LEAP CONNECT

# Directions for Practice Test Administration

Science

Grade 8

DEPARTMENT of EDUCATION

Louisiana Believes

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# Table of Contents

## *Purpose*

The *Directions for Practice Test Administration* (DPTA) provides the Test Administrator (TA) of the LEAP Connect practice test with specific instructions for administration of this particular practice test. Each DPTA provides the exact wording of the items to be used by the TA, the materials needed in preparation of the practice test, and guidelines for how to present the items to the student.

## *Materials*

Materials needed for the LEAP Connect Test Administration:

1. *Directions for Practice Test Administration* (DPTA)
2. *Procedures for Assessing Students Who Are Visually Impaired, Deaf, or Deaf-Blind*
3. *Grade 8 Science Practice Test Reference Materials*

## *Directions*

1. **Know and follow all directions for test administration** provided in the *Science Grade 8 DPTA* and *Procedures for Assessing Students Who Are Visually Impaired, Deaf, or Deaf-Blind*.
2. Be familiar with and utilize the Text to Speech (TTS) as appropriate. The DRC INSIGHT Assessment System includes TTS that will read aloud the text of directions, items, and answer options and will also read aloud standardized descriptive statements for tables, charts, graphs, and timelines.
    a. This text is read to all students using a consistent rate of reading and tone of voice. If a student wishes to have any or all of the text repeated, click on the Starting Points button (the circle between the Stop and Play/Pause buttons). Then use the mouse to select the starting point (blue circle) just before the text that needs to be repeated.
    b. To change the volume or speed of the TTS or turn off the follow-along, select the Options button at the bottom of the screen, then select Audio Settings and adjust as desired.
    c. If the TTS will not be used, the TA can turn off the volume and the follow-along using the Audio Settings. The TA must read the directions, items, answer option text, and graphic descriptions **exactly as written** using a consistent rate of reading and tone of voice.
3. Be familiar with and utilize the Alternative Text as appropriate. Alternative Text is bracketed and written in italics. Alternative Text is included for students who are blind or have a visual impairment and require graphics to be described. This Alternative Text includes descriptive statements for tables, charts, graphs, and any graphics necessary for appropriate interaction with the items to be described.

### *Guidance on Printed Materials*

*Science Practice Test Reference Materials* include required graphics and the answer options for each practice test item. The DPTA will prompt the TA when the required graphics are to be presented to the student. The answer options are included so they can be copied and used as needed (e.g., eye gaze boards).

### *Selected-Response Items*

Selected-response items are presented to students in the following order:

- Item stimulus (which may include an example, picture, graphic, equation, formula, or other illustration)
- Item question
- Answer options (which are indicated by radio buttons and presented vertically)

Students independently select a response from the options. Being mindful that students will respond in a variety of ways (e.g., with words, gestures, eye gaze, communication devices, assistive technology, etc.), TAs can enter responses on behalf of the student. Ensure that Augmentative and Alternative Communication (AAC) and Assistive Technology (AT) used routinely for instruction are available to support the student in communicating responses.

### *Science Selected-Response Item Example*

The LEAP Connect practice test items reflect grade-level content presented at varying degrees of complexity. The following item example illustrates a selected-response item and components which support the ways that students with a wide range of learner characteristics are presented with assessment tasks. The following item example does not reflect ALL content that is assessed in each grade-level content area and does not represent every degree of complexity.

**Science Item Example**

TTS or TA reads item directions.

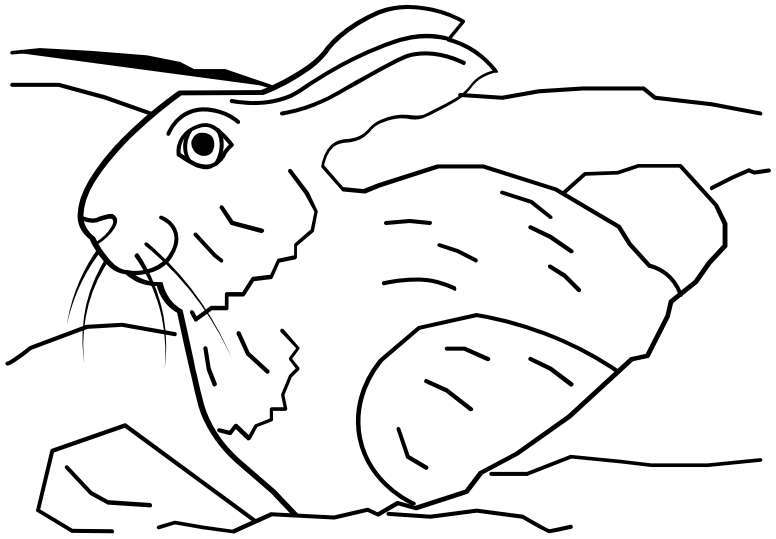
This item is about how animals survive in their environment.

For example, if brown rabbits and white rabbits are living in a snowy environment, the white rabbit is more likely to survive. The white rabbit is less noticeable against the white snow.

TTS or TA reads item text.

*Point to the picture.*

Directions for TA to point to the picture.



What characteristic helps the white rabbit survive? ← TTS or TA reads question text.

*Point to each option as the TTS or TA reads each option.*

Directions for TA to point to aspects of item on the computer screen or in the RM.

A. being very quiet

B. having a fluffy tail

TTS or TA reads answer choices.

C. blending in with its environment

## *Procedures for Constructed-Response (CR) Items*

The CR items require students to construct an answer rather than select an answer from multiple-choice options. The TA must enter the student CR score into DRC INSIGHT. The CR item is presented to the student in a standardized, scripted sequence of steps; culminating in a TAs scoring of the student performance according to the Science Scoring Rubrics. The Science Scoring Rubrics are included with the appropriate CR items in the DPTA and provide scoring standards that must be used to evaluate student responses.

## *Administering the CR Item*

- Become familiar with the CR items and setup requirements.
- Rehearse administering each item before administering it to a student by reading the script for each item.
- Become familiar with the scoring rubric and directions for scoring the student response.
- Prepare the test setting:
    - Assemble any needed materials (pencils, markers, etc.).
    - Provide materials required for student accommodations.

- Position the student so that they will have the optimal vantage to view and manipulate materials in order to facilitate sustained attention.
- Eliminate noise and visual distractions that may divert the student's attention.
- Collect all printed materials that the student will need.
- Enlarge any stimulus materials, using the enlarge feature on a printer or copier, if needed.
- Locate the appropriate stimulus material, which is identified by name on the front of each for ease of handling before, during, and after test administration. Cut the stimulus materials apart (if applicable).

### *Scoring the Science CR Items*

In order to have consistent and reliable CR scoring, TAs must understand and apply the Science Scoring Rubrics in the same way to every student's response.

Independently score a student's performance on the CR items. Being mindful that students will respond in a variety of ways (e.g., with words, gestures, eye gaze, communication devices, assistive technology, etc.), careful and meticulous observation will enable the TA to accurately assign the appropriate score point based on the Science Scoring Rubrics in the DPTA.

### *Procedures for Entering the Student Score for CR Items*

Record the student score in the DRC INSIGHT Assessment System. Answer options will be: "The student provided the correct answer." or "The student did not provide the correct answer." After recording the student score, continue to the next item.

# Session 1

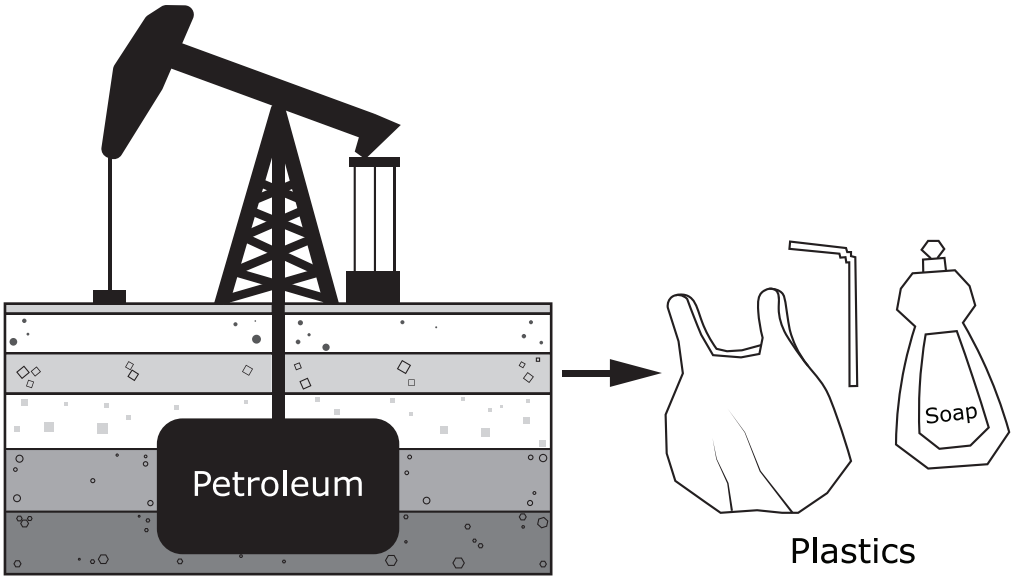
**Item 1**

This item is about natural resources and man-made resources.

