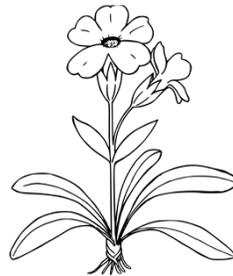


Parts of an Item

- **Item** - all the components that make up a test question
- **Graphics** - static images such as graphs, figures, pictures, etc.
- **Stem** - the text and graphics in the item
- **Distractor** - response options that are incorrect but plausible
- **Key** - response option(s) that is/are correct
- **Question** - part of the item that asks a specific question of the student

Parts of an Item

A diagram of a plant is shown. ← **Stem**



← **Graphic**

In which part of the plant does photosynthesis take place?

A. Flowers ← **Distractor**

B. Leaves ← **Key**

C. Stems ← **Distractor**

D. Roots ← **Distractor**

Question

Item Types

- Multiple Choice (MC)
 - Items that require students to respond to a stem by selecting one response
- Constructed Response(CR)
 - Items that require students to provide or input their response or responses using a keyboard or keypad
- Technology Enhanced (TE)
 - Items that include computer-based interactions to collect response data
- Multi-Part Selected Response (MPSR)
 - 2-part items in which one part is constructed response and the other part is MC or TE

Biology Item Sampler

Multiple Choice Item

Review

Question 4



The black-tailed jackrabbit lives in the desert. These rabbits maintain their body temperature by releasing heat through their long ears. If global temperatures continue to rise, what change would be expected in this rabbit species over time?

- (A) Rabbits with longer ears would have an advantage and be more likely to survive.
- (B) Rabbits with lighter-colored ears would have an advantage and be more likely to survive.
- (C) Individual rabbits will grow longer ears during their lifetimes and pass these traits on to their offspring.
- (D) Individual rabbits will acquire other adaptations during their lifetimes and pass these traits on to their offspring.

Constructed Response Item Type

- CR items require a student to provide a written/typed response.
- Possible responses for each section of a CR item should be limited; if two parts the parts should be independent of each other.
- Stand-alone CRs are worth 1-4 total points.
- CR items require students to apply and explain instead of only identify or recall knowledge.

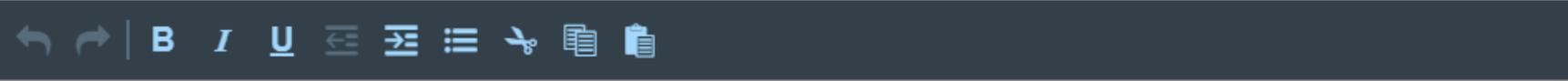
Biology Item Sampler

CR Item

Part B

Identify two reasons people migrate from these areas after a natural disaster. For each reason, provide one strategy for reducing these migrations.

Enter the answer in the box.



A rich text editor toolbar with icons for undo, redo, bold (B), italic (I), underline (U), bulleted list, numbered list, link, unlink, insert link, insert image, and a clipboard icon.

A large, empty white text area for entering the answer, with a vertical scrollbar on the right side.

Physical Science Item Sample

Text Entry

Review

Question 7



The following question has two parts. First, answer Part A. Then, answer Part B.

You may use the Periodic Table Reference Sheet to answer this question.

Part B

Enter the correct number into each box to complete the sentences.

This formula is best because a sodium atom has valence electron(s) and a chlorine atom has valence electron(s). Sodium forms an ion with a charge and chlorine forms an ion with a charge.

Technology Enhanced Item Types

- Examples of each technology enhanced item type will be available for reference.
 - Drag and Drop
 - Drop-Down Menu
 - Matching
 - Matching Table
 - Hot Spot
 - Text Highlight
 - Multi-select

Biology Item Sampler

Drag and Drop Item

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Biology | Question Sa...

Directions

Sign out

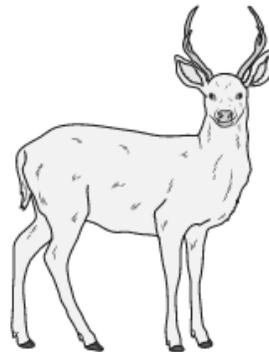
Review

Question 12

Many Missouri deer have brown fur color which helps them blend into their surroundings and avoid predators. However, there are also albino deer that lack this coloring. The albino trait is located on an [autosome](#). Albino deer are highly preyed upon and rarely survive to reproduce.



Normal Deer



Albino Deer

An albino female deer (aa) breeds with a homozygous normal (AA) male. Complete the Punnett square for the first generation of offspring of these parents. Drag and drop the alleles and genotypes into the correct locations.

			Male	AA
				aa
Female				Aa
				A
				a

Biology Item Sampler Drop-Down

Review

Question 5



A newly fertilized egg cell develops into a new organism. The diagram shows the development of this cell.

Development

Fertilized
Egg



Select the words that complete these statements.

is a process by which cells begin to change and become specific types of cells. A group of similar cells working together to perform a specific function is called a(n) .

