

# Tennessee Comprehensive Assessment Program

# TCAP

TNReady—Science  
Grade 3 Item Release





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# Metadata Interpretation Guide – Science

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**Item Information**

Item Code: TNS10220	Passage Title:
Standard Code: 0307.1.1	Passage Code:
Standard Text: Identify specific parts of a plant and describe their function.	
Reporting Category: Cells, Flow of Matter & Energy, Heredity	
Correct Answer: B	DOK Level: 2

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<b>Item Code:</b> Unique letter/number code used to identify the item.	<b>Passage Title:</b> (if listed): Title of the passage(s) associated with this item.
<b>Standard Code:</b> Primary educational standard assessed.	<b>Passage Code:</b> (if listed): Unique letter/number code used to identify the passage(s) that go with this item.
<b>Standard Text:</b> Text of the educational standard assessed.	
<b>Reporting Category:</b> Text of the Reporting Category the standard assesses.	
<b>Correct Answer:</b> Correct answer. This may be blank for constructed response items where students write or type their responses.	<b>DOK Level</b> (if listed): Depth of Knowledge (cognitive complexity) is measured on a four-point scale. 1= Recall; 2= Skill/Concepts; 3= Strategic Thinking; 3-4 = Strategic/Extended Thinking

# Science Grade 3

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## Item Information

Item Code: TNS10220

Passage Title:

Standard Code: 0307.1.1

Passage Code:

Standard Text: Identify specific parts of a plant and describe their function.

Reporting Category: Cells, Flow of Matter & Energy, Heredity

Correct Answer: B

DOK Level: 2

---

**Roots are cut from a plant. This will  
most likely cause the plant to**

- A** grow taller
- B** take in less water
- C** make more flowers
- D** take in less sunlight

---

**Item Information**

Item Code: TNS20945

Passage Title:

Standard Code: 0307.10.1

Passage Code:

Standard Text: Use an illustration to identify various sources of heat energy.

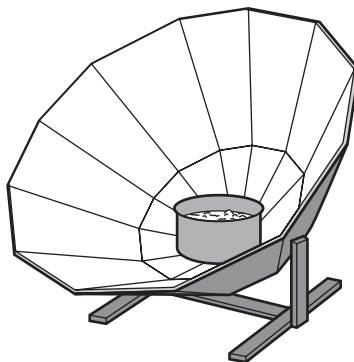
Reporting Category: Matter and Energy

Correct Answer: B

DOK Level: 1

---

**A group of students uses the solar cooker shown below to heat water outside.**



**What is the main source of heat for a solar cooker?**

- A** gas
- B** sunlight
- C** coal
- D** fire

**Item Information**

Item Code: TNS10119

Passage Title:

Standard Code: 0307.10.1

Passage Code:

Standard Text: Use an illustration to identify various sources of heat energy.

Reporting Category: Matter and Energy

Correct Answer: C

DOK Level: 1

**A kitchen is shown in the picture.****Which object is the main source of heat in this kitchen?**

- A** sink
- B** floor
- C** stove
- D** cabinet

---

**Item Information**

Item Code: TNS02614

Passage Title:

Standard Code: 0307.11.1

Passage Code:

Standard Text: Identify how the direction of a moving object is changed by an applied force.

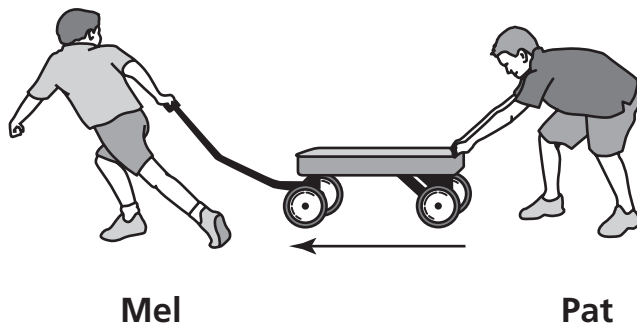
Reporting Category: Motion, Forces in Nature

Correct Answer: C

DOK Level: 2

---

**Mel and Pat are pulling a wagon. Mel pulls the wagon left as Pat pulls the wagon right. The wagon moves to the left.**



**Why does the wagon move to the left?**

- A** Pat pulls with more force.
- B** Pat is closer to the wagon.
- C** Mel pulls with more force.
- D** Mel is closer to the wagon.



