
- B They can represent reality precisely.
- C They are used when no observations have been made.
- D They can help predict outcomes.

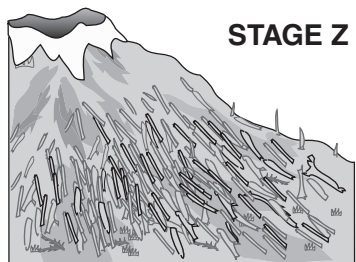
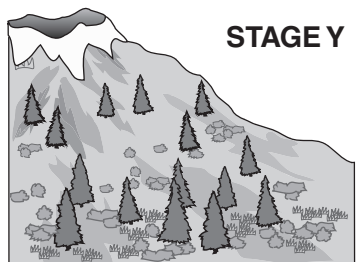
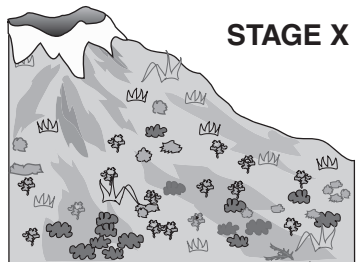
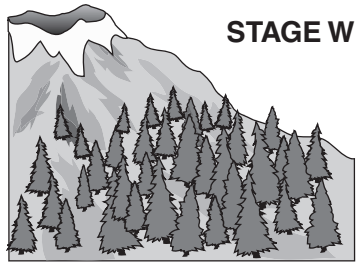
CSB10313

**6** After a volcanic eruption has covered an area with lava, which of the following is the *most* likely order of succession in the repopulation of the area?

- A lichens → grasses → shrubs → trees
- B mosses → grasses → lichens → trees
- C grasses → trees → mosses → lichens
- D shrubs → grasses → trees → lichens

CSB10049

7

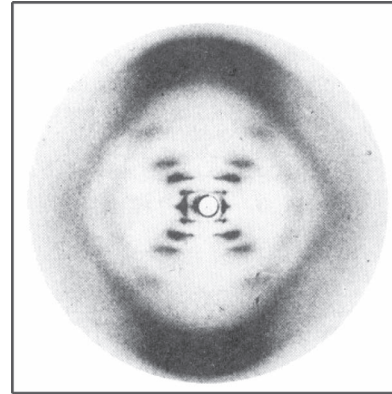


When the Mount St. Helens volcano erupted, the blast covered much of the surrounding area with ash. Based on the diagram above, which list shows the sequence of secondary succession that followed that eruption?

- A X, Y, Z, W
- B Z, X, Y, W
- C W, Y, X, Z
- D Z, Y, W, X

8

The diagram below shows Rosalind Franklin's x-ray diffraction image of DNA.



How did this evidence affect the work of Watson and Crick?

- A It was used to determine the physical structure of DNA.
- B It was used to identify the four bases that make up DNA.
- C It was used to develop the theory of independent assortment.
- D It was used to show that DNA was the molecule of inheritance.

CSB10032

9

Which information was *most* important to the development of genetic engineering techniques?

- A the observation of nondominant alleles
- B the discovery of lethal genes
- C the formulation of Punnett squares
- D the structure of a DNA molecule

CSB00146

## Biology

## Released Test Questions

**10** The cell membrane of the red blood cell will allow water, oxygen, carbon dioxide, and glucose to pass through. Because other substances are blocked from entering, this membrane is called

- A perforated.
- B semi-permeable.
- C non-conductive.
- D permeable.

CSB00169

**11** The plasma membrane of a cell consists of

- A protein molecules arranged in two layers with polar areas forming the outside of the membrane.
- B two layers of lipids organized with the nonpolar tails forming the interior of the membrane.
- C lipid molecules positioned between two carbohydrate layers.
- D protein molecules with polar and nonpolar tails.

CSB20259

**12** What causes tomatoes to ripen much more slowly in a refrigerator than they do if left on a table at room temperature?

- A Tomatoes need sunlight to ripen.
- B Humidity accelerates the ripening process.
- C Low temperatures reduce the action of ripening enzymes.
- D Enzymes produced by bacteria inhibit ripening.

CSB10587

**13** There are many different enzymes located in the cytoplasm of a single cell. How is a specific enzyme able to catalyze a specific reaction?