Plastic is a man-made resource. Plastic is made from petroleum. Petroleum is a natural resource found deep underground.

*Point to the diagram as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a picture of an oil rig and a few layers of rock below Earth's surface layer. The oil rig pulls petroleum out of the ground with a large drill. Plastics are made by changing petroleum using a chemical reaction."]*




Why is plastic a man-made resource?

*Point to each option as the TTS or TA reads each option.*

A. because it is found in nature

B. because it can be recycled for new uses

C. because it is made using a chemical reaction

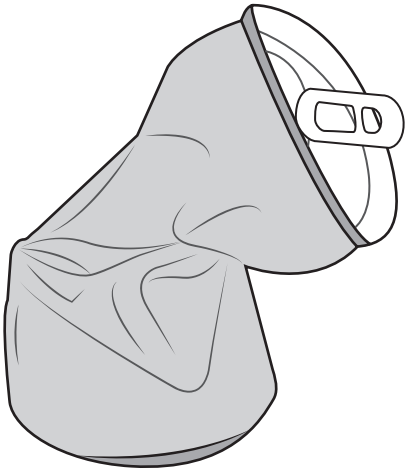
**Item 2**

This item is about changes to materials.

During a physical change, a material may change shape.

*Point to the crushed can as the TTS or TA reads the graphic description.*

*[Graphic description: "This is an aluminum can. The can is crushed."]*



During a chemical change, a material may change into a different substance.

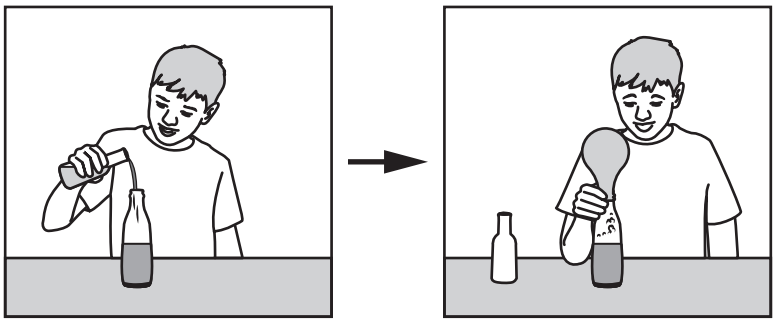
*Point to the fireworks as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a picture of fireworks. Light is produced by chemical reactions."]*

**Item 2, continued**

*Point to each picture and the arrow as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a picture of a student mixing vinegar with baking soda. The arrow shows that after the vinegar and baking soda are mixed, a gas is produced."]*



What type of change is turning vinegar and baking soda into a gas?

*Point to each option as the TTS or TA reads each option.*

A. physical

B. chemical

**Item 3**

This item is about natural materials and synthetic materials.

A natural material is any product that comes from plants, animals, or the ground. Paper is natural material.

Synthetic materials are made using chemical processes. Plastic is a synthetic material.

The chart below shows the time it takes some natural and synthetic materials to breakdown after they are thrown away.

*Point to the chart as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a chart titled, 'Approximate Time to Breakdown.' It shows how long it takes various natural materials and synthetic materials to breakdown. The natural materials like paper towels and paper bags take about one month each to breakdown. Synthetic materials like a plastic bag take fifteen years to breakdown and a plastic water bottle takes 450 years to breakdown."]*

**Approximate Time to Breakdown**

| Natural Materials | |
|---|---|
| Paper towel | 3 weeks |
| Paper bag | 1 month |

| Synthetic Materials | |
|---|---|
| Plastic bag | 15 years |
| Plastic water bottle | 450 years |

What characteristic about natural materials and synthetic materials is shown in the chart?

*Point to each option as the TTS or TA reads each option.*

A. Synthetic materials take a **longer** time to breakdown.

B. Synthetic materials take a **shorter** time to breakdown.

C. Both materials take the **same** amount of time to breakdown.

**Item 4**

This item is about thermal energy.

Students in a science classroom tested how well three types of coolers maintained the temperature of a bottle of cold water. They placed one bottle of cold water into each of the coolers. The water in each bottle was *[Graphic description: "five degrees Celsius"]* 5°C.

The students placed the three coolers on a shelf for two hours. Then they measured the temperature of the water in each cooler.

*Point to the data table as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a data table titled, 'Final Temperature.' It shows the final temperature of the water in each cooler. The final temperature of the water in cooler A is eight degrees Celsius. The final temperature of the water in cooler B is fifteen degrees Celsius. The final temperature of the water in cooler C is seventeen degrees Celsius."]*

**Final Temperature**

| Cooler | Final Temperature (°C) |
|---|---|
| A | 8 |
| B | 15 |
| C | 17 |

Which cooler kept the water temperature closest to 5 degrees Celsius?

*Point to each option as the TTS or TA reads each option.*

A. Cooler A

B. Cooler B

C. Cooler C

*Provide student with Diagram 1 of steps to make ice cream from the Grade 8 Science Practice Test Reference Materials.*

**Item 5**

This item is about heat energy.

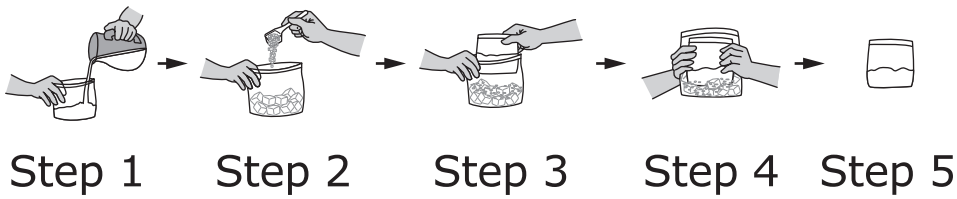
Some chemical reactions absorb heat energy. For example, mixing rock salt with ice makes ice colder.

Students in a science class designed a device to make ice cream using two sealable plastic bags.

> *Point to the steps that students followed as the TTS or TA reads the graphic description.*
>
> *[Graphic description: "This shows the steps the students followed to make ice cream."]*

Here are the steps of the experiment:

- Place warm ice cream ingredients into a small plastic bag.
- Place ice and rock salt into a large plastic bag.
- Place the small plastic bag into the large plastic bag.
- Shake for ten minutes.




When they opened the small plastic bag, they had frozen ice cream.

What caused the ice cream to get cold so quickly?

> *Point to each option as the TTS or TA reads each option.*

A. plastic bag

B. ingredients

C. rock salt and ice

*Provide student with Diagram 2, "Stages of Pig Embryo Development" from the Grade 8 Science Practice Test Reference Materials.*

**Item 6**

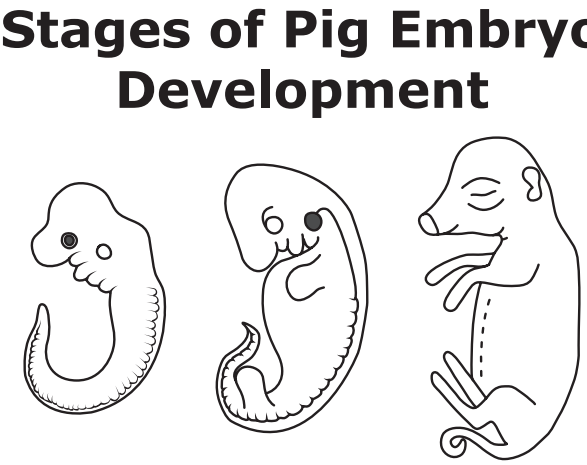
*This is the first item of a three-part item. Student may not return to this item after responding to this item.*

This item is about embryos.

Closely related species show similar embryo development. This is the embryo development of a pig.

*Point to the diagram as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a diagram titled, 'Stages of Pig Embryo Development.' It shows the stages of embryo development of a pig. In an early stage, the embryo has a wide tail and small eyes. In later stages, the growing pig has a small tail and small ears."]*

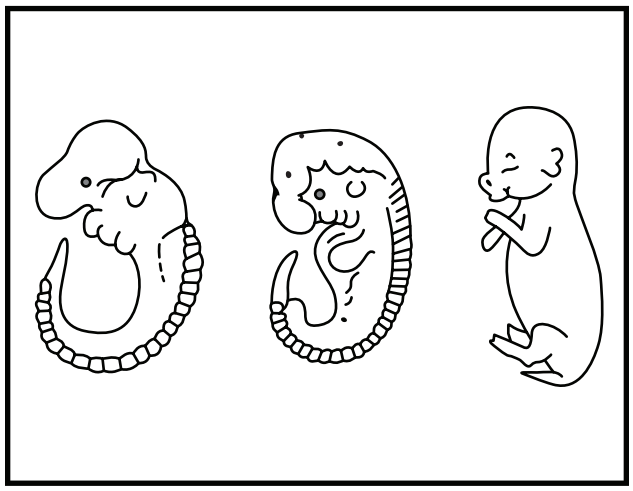


**Item 6, continued**

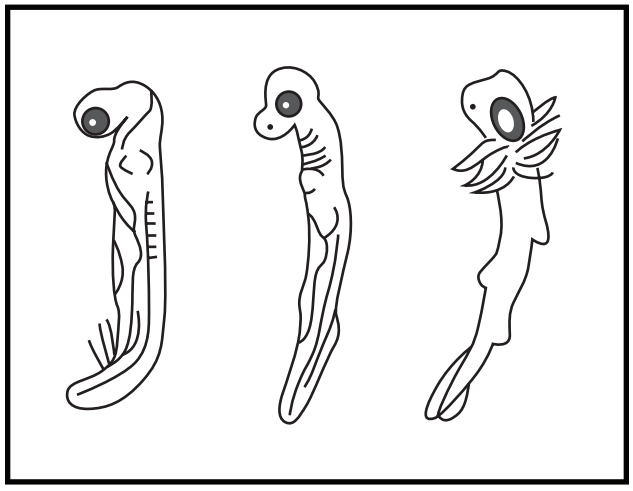
Which picture shows the embryo development for a closely related species of mammals?