**Item Information**

Item Code: TNS00063

Passage Title:

Standard Code: 0307.11.1

Passage Code:

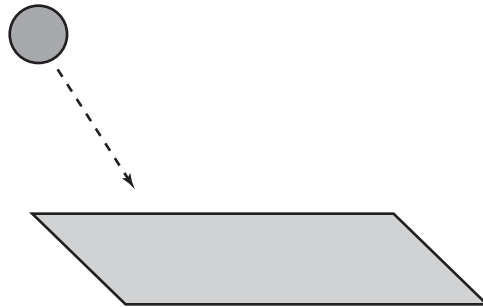
Standard Text: Identify how the direction of a moving object is changed by an applied force.

Reporting Category: Motion, Forces in Nature

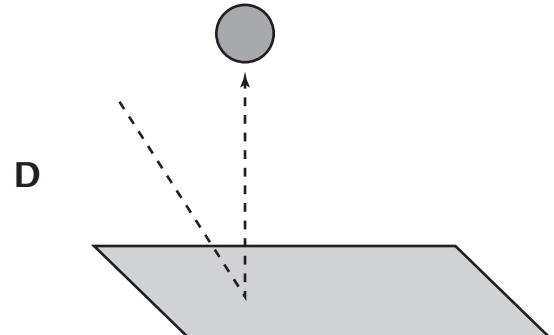
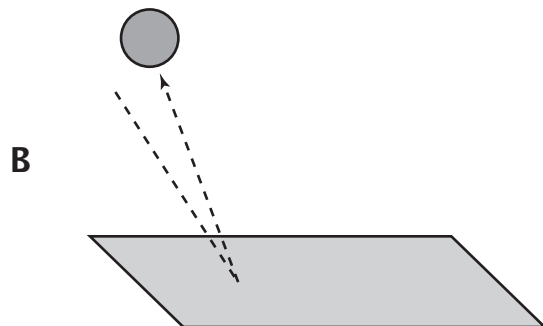
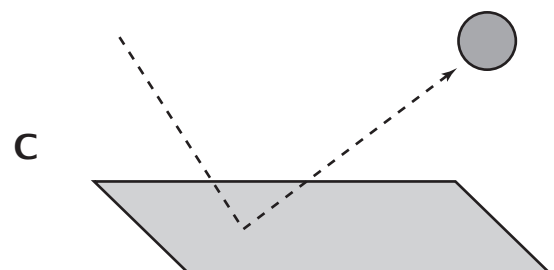
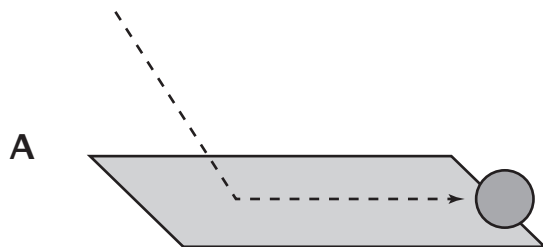
Correct Answer: C

DOK Level: 2

**A rubber ball is thrown at an angle towards the floor.**



**Which diagram shows how the ball will most likely move after it hits the floor?**



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**Item Information**

Item Code: TNS20946

Passage Title:

Standard Code: 0307.11.1

Passage Code:

Standard Text: Identify how the direction of a moving object is changed by an applied force.