- A Different enzymes are synthesized in specific areas of the cytoplasm.
- B Most enzymes can catalyze many different reactions.
- C An enzyme binds to a specific substrate (reactant) for the reaction catalyzed.
- D Enzymes are transported to specific substrates (reactants) by ribosomes.

CSB10449

**14** Some snake venoms are harmful because they contain enzymes that destroy blood cells or tissues. The damage caused by such a snakebite could *best* be slowed by

- A applying ice to the bite area.
- B drinking large amounts of water.
- C inducing vomiting.
- D increasing blood flow to the area.

CSB00026

**15** Maltose can be broken down into glucose molecules by the enzyme maltase. Which of the following would slow the reaction rate?

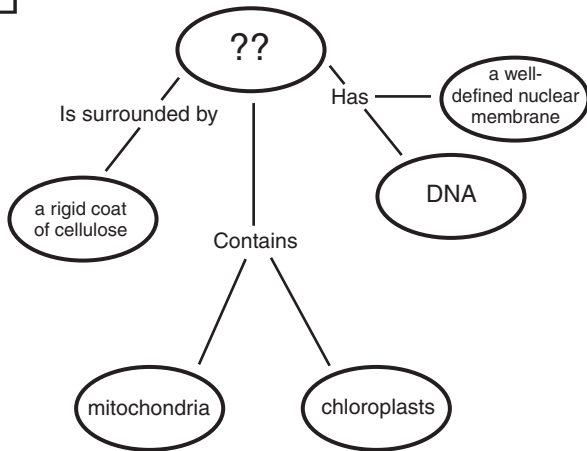
- A adding maltase
- B adding maltose
- C removing glucose
- D diluting with water

CSB00177

## Released Test Questions

## Biology

16



Which of these *best* completes this concept map?

- A an animal cell
- B a prokaryotic cell
- C a virus
- D a plant cell

CSB00164

17

Eukaryotic cells are differentiated from prokaryotic cells because eukaryotic cells

- A are much smaller.
- B have permeable membranes.
- C have a higher rate of reproduction.
- D have nuclei.

CSB10170

18

Which cellular organelle is responsible for packaging the proteins that the cell secretes?

- A cytoskeleton
- B cell membrane
- C lysosome
- D Golgi apparatus

CSB20518

19

Which molecule in plant cells first captures the radiant energy from sunlight?

- A glucose
- B carbon dioxide
- C chlorophyll
- D adenosine triphosphate

CSB00265

20

The first stage of photosynthesis in a chloroplast is

- A light-dependent.
- B temperature-dependent.
- C glucose-driven.
- D ATP-driven.

CSB10184

21

A cell from heart muscle would *probably* have an unusually high proportion of

- A lysosomes.
- B mitochondria.
- C mRNA.
- D Golgi bodies.

CSB00067

22

In aerobic respiration, the Krebs cycle (citric acid cycle) takes place in

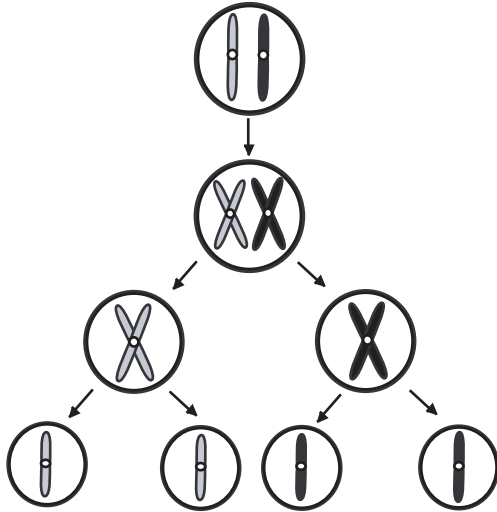
- A chloroplasts.
- B nuclei.
- C lysosomes.
- D mitochondria.

CSB10186

## Biology

## Released Test Questions

- 23** The diagram below shows a cellular process that occurs in organisms.



This process is known as

- A meiosis.  
 B mitosis.  
 C endocytosis.  
 D phagocytosis.
- 24** Which of the following statements correctly describes meiosis?
- A Cells divide only once during meiosis.  
 B Meiosis does not occur in reproductive cells.  
 C The cells produced at the end of meiosis are genetically identical to the parent cell.  
 D The cells produced at the end of meiosis contain half the number of chromosomes as the parent cell.