Biology Item Sampler Drop-Down Menu

Review

Question 5



A newly fertilized egg cell develops into a new organism. The diagram shows the development of this cell.

Development

Fertilized
Egg



Select the words that complete these statements.

is a process by which cells begin to change and become specific types of cells. A group of similar cells working together to perform a specific function is called a(n)

-
- organ.
- organism.
- organ system.
- tissue.

Biology Item Sampler Matching

Review

Question 9



Human body temperature is 98.6°F and must be maintained for proper function of human body systems. Thermal homeostasis is the ability of an organism to maintain its stable internal body temperature. When it is cold, one way the human body maintains normal temperature is to constrict blood vessels to conserve heat and to prevent sweat glands from secreting fluid.

Other mammals maintain body temperature in cold climates in different ways. Otters maintain body temperature by trapping air pockets in their thick fur which insulates them from the cold. Harbor seals retain their heat with a thick layer of fat under the skin which insulates them from the cold. During an oil spill in a cold climate, sea otters have been found to be less likely to survive than harbor seals.

The column on the left contains responses of the body. The column on the right lists systems of the body. Match the response to the corresponding body system. Options may be used more than once.

Body begins to shiver

Blood vessels constrict

Sweat glands produce less fluid

Brain recognizes temperature drop

Circulatory System

Endocrine System

Muscular System

Nervous System

Physical Science Item Sampler

Match Table

Review

Question 15



Use the Periodic Table.

Match each statement with the proper classification.

	Metals	Nonmetals
sodium		
fluorine		
contains many gases		
conducts electricity in the solid state		
tends to lose electrons and form positive ions		

Biology Item Sampler

Hot Text Item

Review

Question 1



The passage describes a condition that is inherited. Select the statements which lead scientists to believe the condition is genetically-controlled.

Select all that apply.

The condition is caused by a mutation that changes a protein that affects connective tissues. Connective tissues help the body grow and develop properly. The mutation can cause abnormal growth of bones, abnormalities in the heart, and problems with vision. A hypothesis exists that Abraham Lincoln had this condition. Lincoln was unusually tall, had long limbs, and other physical features characteristic of the condition. Some researchers have speculated that Lincoln's mother died young from complications of this condition. In 1960, a male descendent of Lincoln's great-great-grandfather was positively identified having this condition. Experts believe that nearly half of the people who have this condition do not know they have it, but there are treatments available for people diagnosed with this condition.

Biology Item Sampler

Multi-Select Item

Online Version 80.0 | Biology | Question Sa... [Directions](#) [Sign out](#)

[Review](#) **Question 3** [<](#) [>](#)

What evidence supports common ancestry between two species?

Select all that apply.

- living in the same biome
- growing to the same size
- having similar anatomical structure
- finding fossil evidence of each species
- determining their DNA sequences are quite similar

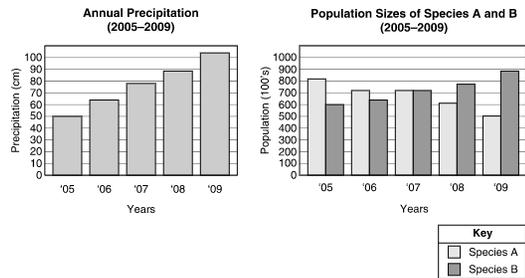
Multi-Part Selected Response (MPSR) Item Type

- Consists of more than one part
- Each part is MC, TE, or constructed response.
- The parts should be connected in a logical way.
- Can be worth 2-4 total points.
- MPSR items require students to apply and explain instead of only identify or recall knowledge.

Biology Item Sampler

MPSR Item

A scientist studied the effect of precipitation on two species within the same ecosystem. The data is shown in the graphs.



The following question has two parts. First, answer Part A. Then, answer Part B.

Part A

Which claim is **best** supported by the data?

- (A) As annual precipitation increases, the populations of Species A and B increase.
- (B) As annual precipitation increases, the populations of Species A and B decrease.
- (C) As annual precipitation increases, the population of Species A increases while Species B decreases.
- (D) As annual precipitation increases, the population of Species A decreases while Species B increases.

Part B

If the precipitation levels observed in year '09 remain the same and other resources remain constant, identify and describe what can be predicted to occur with the population of Species B over the next 6 years.

Enter the answer in the box.

← → | **B** *I* U [List] [Bul] [Table] [Link] [Image] [Print]

Physical Science Item Sample: MPSR Item

Review

Question 7



The following question has two parts. First, answer Part A. Then, answer Part B.

You may use the Periodic Table Reference Sheet to answer this question.

Part A

Sodium chloride, commonly known as table salt, is made of sodium (Na) ions and chloride (Cl) ions. Which of the following is the simplest formula unit for sodium chloride?

- (A) NaCl
- (B) Na₂Cl
- (C) NaCl₂
- (D) Na₃Cl₂

Part B

Enter the correct number into each box to complete the sentences.

This formula is best because a sodium atom has valence electron(s) and a chlorine atom has valence electron(s). Sodium forms an ion with a charge and chlorine forms an ion with a charge.