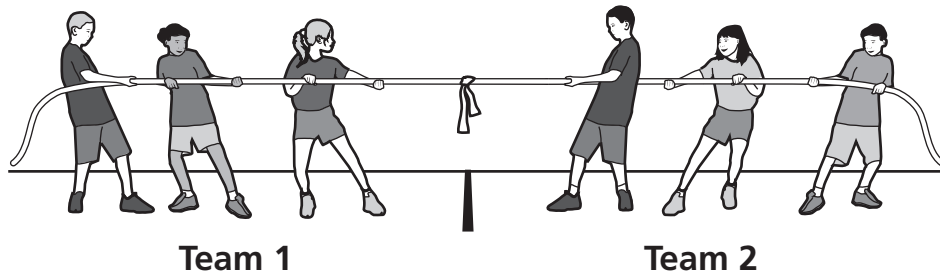
Reporting Category: Motion, Forces in Nature

Correct Answer: C

DOK Level: 2

---

**Two teams of students are playing tug of war.**



**What must Team 1 do to pull Team 2 over the line?**

- A** push the rope back and forth toward Team 2
- B** pull the rope with less force than Team 2
- C** pull the rope with more force than Team 2
- D** push with the same force as Team 2

**Item Information**

Item Code: TNS10121

Passage Title:

Standard Code: 0307.11.1

Passage Code:

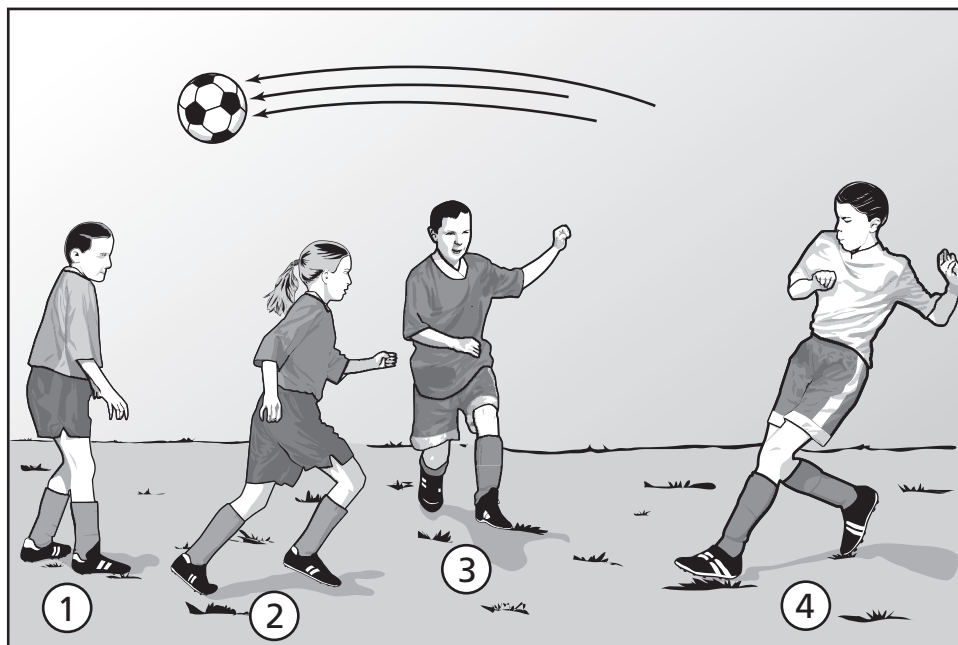
Standard Text: Identify how the direction of a moving object is changed by an applied force.

Reporting Category: Motion, Forces in Nature

Correct Answer: D

DOK Level: 2

A group of students is playing soccer, as shown in the picture.



The arrows show the direction the soccer ball travels when it is kicked. Which student most likely kicked the ball?

- A student 1
- B student 2
- C student 3
- D student 4

---

**Item Information**

Item Code: TNS21056

Passage Title:

Standard Code: 0307.11.4

Passage Code:

Standard Text: Identify how sounds with different pitch and volume are produced.

Reporting Category: Motion, Forces in Nature

Correct Answer: D

DOK Level: 2

---

Which drum is most likely to play the lowest pitch?