- 25** Which of the following *best* describes meiosis?

- A It is carried out in all tissues that require cell replacement.  
 B It occurs only in cells in the reproductive structures of the organism.  
 C It happens in all tissues except the brain and spinal cord.  
 D It is the first stage of mitosis.

CSB10203

- 26** If a corn plant has a genotype of Ttyy, what are the possible genetic combinations that could be present in a single grain of pollen from this plant?

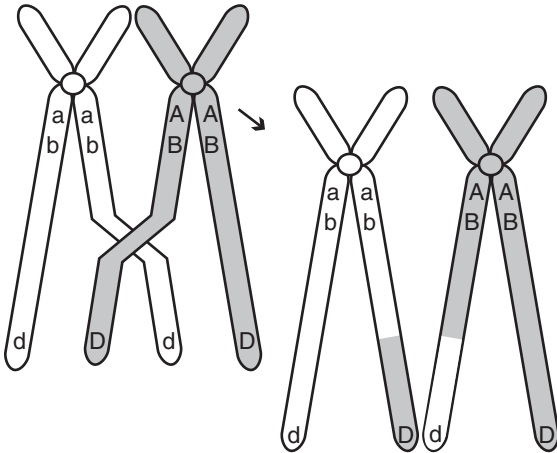
- A Ty, ty  
 B TY, ty  
 C TY, Ty, ty  
 D Ty, ty, tY, TY

CSB00263

CSB10031

CSB10424

27



The diagram above shows homologous chromosomes during prophase I of meiosis. Which of the following correctly describes the process being illustrated?

- A mutation in which the DNA content of the gene is altered
- B segregation of sister chromatids
- C condensation and segregation of alleles
- D crossing-over in which alleles are exchanged

CSB10428

28 Which of the following sequences represents chromosome number during fertilization?

- A  $n + n \rightarrow 2n$
- B  $2n \rightarrow n + n$
- C  $n \rightarrow n$
- D  $2n \rightarrow 2n$

CSB20537

29

The table below lists the typical diploid number of chromosomes of several different organisms.

#### Diploid Chromosome Number

Goldfish	94
Potato	48
Human	46
Pea	14
Fruit fly	8

Which of the following is the *best* explanation for why the chromosome number is an even number in each of these organisms?

- A It is only a coincidence; many other organisms have an odd number of chromosomes.
- B The diploid chromosome number is always even so that when mitosis occurs each new cell gets the same number of chromosomes.
- C The diploid chromosome number represents pairs of chromosomes, one from each parent, so it is always an even number.
- D Chromosomes double every time the cell divides, so after the first division, the number is always even.

CSB10425

## Biology

## Released Test Questions

**30** Based only on the sex chromosomes in typical human egg and sperm cells at fertilization, the probability of producing a female is

- A 25%.
- B 50%.
- C 75%.
- D 90%.

CSB10111

**31** In fruit flies, the gene for red eyes (**R**) is dominant and the gene for sepia eyes (**r**) is recessive. What are the possible combinations of genes in the offspring of two red-eyed heterozygous flies (**Rr**)?

- A RR only
- B rr only
- C Rr and rr only
- D RR, Rr, and rr only

CSB00047

**32** In certain breeds of dogs, deafness is due to a recessive allele (**d**) of a particular gene, and normal hearing is due to its dominant allele (**D**). What percentage of the offspring of a normal heterozygous (**Dd**) dog and a deaf dog (**dd**) would be expected to have normal hearing?

- A 0%
- B 25%
- C 50%
- D 100%

CSB00166

**33** Fur color in cats is controlled by an autosomal gene that can occur in the dominant form, (**B**), or the recessive form, (**b**). The length of the cat's fur is controlled by another autosomal gene that occurs in the dominant form, (**S**), or the recessive form, (**s**). The table below shows the traits for these allele codes.

Gene	Trait
<i>B</i>	black fur
<i>b</i>	white fur
<i>S</i>	short-haired fur
<i>s</i>	long-haired fur

The following genotypes were found in a male cat and a female cat.

*BbSs* (male)                      *bbSS* (female)

Which one of the following choices is true of the phenotype of offspring from these parents?