*Point to each option as the TTS or TA reads each option.*

*[For students with visual impairment, read "A. This picture shows the stages of embryo development of a rabbit. At later stages, the rabbit has a thin tail and ears."]*

A. 

*[For students with visual impairment, read "B. This picture shows the stages of embryo development of a shark. At later stages, a shark has a long tail and small fins."]*

B. 

*This is the first item of a three-part item. Student may not return to this item after responding to this item.*

**Item 7**

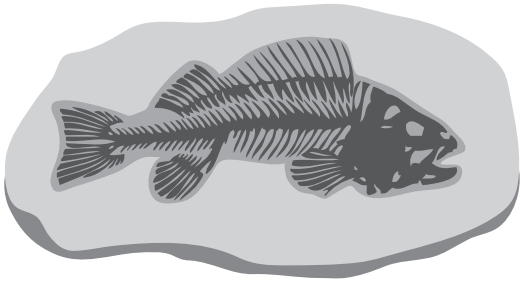
*This is the second item of a three-part item. Student may not return to the previous item.*

This item is about fossils.

This is a fossil of an extinct fish discovered in Wyoming.

*Point to the fossil as the TTS or TA reads the graphic description.*

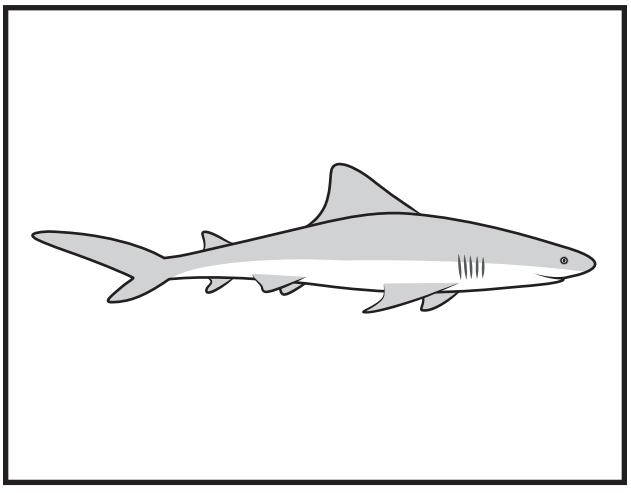
*[Graphic description: "This is a fossil of a fish that lived about 50 million years ago. The fish had a tail split into two parts of equal length. It had one fin on its back. It was about 25 inches long."]*



Which living fish is **most likely** related to this extinct fish?

*Point to each option as the TTS or TA reads each option.*

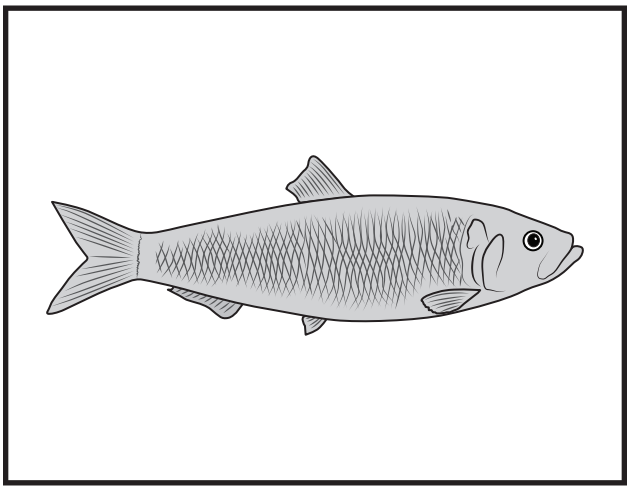
*[For students with visual impairment, read "A. This picture shows a shark. The shark has two fins on its back. The shark is about ten feet long."]*



A. shark

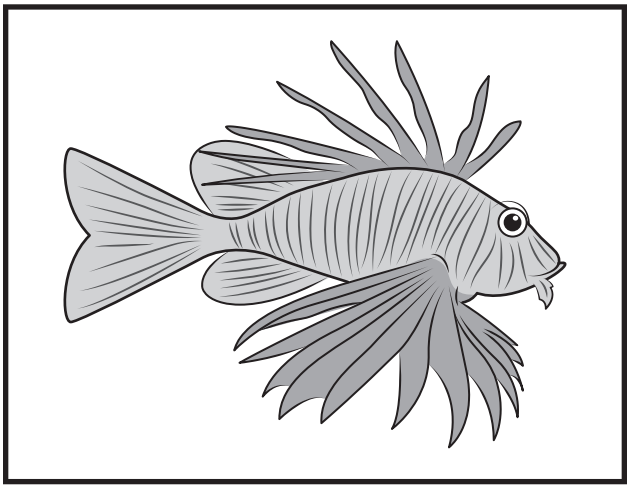
**Item 7, continued**

*[For students with visual impairment, read "B. This picture shows a herring. The herring has one fin on its back. The herring is about 20 inches long."]*



B. herring

*[For students with visual impairment, read "C. This picture shows a lionfish. The lionfish has many spines on its back. The lionfish is about 13 inches long."]*



C. lionfish

*This is the second item of a three-part item. Student may not return to this item after responding to this item.*

*Provide student with Incomplete Chart 1, "Evidence of Relationships" and 4 pictures of fish development stages from the Grade 8 Practice Test Science Reference Materials.*

**Item 8**

*This is the third item of a three-part item. Student may not return to the previous item.*

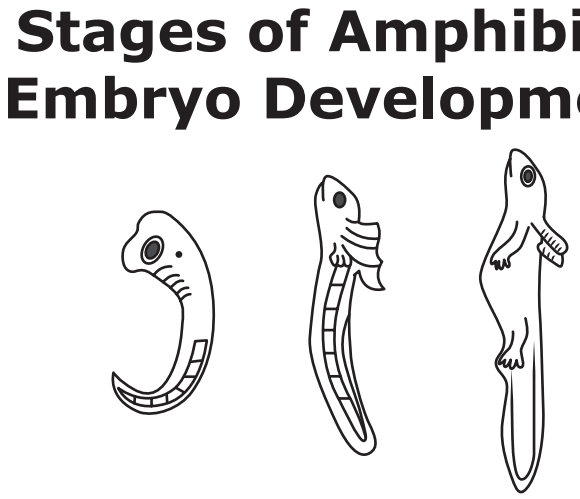
This item is about animals.

Different species can show evidence that they are related.

Closely related species show similar embryo development. This is the embryo development of an amphibian.

*Point to the diagram as the TTS or TA reads the graphic description.*

*[Graphic description: "The title of this diagram is 'Stages of Amphibian Embryo Development.' This is a picture showing stages of embryo development of an amphibian. In an early stage, the embryo has gill slits, a curled tail, and small eyes. In later stages, the growing embryo has gill slits, a wide tail, and small eyes."]*

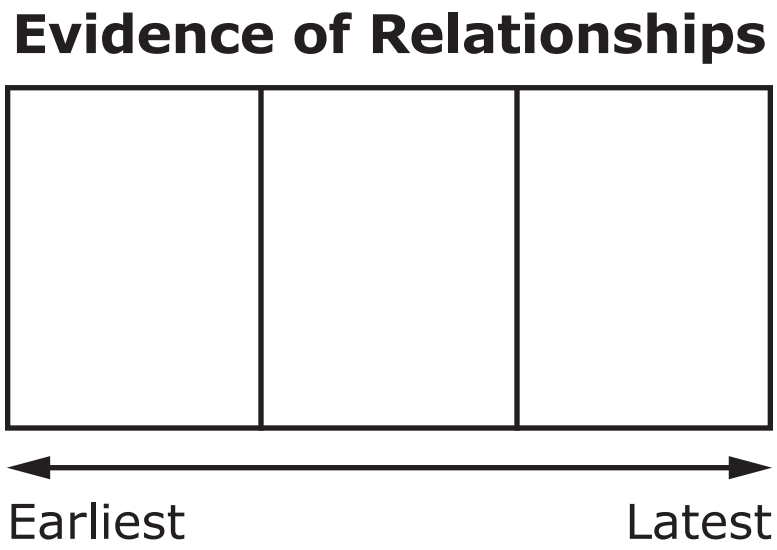


**Item 8, continued**

This chart can be used to show evidence of relationships between a species of amphibians and fish.