A



C



B



D



**Item Information**

Item Code: TNS10061

Passage Title:

Standard Code: 0307.12.1

Passage Code:

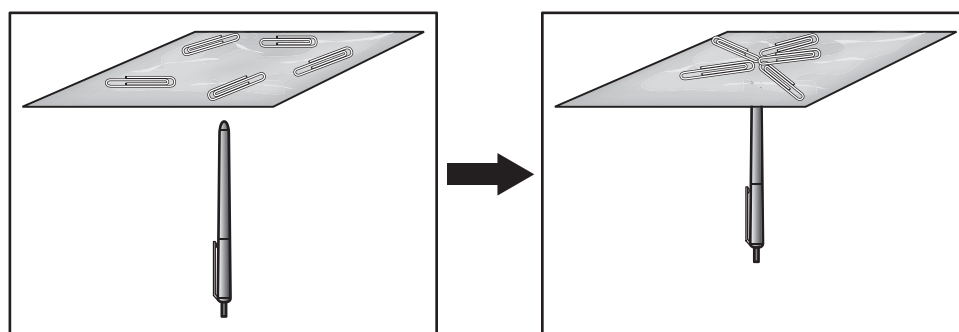
Standard Text: Recognize that magnets can move objects without touching them.

Reporting Category: Motion, Forces in Nature

Correct Answer: C

DOK Level: 2

**This piece of paper has paper clips on it. The paper clips move toward the pen when the pen is close to the paper.**



**What is most likely inside the pen?**

- A** a nail
- B** a battery
- C** a magnet
- D** a light bulb

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**Item Information**

Item Code: TNS02240

Passage Title:

Standard Code: 0307.2.1

Passage Code:

Standard Text: Distinguish between living and non-living things.

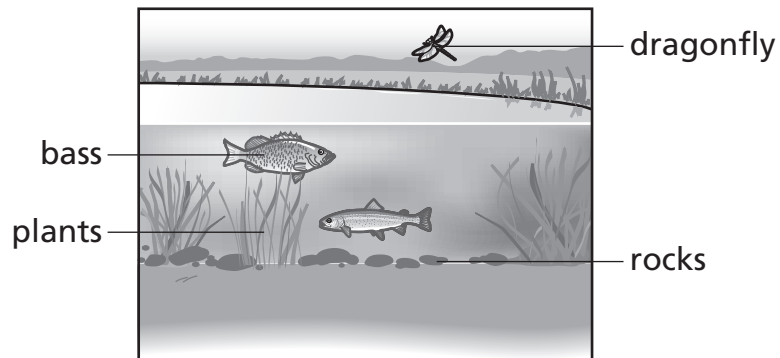
Reporting Category: Interdependence, Biodiversity & Change

Correct Answer: B

DOK Level: 2

---

**Look at the picture of a pond.**



**Which of these is a non-living thing?**

- A the bass
- B the rocks
- C the dragonfly
- D the plants

**Item Information**

Item Code: TNS21078                      Passage Title:  
Standard Code: 0307.2.1                  Passage Code:  
Standard Text: Distinguish between living and non-living things.  
Reporting Category: Interdependence, Biodiversity & Change  
Correct Answer: A                              DOK Level: 2

Students were given questions to answer during science class.

**Answer the following questions**

	Yes	No
1. Is a seed a living thing?		
2. Is a rock a living thing?		
3. Is rain a living thing?		
4. Is a cloud a living thing?		

Which question would be answered as “Yes”?

- A 1
- B 2
- C 3
- D 4

**Item Information**

Item Code: TNS20950

Passage Title:

Standard Code: 0307.2.2

Passage Code:

Standard Text: Determine how plants and animals compete for resources such as food, space, water, air, and shelter.