- A All offspring will have black fur.
- B All offspring will have white fur.
- C All offspring will have long-haired fur.
- D All offspring will have short-haired fur.

CSB00193

**34** If a human baby boy inherits a recessive allele from his mother, in which circumstance would he *most* likely show the trait coded for by the recessive allele?

- A The baby inherits the dominant allele from his father.
- B The allele is on an autosomal chromosome and the baby is a twin.
- C The allele is on the X chromosome.
- D The allele is on the Y chromosome.

CSB10118

**35** Mendel hypothesized that reproductive cells have only one factor for each inherited trait. This hypothesis is supported by the observation that

- A haploid cells are produced by mitosis.
- B diploid cells are produced by mitosis.
- C haploid cells are produced by meiosis.
- D diploid cells are produced by meiosis.

CSB10437

**36**

**Codons Found in Messenger RNA**

		Second Base				
		U	C	A	G	
First Base	U	Phe	Ser	Tyr	Cys	Third Base
		Phe	Ser	Tyr	Cys	
		Leu	Ser	Stop	Stop	
		Leu	Ser	Stop	Trp	
C	Leu	Pro	His	Arg	U	
	Leu	Pro	His	Arg	C	
	Leu	Pro	Gln	Arg	A	
	Leu	Pro	Gln	Arg	G	
A	Ile	Thr	Asn	Ser	U	
	Ile	Thr	Asn	Ser	C	
	Ile	Thr	Lys	Arg	A	
	Met	Thr	Lys	Arg	G	
G	Val	Ala	Asp	Gly	U	
	Val	Ala	Asp	Gly	C	
	Val	Ala	Glu	Gly	A	
	Val	Ala	Glu	Gly	G	

A strand of mRNA containing the repeating sequence AAGAAGAAGAAG could code for which of the following amino acid sequences?

- A lys-arg-glu-lys
- B ser-ser-glu-glu
- C lys-arg-lys-arg
- D lys-lys-lys-lys

CSB00174

**37**

5' ATCAGCGCTGGC 3'

The above sequence of DNA is part of a gene. How many amino acids are coded for by this segment?

- A 4
- B 8
- C 12
- D 20

CSB10128

**38**

A scientist puts nucleotide chains of UUUUUU in a test tube under conditions allowing protein synthesis. Soon the test tube is full of polypeptide chains composed of only the amino acid phenylalanine. What does this experiment indicate?

- A The amino acid phenylalanine is composed of uracil.
- B UUU codes for the amino acid phenylalanine.
- C Protein synthesis malfunctions in test tubes.
- D Most proteins contain only one type of amino acid.

CSB10132

**39**

Which of these would most likely cause a mutation?

- A the placement of ribosomes on the endoplasmic reticulum
- B the insertion of a nucleotide into DNA
- C the movement of transfer RNA out of the nucleus
- D the release of messenger RNA from DNA

CSB00097

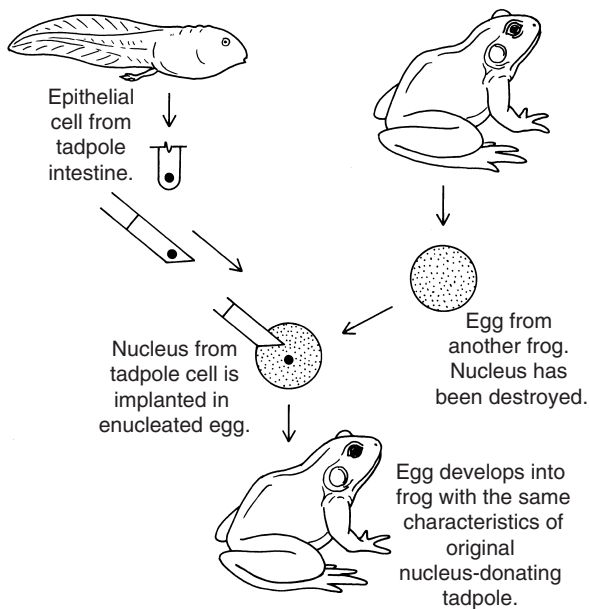
## Biology

## Released Test Questions

**40** One human disease is caused by a change in one codon in a gene from GAA to GUA. This disease is the result of

- A a mutation.
- B a meiosis error.
- C crossing-over.
- D polyploidy.