*Place the chart on the work surface in front of the student. Point to the title as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a chart titled, 'Evidence of Relationships.' It has a place for three pictures. An arrow shows the order to be from earliest to latest moving left to right."]*



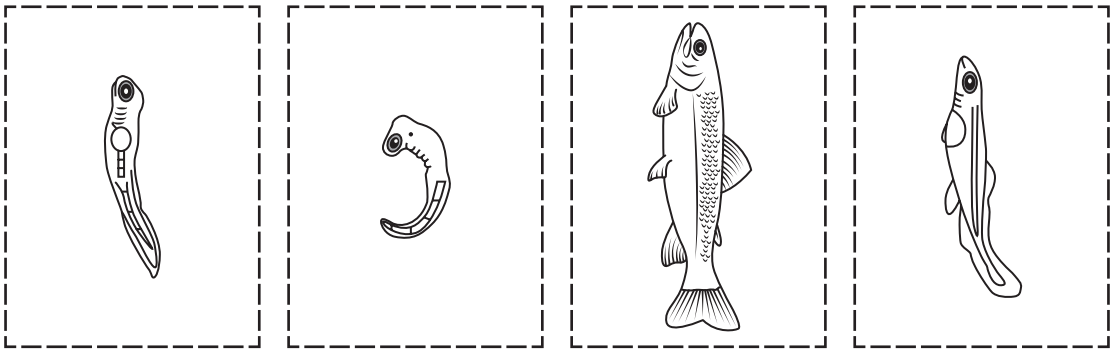
**Item 8, continued**

Look at the physical characteristics of the development stages of a fish shown by each picture.

*Place pictures on the work surface in front of the student left to right or top to bottom in the following order: second embryological stage with large eyes and no fins, first embryological stage with large eyes and curled tail, adult fish, third embryological stage with large eyes and fins. Point to the chart and each picture as the TTS or TA reads the graphic description.*

*[Graphic description: "These pictures show the development of a fish."]*

*[For students with visual impairment, read, "The first picture shows a stage when the fish has gill slits, large eyes, and a wide tail. The second picture shows a stage when the fish has gill slits, large eyes, and a curled tail. The third picture shows a stage when the adult fish has gills, eyes, fins, and a tail. The fourth picture shows a stage when the fish has gill slits, large eyes, and small fins with a wide tail."]*



These are pictures to use to complete the chart. Not all of the pictures need to be used.

*Point to the diagram of amphibian embryo development, the pictures that show the development of the fish, and the incomplete chart titled, 'Evidence of Relationships.'*

Select the pictures that show evidence of how the stages of embryo development of a species of amphibians and fish are related. Place them onto the chart in order from earliest to latest.

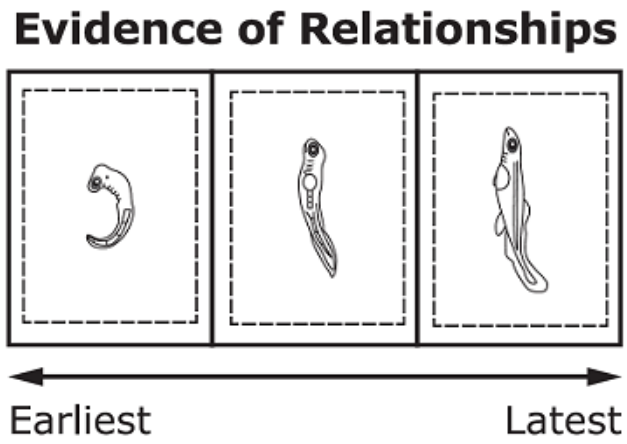
*Allow the student time to complete the chart.*

## Rubric

***Test Administrator:*** *After student completes work, record on the computer if the student provided the correct answer or the student did not provide the correct answer.*

| Score | Description |
|---|---|
| 1 | Student correctly places the picture that shows the stage when the fish has gill slits, large eyes and curled tail in the first cell; the picture that shows the stage when the fish has gill slits, large eyes, and a wide tail in the second cell; and the picture that shows the stage when the fish has gill slits, eyes and small fins with a wide tail in the third cell on the chart. |
| 0 | Student does not correctly place the 3 pictures of embryos on the chart in the correct order. |

## Sample Response



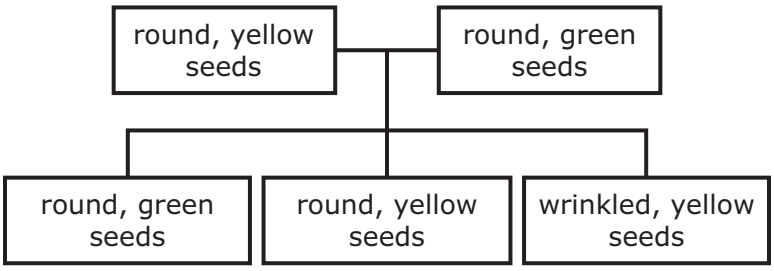
**Item 9**

This item is about parents and offspring.

Traits are characteristics passed from parents to offspring.

*Point to each type of seed shown in the graphic as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a diagram. The diagram shows a cross between two plants. One parent has round, yellow seeds. The other parent has round, green seeds. One offspring has round, green seeds. Another has round, yellow seeds. A third offspring has wrinkled, yellow seeds."]*




What is true about the seeds of the three offspring?

*Point to each option as the TTS or TA reads each option.*

A. **All** the offspring look like the parents' seeds.

B. **None** of the offspring look like the parents' seeds.

C. **Some** of the offspring look like the parents' seeds.

*Provide student with Scatterplot 1, "Rainfall and Plant Growth" from the Grade 8 Science Practice Test Reference Materials.*

**Item 10**

This item is about living organisms.

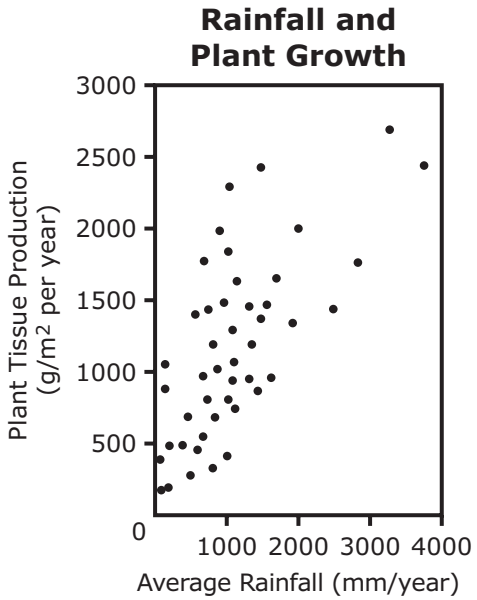
All conditions in the environment affect the life and development of plants and animals.

Rainfall affects the growth of plants.

This scatterplot shows the relationship between annual rainfall and plant tissue growth rates in an ecosystem.

*Point to the scatterplot as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a scatterplot titled, 'Rainfall and Plant Growth.' The x-axis starts at zero and has four equally spaced marks increasing by one thousands moving to the right. It is labeled Average Rainfall in millimeters per year. The y-axis starts at zero and has six equally spaced marks increasing by five hundreds moving upward. It is labeled Plant Tissue Production in grams per square meter per year."]*



**Item 10, continued**

Which sentence describes how rainfall affects the growth of plants?

*Point to each option as the TTS or TA reads each option.*

A. As the amount of rainfall **increases**, the amount of plant tissue growth per year **increases**.

B. As the amount of rainfall **increases**, the amount of plant tissue growth per year **decreases**.

C. As the amount of rainfall **decreases**, the amount of plant tissue growth per year **increases**.

*Provide student with Model 1, "Rock Cycle Model of Igneous Rock" from the Grade 8 Science Practice Test Reference Materials.*

**Item 11**

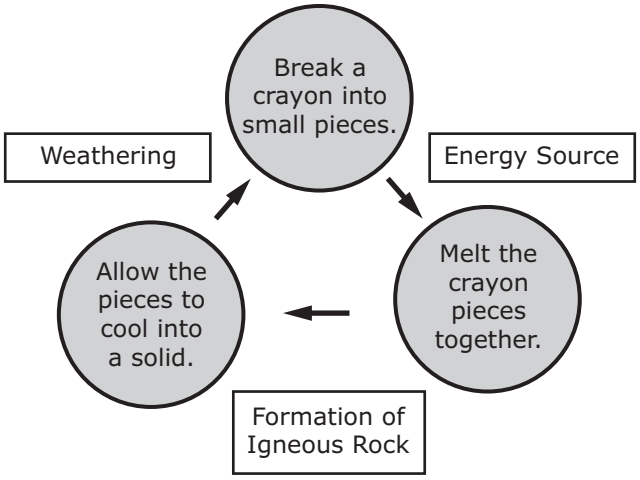
This item is about how matter is cycled throughout Earth.