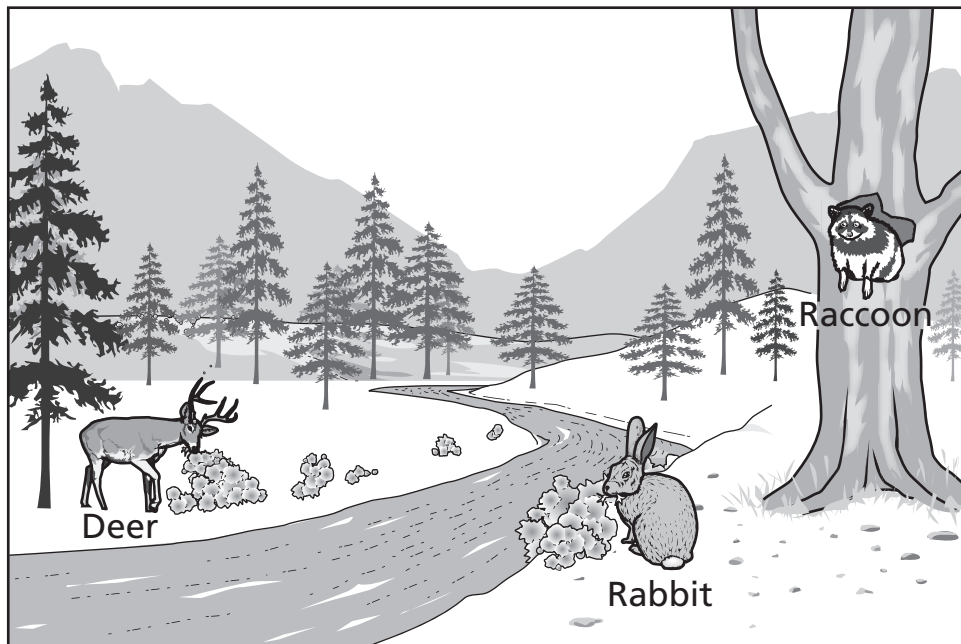
Reporting Category: Interdependence, Biodiversity & Change

Correct Answer: B

DOK Level: 2

---

**Animals in a forest are shown below.**



**What do the deer and rabbit compete for the most?**

- A** air
- B** food
- C** water
- D** space



---

**Item Information**

Item Code: TNS00018	Passage Title:
Standard Code: 0307.3.1	Passage Code:
Standard Text: Identify the basic needs of plants and animals.	
Reporting Category: Cells, Flow of Matter & Energy, Heredity	
Correct Answer: B	DOK Level: 1

---

**Which list describes the basic needs of all plants?**

- A** air, worms, rocks
- B** air, water, sunlight
- C** sunlight, water, rocks
- D** sunlight, worms, water

---

**Item Information**

Item Code: TNS10133	Passage Title:
Standard Code: 0307.3.2	Passage Code:
Standard Text: Recognize that animals obtain their food by eating plants and other animals.	
Reporting Category: Cells, Flow of Matter & Energy, Heredity	
Correct Answer: D	DOK Level: 1

---

**Which of these can a bird use as food?**

- A** rocks
- B** snow
- C** water
- D** seeds

**Item Information**

Item Code: TNS10299

Passage Title:

Standard Code: 0307.3.2

Passage Code:

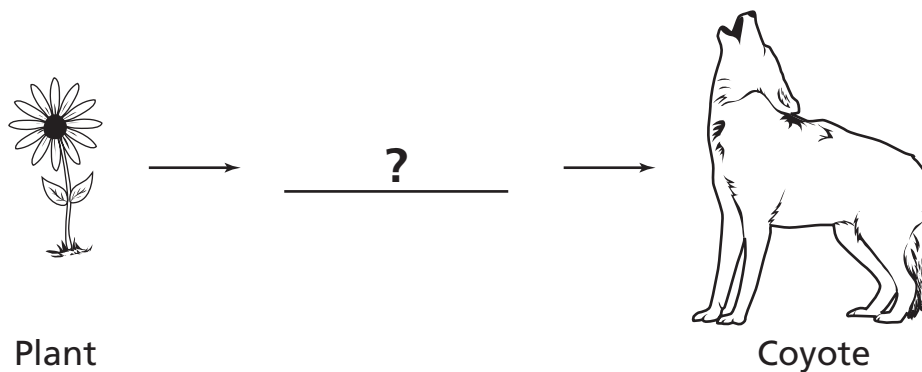
Standard Text: Recognize that animals obtain their food by eating plants and other animals.