CSB00182

**41**

Which of these is *best* demonstrated by the experiment above?

- A Differentiated cells contain a complete set of genes.
- B All frogs are genetically identical.
- C Embryonic development is controlled by the cytoplasm.
- D The nucleus of a tadpole cell is unspecialized.

CSB00077

**42** Although there are a limited number of amino acids, many different types of proteins exist because the

- A size of a given amino acid can vary.
- B chemical composition of a given amino acid can vary.
- C sequence and number of amino acids is different.
- D same amino acid can have many different properties.

CSB00157

**43** The clear protein of an egg white becomes opaque and firm when cooked because the heat

- A mutates the DNA.
- B turns the protein into carbohydrates.
- C stops protein formation.
- D changes the protein structure.

CSB00153

## Released Test Questions

## Biology

**44** Which of the following base pair sequences could be produced in DNA replication?

- A 5' AGTCUT 3'  
3' TCUGTA 5'
- B 5' AGTCAT 3'  
3' TCAGTA 5'
- C 5' AGTCAT 3'  
3' CTGACG 5'
- D 5' AGTCAT 3'  
3' UCAGUA 5'

CSB10141

**45** 5' G T A \_ \_ \_ A A 3'  
3' C A T G C A T T 5'

This segment of DNA has undergone a mutation in which three nucleotides have been deleted. A repair enzyme would replace them with

- A CGT.
- B GCA.
- C CTG.
- D GTA.

CSB00162

**46** A base sequence is shown below.

ACAGTGC

How would the base sequence be coded on mRNA?

- A TGTCACG
- B GUGACAU
- C UGUCACG
- D CACUGUA

CSB10489

**47** Semi-conservative replication of DNA refers to the idea that

- A DNA molecules need to unwind before duplication begins.
- B each new DNA molecule contains two new single RNA strands.
- C the two strands of DNA molecules run in opposite directions.
- D each half of the original DNA molecule is joined with a new complementary DNA strand.

CSB20229

**48** The bacterium *Agrobacterium tumefaciens* infects plants, and a portion of its DNA is inserted into the plant's chromosomes. This causes the plant to produce gall cells, which manufacture amino acids that the bacterium uses as food. This process is a natural example of

- A polyploidy.
- B genetic manipulation.
- C grafting.
- D hybridization.

CSB00187

**49** Genetic engineering has produced goats whose milk contains proteins that can be used as medicines. This effect was produced by

- A mixing foreign genes into the milk.
- B injecting foreign genes into the goats' udders.
- C inserting foreign genes into fertilized goat eggs.
- D genetically modifying the nutritional needs of the goats' offspring.

CSB10146

**50** Scientists found that, over a period of 200 years, a mountain pond was transformed into a meadow. During that time, several communities of organisms were replaced by different communities. Which of these *best* explains why new communities were able to replace older communities?

- A The original species became extinct.
- B Species in the older community died from old age.
- C The abiotic characteristics of the habitat changed.
- D Diseases that killed the older organisms disappeared.

CSB00008

**51** In a pond, the primary producer is a green alga, *Spirogyra*; the primary consumer is the crustacean, *Daphnia*; the secondary consumer is a small fish, the bluegill; and the tertiary consumer is a larger fish, the smallmouth bass. What changes can be expected in the pond if the *Daphnia* are killed with pesticides?

- A The *Spirogyra* population will probably die.
- B The bluegill population will probably increase.
- C The *Daphnia* population will eat something else.
- D The smallmouth bass population will die.

CSB10339

**52** A food chain is shown below.

Grasses → Crickets → Field Mice → Hawks

**For the food chain shown, which of the following changes would have the *most* severe consequences?**

- A a drastic decrease in rainfall, causing drought
- B the poaching of predatory hawks by game hunters
- C the introduction of a second predator that eats field mice
- D a parasitic infestation that reduces the cricket population

CSB20074

**53** Rabbits introduced into Australia over 100 years ago have become a serious pest to farmers. Rabbit populations increased so much that they displaced many native species of plant eaters. What is the *most* logical explanation for their increased numbers?