Students in a science class created a model to show the cycling of matter.

*Point to each part of the model as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a model titled, 'Rock Cycle Model of Igneous Rock.' Weathering is shown by breaking down a crayon into small pieces. Then energy is added to melt the crayon pieces together. Last, the melted pieces harden back to a solid."]*

**Rock Cycle Model of Igneous Rock**




What is true about the energy source in the model?

*Point to each option as the TTS or TA reads each option.*

A. Energy is **not required** to maintain the rock cycle.

B. Energy is **required** to maintain the rock cycle.

C. Energy **stops** the rock cycle.

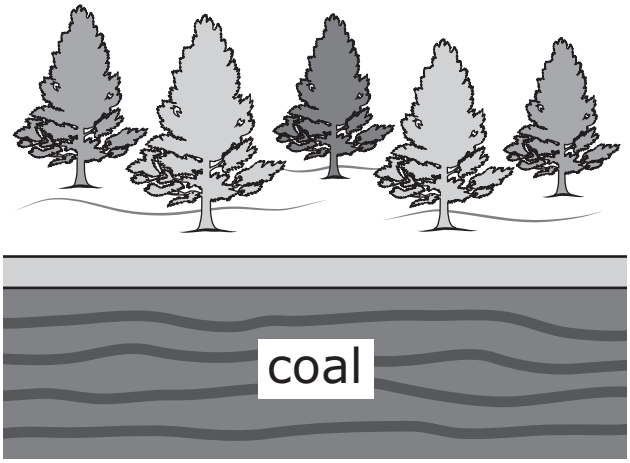
**Item 12**

This item is about Earth materials.

*Point to the objects in the picture as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a picture of some Earth materials. These are trees. This is Earth's surface. This is a coal deposit."]*

*[For students with visual impairment, read "This is coal underground."]*




Which can be found above Earth's surface?

*Point to each option as the TTS or TA reads each option.*

A. trees

B. coal

*Provide student with Resource Map 1, "Areas of Oil Production in the United States" from the Grade 8 Science Practice Test Reference Materials.*

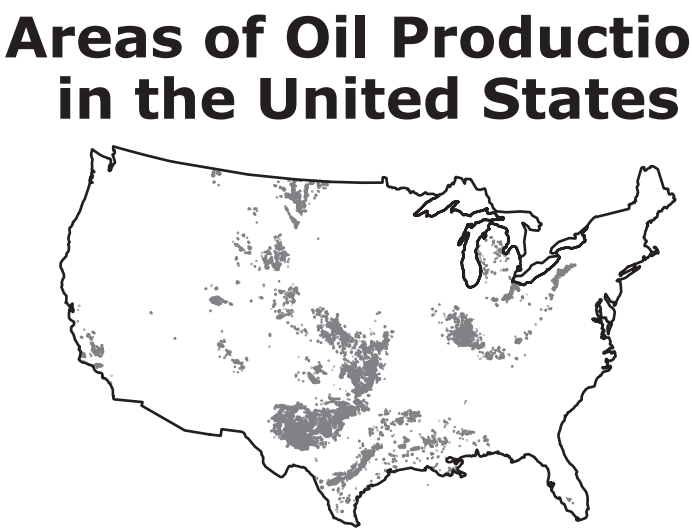
**Item 13**

This item is about natural resources.

*Point to the map as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a resource map titled, 'Areas of Oil Production in the United States.' This is the United States. The map shows the distribution of oil production areas in the United States. The shaded areas represent the locations of oil production. Some locations have many more oil production areas than other locations."]*

*[For students with visual impairments, read, "In the United States, oil production is usually found in the Midwest".*




This is the United States. The map shows the distribution of oil fields in the United States. Oil is found deep under Earth's surface.

What is the result of underground processes on the distribution of oil?

*Point to each option as the TTS or TA reads each option.*

A. an **even** distribution of oil in the United States

B. an **uneven** distribution of oil in the United States

C. **no** distribution of oil in the United States

*Provide student with Diagram 3, "Rock Layers" from the Grade 8 Science Practice Test Reference Materials.*

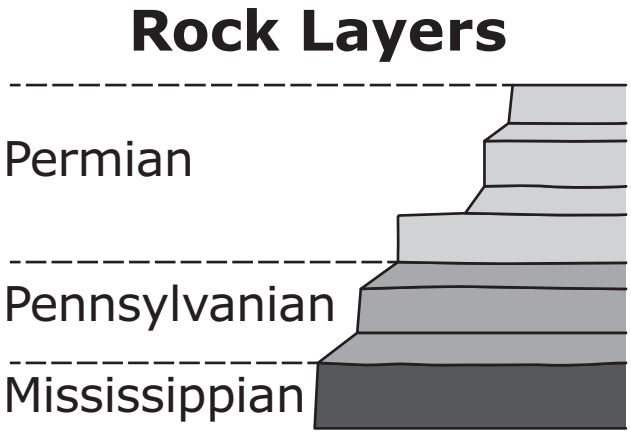
**Item 14**

This item is about Earth's history.

Fossils are the remains or traces of organisms from the ancient past. New layers of rock form over old layers. Over time, fossils end up very deep down under the ground.

*Point to the chart as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a diagram titled, 'Rock Layers.' It shows three periods of Earth's history shown in layers. These layers are found below Earth's surface layer."]*




*Point to each layer as the TTS or TA reads the text.*

The upper layer shows the Permian Period. Many species of reptiles and amphibians went extinct at the end of this period.

The middle layer shows the Pennsylvanian Period. Many species of reptiles lived during this period.

The lower layer shows the Mississippian Period. Many species of amphibians lived during this period. Few reptiles lived during this period.

Rock from which period would **least likely** contain reptile fossils?

*Point to each option as the TTS or TA reads each option.*

A. Permian Period

**Item 14, continued**

B. Pennsylvanian Period

C. Mississippian Period

*Provide student with Diagram 4 of a food chain from the Grade 8 Science Practice Test Reference Materials.*

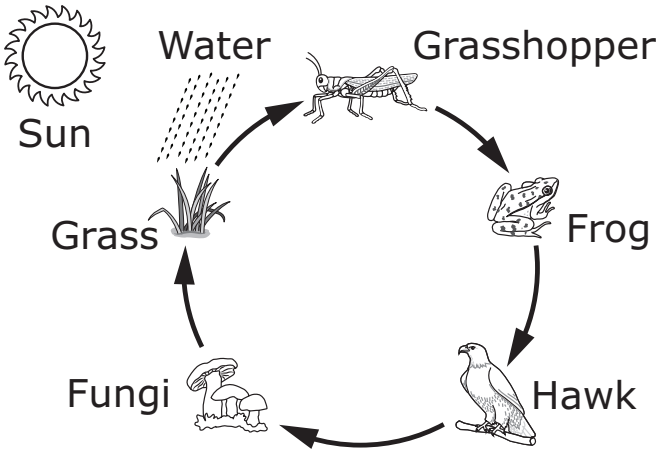
**Item 15**

This item is about how matter and energy are cycled throughout Earth.

All living organisms need matter and energy to survive. Food is a form of matter and contains energy.

*Point to the objects in the picture as the TTS or TA reads the graphic description.*

*[Graphic description: "This shows a diagram of a food chain. It begins with grass. Grass grows using sunlight and water. An arrow points from the grass to a grasshopper. An arrow points from the grasshopper to a frog. An arrow points from the frog to a hawk. An arrow points from the hawk to fungi. An arrow points from the fungi to the grass."]*




Plants store energy from the sun and matter as food. The stored energy is transferred from the grass to the grasshopper, to the frog, and then to the hawk. When the hawk dies, it is broken down by fungi in the ground. The broken-down matter is used by plants along with sunlight to store energy as food.

According to the diagram, what is cycled throughout Earth?

*Point to each option as the TTS or TA reads each option.*

A. energy only

B. matter only

C. energy and matter

**Item 16**

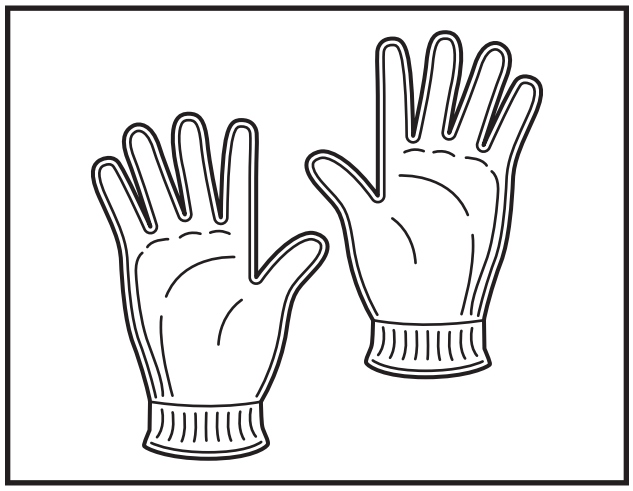
This item is about staying warm.

People try to stay warm when it is cold outside.