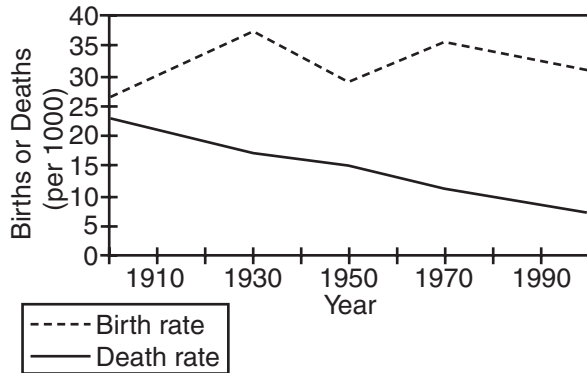
- A Rabbits have a high death rate.
- B There are few effective predators.
- C Additional rabbit species have been introduced.
- D There is an increase in rabbit competitors.

CSB00300

## Released Test Questions

## Biology

- 54** The graph below shows the birth rate and death rate for a population during the 1900s.



From 1900 to 2000, the population has

- A increased.
- B decreased.
- C stayed the same.
- D increased until 1930, then decreased.

CSB10456

- 55** Complete burning of plant material returns carbon primarily to the

- A herbivores.
- B water.
- C vegetation.
- D atmosphere.

CSB00204

- 56** Which of these organisms are *most* helpful in preventing Earth from being covered with the bodies of dead organisms?

- A herbivores
- B producers
- C parasites and viruses
- D fungi and bacteria

CSB00176

- 57** Which of these organisms would *most* likely be found at the top of an energy pyramid?

- A clams
- B sardines
- C sharks
- D kelp

CSB00268

- 58** Which of these organisms would *most* likely be found at the bottom of a biomass pyramid?

- A giant squids
- B sand sharks
- C sea cucumbers
- D green algae

CSB00160

59

## Rabbit coat color

Allele	Phenotype
C	Rabbit with fully colored coat
c <sup>ch</sup>	Rabbit with light gray coat
c <sup>h</sup>	Himalayan rabbit: white with dark ear tips, nose, paws, and tail
c	Albino rabbit

Order of dominance  $C \rightarrow c^{ch} \rightarrow c^h \rightarrow c$

The chart shows four alleles at the same locus that affect rabbits' coat color. Each allele is dominant to the ones below it. Rabbits with an albino or Himalayan coat are more susceptible to predators. Which of the following genotypes will produce a rabbit that is *least* likely to survive?

- A c<sup>ch</sup>c
- B Cc
- C c<sup>h</sup>c
- D Cc<sup>h</sup>

CSB00161

60 Which of these would have the *least* effect on natural selection in a subspecies of giraffes that is geographically isolated from other subspecies of giraffes?

- A available niches
- B existing predators
- C chromosome number
- D available food resources

CSB00051

61

In carrier pigeons there is a rare inherited condition that causes the death of the chicks before hatching. In order for this disease to be passed from generation to generation there must be parent birds that

- A are heterozygous for the disease.
- B have the disease themselves.
- C produce new mutations for this disease.
- D are closely interbred.

CSB00167

62

A healthy individual is a carrier of a lethal allele but is unaffected by it. What is the probable genotype of this individual?

- A two dominant normal alleles
- B one recessive lethal allele and one dominant lethal allele
- C one recessive lethal allele and one dominant normal allele
- D one dominant lethal allele and one recessive normal allele

CSB10492

63

A genetic disorder due to a recessive allele (a) is lethal in homozygous individuals (aa), whereas heterozygous individuals (Aa) have no symptoms. Based on this information, which of the following is likely to result?

- A The disorder will quickly be eliminated since no recessive homozygotes will survive to reproduce.
- B The disorder will be maintained in the population through the reproduction of heterozygotes.
- C Only homozygous dominant (AA) individuals will survive.
- D The prevalence of the disorder will increase over time.

CSB10466

## Released Test Questions

## Biology

**64** Mutations within a DNA sequence are

- A natural processes that produce genetic diversity.
- B natural processes that always affect the phenotype.
- C unnatural processes that always affect the phenotype.
- D unnatural processes that are harmful to genetic diversity.

CSB20139

**65** Which of these *best* illustrates natural selection?

- A An organism with favorable genetic variations will tend to survive and breed successfully.
- B A population monopolizes all of the resources in its habitat, forcing other species to migrate.
- C A community whose members work together utilizes all existing resources and migratory routes.
- D The largest organisms in a species receive the only breeding opportunities.

CSB00018

**66** A species of finch has been studied on one of the geographically isolated Galapagos Islands for many years. Since the island is small, the lineage of every bird for several generations is known. This allows a family tree of each bird to be developed. Some family groups have survived and others have died out. The groups that survive *probably* have

- A interbred with other species.
- B inherited some advantageous variations.
- C found new places on the island to live.
- D been attacked by more predators.

CSB00038

**67** A population of termites initially consists of darkly colored and brightly colored members. After several generations, the termite population consists almost entirely of darkly colored members because the brightly colored termites are easier for a predatory species of insectivores to locate. This situation is an example of

- A the evolution of a new species.
- B natural selection.
- C artificial selection.
- D adaptive radiation.

CSB20081

**68** Earth has undergone some catastrophic changes from time to time. Which of these *most* likely explains why life on Earth continued following these catastrophes?

- A Dominant species had a slow mutation rate.
- B Many species filled the same niche.
- C A strong species had many different characteristics.
- D A wide diversity of species existed.

CSB00083

## Biology

## Released Test Questions

- 69** A small population of chimpanzees lives in a habitat that undergoes no changes for a long period. How will genetic drift probably affect this population?
- A It will accelerate the appearance of new traits.
  - B It will promote the survival of chimpanzees with beneficial traits.
  - C It will increase the number of alleles for specific traits.
  - D It will reduce genetic diversity.

CSB00322

- 70** A small portion of a population that is geographically isolated from the rest of the population runs the risk of decreased
- A genetic drift.
  - B mutation rate.
  - C natural selection.
  - D genetic variation.

CSB20765

- 71** A single species of squirrel evolved over time into two species, each on opposite sides of the Grand Canyon. This change was *most* likely due to
- A higher mutation rates on one side.
  - B low genetic diversity in the initial population.
  - C the isolation of the two groups.
  - D differences in reproductive rates.

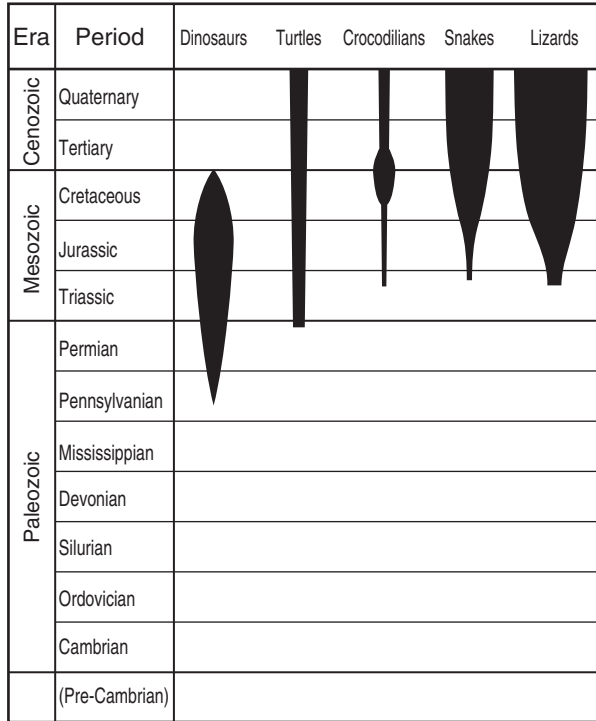
CSB00031

- 72** Fossil evidence suggests that a number of members of one fish species from an ancient lake in Death Valley, California, became several isolated species. Each of these new species lived in a different pond. Which of the following *best* explains the cause of this speciation?
- A episodic isolation
  - B temporal isolation
  - C geographic isolation
  - D behavioral isolation

CSB20512

73

Numbers of Representative Species



According to this information, which group demonstrated the greatest biodiversity during the Cretaceous period?

- A dinosaurs
- B crocodylians
- C snakes
- D lizards

CSB00168

74

If a paleontologist finds fossils of many different species existing in the same area at approximately the same time, the paleontologist can conclude that the ecosystem in this area had a high degree of

- A climatic variation.
- B episodic speciation.
- C biological diversity.
- D geographic isolation.