Which helps people stay warm?

*Point to each option as the TTS or TA reads each option.*

*[For students with visual impairment, read, "A. This is a picture of a pair of gloves."]*



A. a pair of gloves

*[For students with visual impairment, read, "B. This is a picture of a necklace."]*

B. a necklace

**Item 17**

This item is about chemical reactions.

Some chemical reactions release heat. Some chemical reactions absorb heat.

*[Graphic description: "This is a picture of a person spreading a chemical on a driveway to melt ice."]*

Which describes the reaction of a chemical mixed with ice that causes ice to melt?

*Point to each option as the TTS or TA reads each option.*

A. Heat is destroyed.

B. Heat is absorbed.

C. Heat is released.

# You have reached the end of this Session.

## You may choose from the following options:

- Review items in this session
- **Pause** this test and **Resume** later
- Complete this session (**End Test**, then **Submit**) and begin Session 2.

# Session 2

**Item 18**

This item is about thermal energy.

A person places a pot of cold water on top of a stove. The person turns on the stove. The water in the pot gets warmer.

What describes the flow of heat between the stove and the pot?

*Point to each option as the TTS or TA reads each option.*

A. Heat flows from cold to hot.

B. Heat flows from hot to cold.

C. Heat flows from both cold to hot and hot to cold.

*Provide student with Diagram 5 of the making of synthetic gelatin from the Grade 8 Science Practice Test Reference Materials.*

**Item 19**

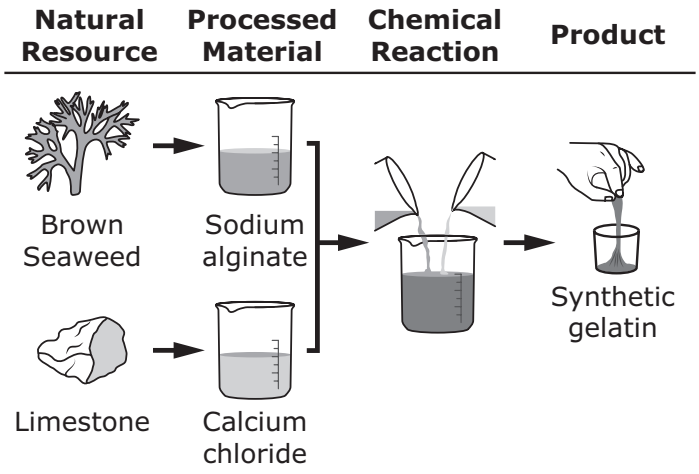
This item is about natural resources and synthetic resources.

Natural resources are materials that occur in nature. Synthetic resources are man-made.

This shows how synthetic gelatin can be made in a laboratory.

*Point to each part of the diagram as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a diagram. This side of the diagram is labeled Natural Resource. Brown seaweed grows in the ocean. Limestone is a common rock. The next part of the diagram is labeled Processed Material. Sodium alginate is made from brown seaweed. Calcium chloride is made from limestone. A chemical reaction occurs when the materials are mixed together. This side of the diagram is labeled Product. A synthetic gelatin is made by the chemical reaction."]*




Why is the synthetic gelatin considered to be a synthetic product?

*Point to each option as the TTS or TA reads each option.*

A. because limestone is not a renewable resource

B. because synthetic gelatin is made from natural resources

C. because synthetic gelatin is changed chemically by people

*Provide student with Graph 1, "Pasture Available for Grazing" from the Grade 8 Science Practice Test Reference Materials.*

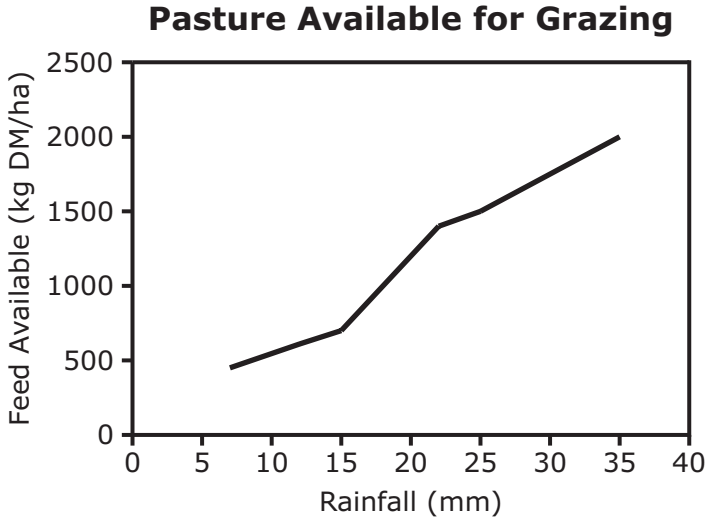
**Item 20**

This item is about living organisms.

Grazers are animals that depend on pastures for food.

*Point to the graph as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a graph titled, 'Pasture Available for Grazing.' The x-axis is labeled Rainfall in millimeters. It starts at zero and has eight equally spaced marks increasing by fives moving to the right. The y-axis is labeled Feed Available in kilograms of dry matter per hectare. It starts at zero and has five equally spaced marks increasing by five hundreds moving upward."]*




Use the graph to answer the question.

How does the amount of rainfall affect the growth of grazers?

*Point to each option as the TTS or TA reads each option.*

A. An **increase** in rainfall would cause grazers to have more food.

B. A **decrease** in rainfall would cause grazers to have more food.

C. A **change** in rainfall would have no effect on the grazers.

**Item 21**

This item is about animals.

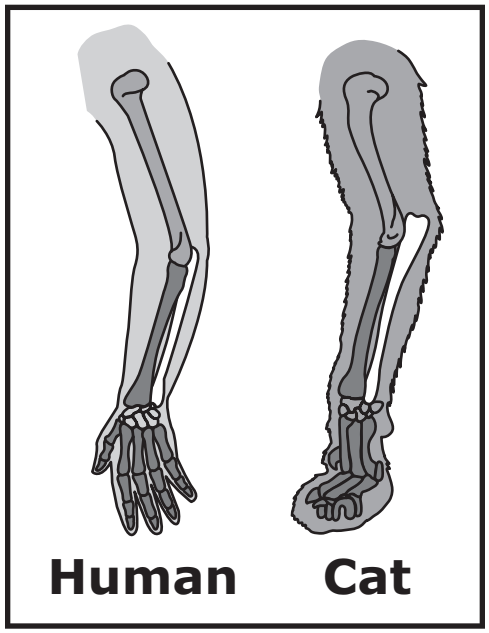
Different species can show evidence that they are related. These relationships are shown by similar patterns of early stages of embryo development across different species.

Which shows evidence that different types of animals have similar stages of embryo development?

*Point to each option as the TTS to TA reads each option.*

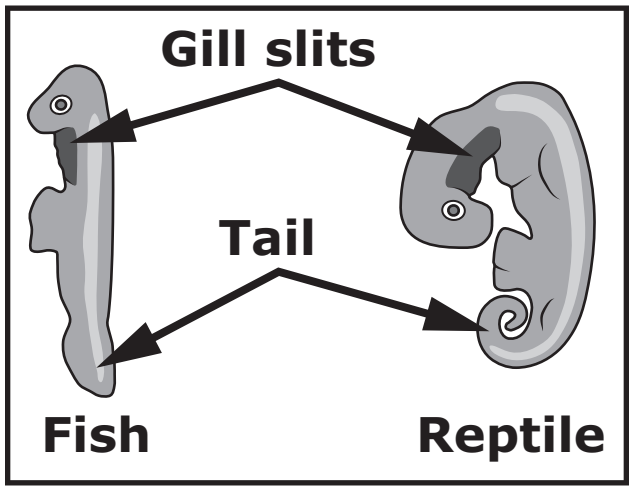
*[For students with visual impairment, read "A. The picture shows different animals with similar arm bones."]*

A.



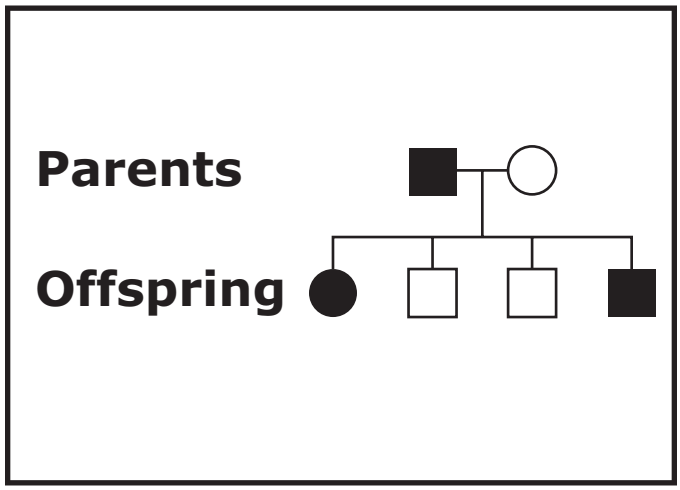
*[For students with visual impairment, read "B. The picture shows different animals with similar stages of development."]*

B.