CSB20752

75

In order for the body to maintain homeostasis, the chemical decomposition of food to produce energy must be followed by

- A water intake.
- B muscle contractions.
- C waste removal.
- D nervous impulses.

CSB00188

76

Carbon dioxide is produced as cells break down nutrients for energy. Which of the following pairs of systems would participate in removing the carbon dioxide from the body?

- A endocrine and circulatory
- B circulatory and respiratory
- C respiratory and endocrine
- D reproductive and excretory

CSB10350

## Biology

## Released Test Questions

**77** The respiratory system depends on the nervous system for signals to

- A enhance the amount of available oxygen in the lungs.
- B coordinate muscles controlling breathing.
- C release enzymes to increase the exchange of gases.
- D exchange gases with the circulatory system.

CSB00124

**78** Striking the tendon just below the kneecap causes the lower leg to jerk. Moving an object quickly toward the face can cause the eyes to blink shut. These are examples of

- A learned responses.
- B short-term memory.
- C reflex reactions.
- D sensory overload.

CSB10353

**79** The fight-or-flight response includes greater heart output and a rise in blood pressure. This response is due to

- A insulin secreted by the pancreas.
- B thyroxine secreted by the thyroid gland.
- C oxytocin secreted by the pituitary gland.
- D adrenaline secreted by the adrenal glands.

CSB20068

**80** Which of these secretes a hormone that regulates the rate of metabolism of the body?

- A spleen
- B cerebrum
- C thyroid
- D kidney

CSB00233

**81** The homeostatic mechanism in humans that regulates blood pH depends on the feedback of information from

- A stretch receptors.
- B chemical receptors.
- C hormone receptors.
- D thermal receptors.

CSB20315

**82** Which of the following is a function of the nervous system?

- A releasing ATP into contracting muscle tissues
- B signaling muscle tissues to contract
- C producing lactic acid in fatigued muscle tissues
- D increasing cellular respiration in muscle tissues

CSB10097

**83** A signal that the bladder is full is sent to the central nervous system by

- A feedback loops.
- B sensory neurons.
- C nephron tubules.
- D receptor proteins.

CSB10568

**84** What is the *greatest* danger to a patient who has had damage to the skin?

- A loss of oils produced by the skin
- B excessive muscle contractions in the damaged area
- C infections in uncovered tissues
- D damaged tissue entering the blood stream

CSB00068

## Released Test Questions

## Biology

**85** Sweat and skin secretions contain a mixture of molecules that kills or limits the growth of many types of microbes. This control of microbes is an example of

- A a nonspecific defense against infection.
- B an enzyme-catalyzed biochemical reaction.
- C a feedback loop to maintain homeostasis.
- D a specific immune response to infection by microbes.

CSB10560

**86** The Sabin vaccine is a liquid containing weakened polio viruses. Vaccinated individuals become protected against polio because the weakened viruses

- A prevent further viral invasion.
- B induce an inflammatory response.
- C promote production of antibodies.
- D are too weak to cause illness.

CSB00220

**87** Injecting a person with a killed-bacteria vaccine can protect that individual from a disease because the proteins of the killed bacteria

- A remain in the body, and live bacteria later prey on them instead of live tissues.
- B bind with receptors in the body, so that live bacteria cannot bind with them later.
- C stimulate the production of antibodies which can be manufactured later in response to infection.
- D give the person a mild form of the disease, which conditions the body not to respond to later infection.

CSB10083

**88** Which of the following require a host cell because they are *not* able to make proteins on their own?

- A blue-green algae
- B bacteria
- C protozoans
- D viruses

CSB00227

**89** How do human diseases caused by bacteria and diseases caused by viruses react to antibiotics?

- A Neither responds to antibiotics.
- B Both respond to antibiotics.
- C Viral diseases respond to antibiotics; bacterial diseases do not.
- D Bacterial diseases respond to antibiotics; viral diseases do not.

CSB10365

**90** Individuals with HIV sometimes contract a pneumonia infection that is rare in the rest of the population because people with HIV

- A are unable to fight off these pneumonia-causing organisms.
- B are more often exposed to these pneumonia-causing organisms.
- C release pheromones that attract the pneumonia-causing organisms.
- D release substances that increase the strength of the pneumonia-causing organisms.

CSB00243