*[For students with visual impairment, read "C. The picture shows parent and offspring generations."]*

C.



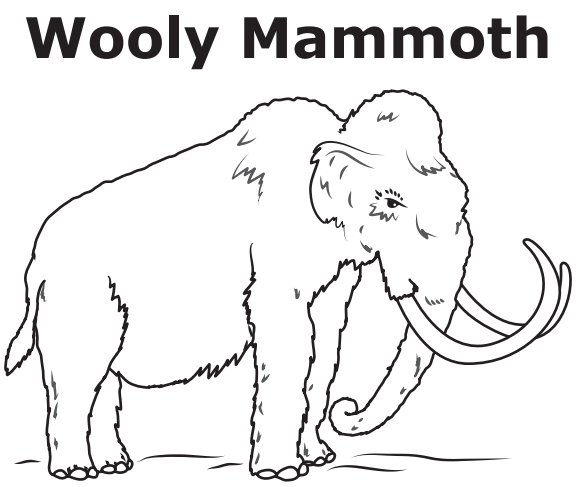
**Item 22**

This item is about relationships between living animals and extinct animals.

*Point to the picture as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a picture of a wooly mammoth. It lived in grassy areas and ate plants. It has been extinct for a long time."]*

This is the wooly mammoth. A wooly mammoth was a very large animal with long tusks and a thick fur coat. It had strong legs and a short tail.




Which living animal is most likely related to the wooly mammoth?

*Point to each option as the TTS or TA reads each option.*

A. lion

B. horse

C. elephant

**Item 23**

This item is about plants.

Plants grow in a healthy environment.

Plants require conditions in the environment like water, light, and space to grow.

Which explains how the conditions in the environment may cause plants to die?

*Point to each option as the TTS or TA reads each option.*

A. when there is not enough wind

B. when there is not enough light and water available

C. when there are not enough stars and planets in the sky

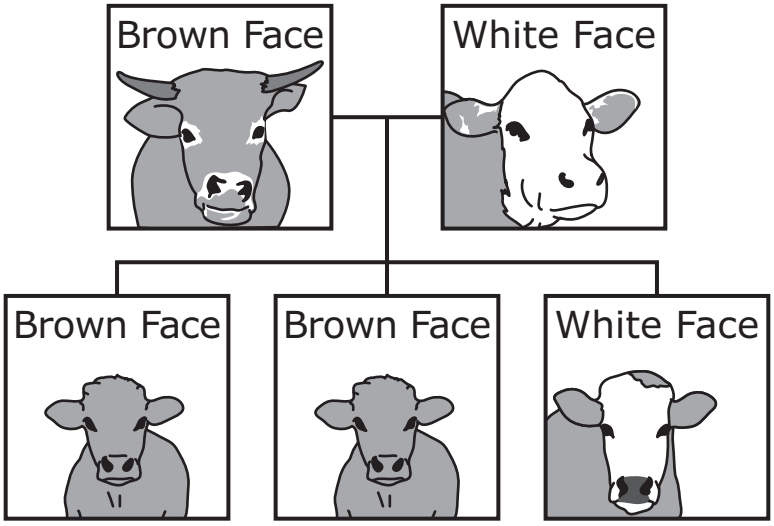
**Item 24**

This item is about parents and offspring.

Traits are characteristics passed from parents to offspring. A calf is the offspring of a cow.

*Point to the father bull, the mother cow, and each calf shown in the graphic as the TTS or TA reads the graphic description.*

*[Graphic description "This is a diagram. It shows a father bull, a mother cow, and their three offspring. Fur characteristics are passed from the father and mother to the calves. The father's face is brown. Two of the calves have a brown face. The mother's face is white. One calf's face is white."]*




What is true about the faces of the three calves?

*Point to each option as the TTS or TA reads each option.*

A. **Some** of the calves' faces look like each of the parents' faces.

B. **None** of the calves' faces look like either of the parents' faces.

C. **All** the calves' faces look the same.

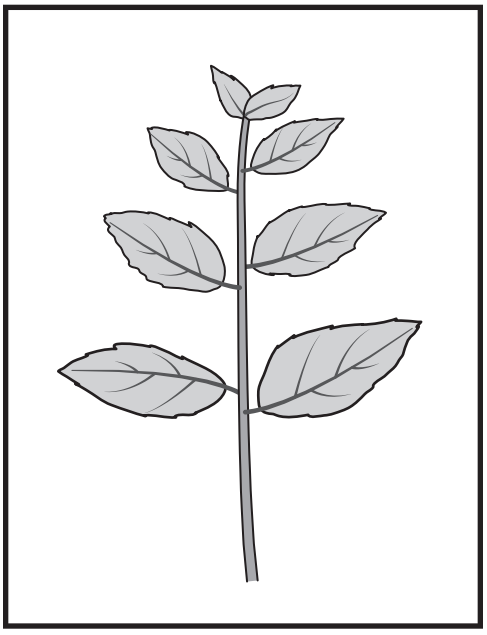
**Item 25**

This item is about the needs of plants.

All living things have basic needs that must be met in order to survive. Plants need air, water, nutrients, and light to survive.

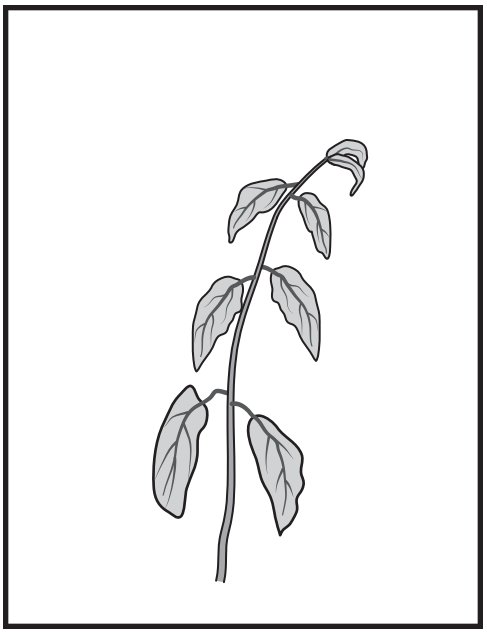
What will likely happen to a plant that does not receive any light?

*Point to each option as the TTS or TA reads each option.*



A. It will grow.

**Item 25, continued**



B. It will die.

*Provide student with Diagram 6, "Early Developmental Stages of Different Species" from the Grade 8 Science Practice Test Reference Materials.*

**Item 26**

This item is about animals.

During early stages of development, different species show evidence of being related.

*Point to the title 'Early Developmental Stages of Different Species' and the gill slits located on the underside beneath the eye and the tail on each animal as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a diagram titled, 'Early Developmental Stages of Different Species.' These are pictures of five different animal species. Each species begins life with gill slits and a tail."]*

**Early Developmental Stages of Different Species**

| | |
|---|---|
| Mammal |  |
| Bird |  |
| Reptile |  |
| Amphibian |  |
| Fish |  |

What evidence **best** shows different species are related?

*Point to each option as the TTS or TA reads each option.*

A. All species start life on Earth.

**Item 26, continued**

B. All species start life as an animal.

C. All species start life with gill slits and a tail.

**Item 27**

This item is about natural resources.

Minerals and natural resources are unevenly distributed across Earth.

Which process below Earth's surface causes the uneven distribution of minerals?

*Point to each option as the TTS or TA reads each option.*

A. weathering

B. volcanic activity

C. erosion

*Provide student with Resource Map 2, "U.S. Distribution of Sandstone Aquifers" from the Grade 8 Science Practice Test Reference Materials.*

**Item 28**

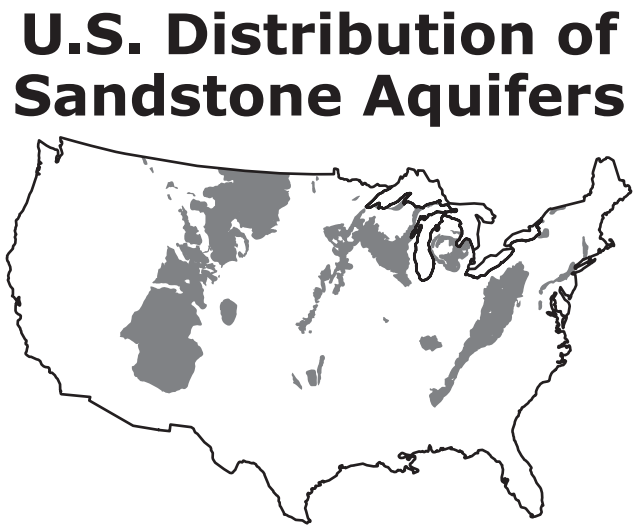
This item is about natural resources.

Groundwater is a natural resource. Some groundwater is found in sandstone aquifers.

*Point to the map as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a resource map titled, 'U.S. Distribution of Sandstone Aquifers.' This is the United States. The map shows the locations of sandstone aquifers in the United States. The shaded areas represent the locations of these aquifers. Some locations have many more sandstone aquifers than other locations."]*

*[For students with visual impairment, read "The sandstone aquifers are usually found in the west and eastern central areas of the United States."]*




Which is true about where sandstone aquifers are found in the United States?

*Point to each option as the TTS or TA reads each option.*

A. They are located in **some** parts of the United States.

B. They are located in **only one** part of the United States.

*Provide student with Diagram 7, "Earth's History" from the Grade 8 Science Practice Test Reference Materials.*

**Item 29**

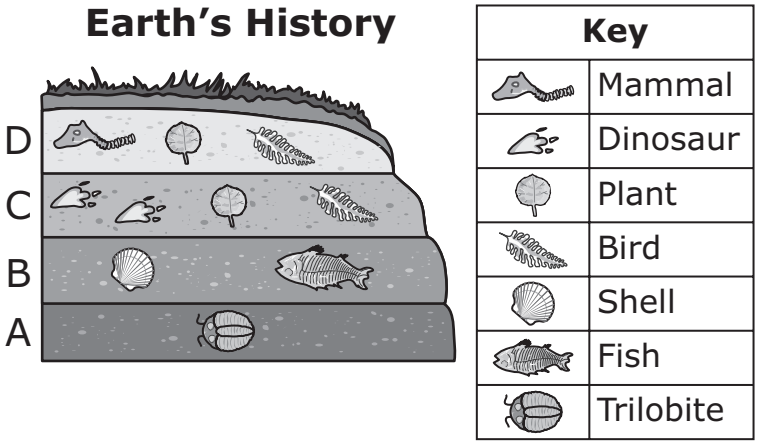
*This is the first item of a two-part item. Student may not return to this item after responding to this item.*

This item is about Earth's history.

Fossils are the remains or traces of organisms from the ancient past. New layers of rock form over old layers. Over time, fossils end up very deep down under the ground.

*Point to the chart as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a diagram titled, 'Earth's History.' It shows four layers of rock below Earth's surface layer. The layers are labeled A, B, C, and D from bottom to top. Each layer has fossils. A key describes the fossils."]*




In Layer A, a trilobite fossil is present. Trilobites went extinct about *[Graphic description: "four hundred twenty"]* 420 million years ago.

In Layer B, there is a fossil of a shell and a fossil of a fish. During this time the land was likely covered with water.

In Layer C, there are fossils of plants and birds. During this time the land was no longer covered by water.

In Layer D, there are fossils of mammals. This is the first time mammals appear.

Which layer formed most recently?

A. Layer D

**Item 29, continued**

B. Layer C

C. Layer A

*This is the first item of a two-part item. Student may not return to this item after responding to this item.*

*Provide student with Diagram 7, "Earth's History," the incomplete chart, "Rock Layers," and the three pictures of fossils from the Grade 8 Science Practice Test Reference Materials.*

**Item 30**

*This is the second item of a two-part item. Student may not return to the previous item.*

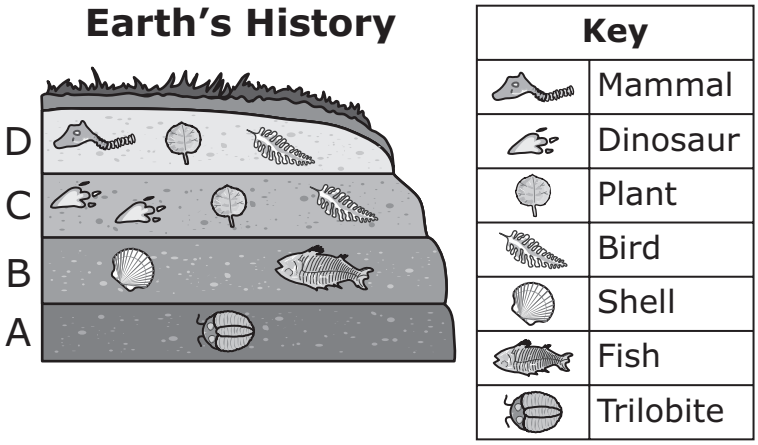
This item is about Earth's history.

Fossils are the remains or traces of organisms from the ancient past. Some layers of sedimentary rock contain fossils.

*Place the diagram "Earth's History" on the work surface in front of the student.*

*Point to the diagram as the TTS or TA reads the graphic description.*

*[Graphic description: "This is a diagram titled, 'Earth's History.' It shows four layers of rock below Earth's surface layer. The layers are labeled A, B, C, and D from bottom to top. During the first period, Layer A, many trilobites lived there. During the second period, Layer B, the land was covered by water. Many fish lived there. During the third period, Layer C, the water dried. The fish were buried under the ground. Dinosaurs lived on the land. During the fourth period, Layer D, mammals lived on the land. The dinosaurs died and were buried under the ground. Over time, the animal skeletons became fossils."]*

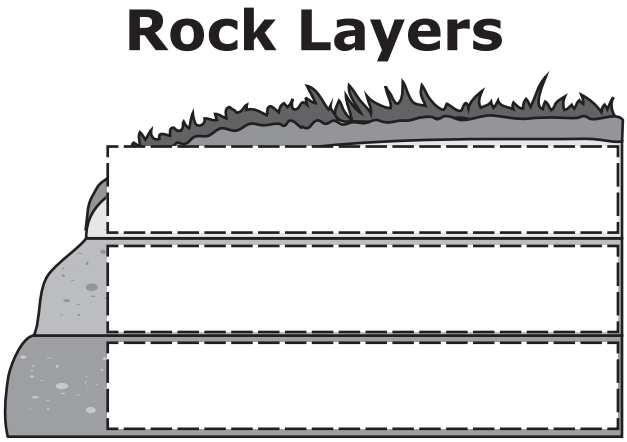


**Item 30, continued**

*Place the incomplete chart, "Rock Layers" on the work surface in front of the student.*

*Point to the chart as the TTS or TA reads the graphic descriptions.*

*[Graphic description: "This is an incomplete chart titled, 'Rock Layers.' It can be used to show where the fossils of the fish, dinosaurs, birds, and mammals will be found. Rock layers are usually ordered with the oldest layers on the bottom and the most recent layers on top."]*

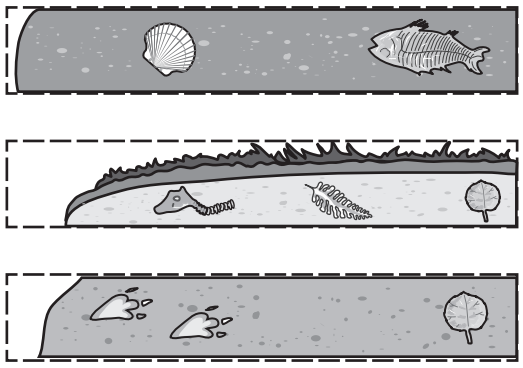



Complete the chart to show where the fossils will be found in the different rock layers.

These are pictures to use to complete the chart.

*Present the three pictures in the following order left to right or top to bottom: "layer with shell and fish," "layer with mammal, bird, and plant," "layer with dinosaur and plant" on the work space in front of the student and point to each of the three pictures as the TTS or TA reads the graphic description.*

*[Graphic description: "This layer contains a fossil of a shell and a fish. This layer contains a fossil of a mammal, a bird, and a plant. This layer contains a fossil of a dinosaur and a plant."]*



**Item 30, continued**

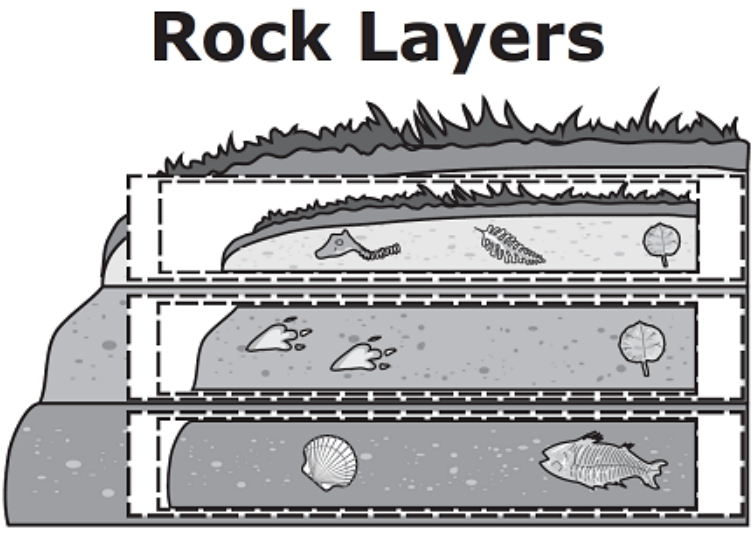
*Allow the student time to complete the chart.*

**Rubric**

***Test Administrator:*** *After student completes work, record on the computer if the student provided the correct answer or the student did not provide the correct answer.*

| Score | Description |
|---|---|
| 1 | Student correctly places exactly 3 pictures of the rock layers fossils on the chart in the order of: shell and fish; dinosaur and plant; and mammal, bird, and plant from the bottom up. |
| 0 | Student does not correctly place exactly 3 pictures of the rock layers on the chart. |

**Sample Response**



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# Practice Test