Reporting Category: Cells, Flow of Matter & Energy, Heredity

Correct Answer: C

DOK Level: 2

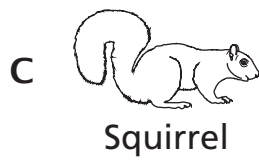
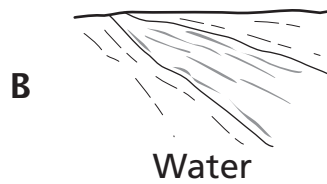
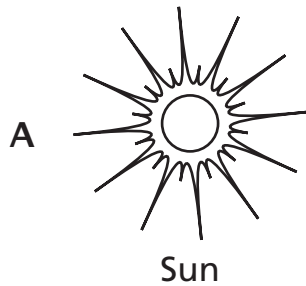
**The picture below shows a forest food chain.**



*(This item continues on the next page.)*

*(Item 15, continued from the previous page)*

Which picture best completes the food chain?



**Item Information**

Item Code: TNS20952

Passage Title:

Standard Code: 0307.3.2

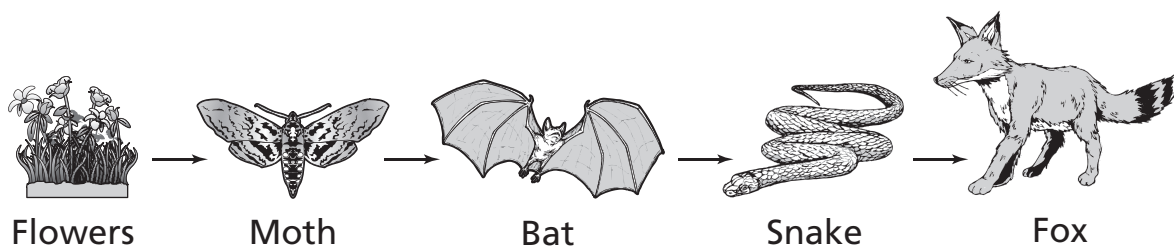
Passage Code:

Standard Text: Recognize that animals obtain their food by eating plants and other animals.

Reporting Category: Cells, Flow of Matter &amp; Energy, Heredity

Correct Answer: B

DOK Level: 2

**A food chain is shown below.****How does the bat get its food?**

- A** by eating foxes
- B** by eating moths
- C** by eating snakes
- D** by eating flowers

**Item Information**

Item Code: TNS20678	Passage Title:
Standard Code: 0307.4.2	Passage Code:
Standard Text: Distinguish between characteristics that are transmitted from parents to offspring and those that are not.	
Reporting Category: Cells, Flow of Matter & Energy, Heredity	
Correct Answer: A	DOK Level: 1

**A class made lists describing some students.**

	Has Black Hair
	Jane
	Bill
	Sue

	Is Wearing Blue
	Pam
	James
	Bruce

	Has Pierced Ears
	Jill
	Ann
	Jordan

	Likes To Play Soccer
	Liz
	Bob
	Sarah

**Which list shows a trait passed on to the student from the parents?**

- A** Has Black Hair
- B** Is Wearing Blue
- C** Has Pierced Ears
- D** Likes To Play Soccer

---

**Item Information**

Item Code: TNS20389

Passage Title:

Standard Code: 0307.4.2

Passage Code:

Standard Text: Distinguish between characteristics that are transmitted from parents to offspring and those that are not.

Reporting Category: Cells, Flow of Matter &amp; Energy, Heredity

Correct Answer: A

DOK Level: 1

---

**The picture below shows a family pet.**



**Which trait did this dog inherit from its parents?**

- A** having pointed ears
- B** sitting on command
- C** wearing a collar
- D** walking while on a leash

---

**Item Information**

Item Code: TNS20515

Passage Title:

Standard Code: 0307.5.1

Passage Code:

Standard Text: Investigate an organism's characteristics and evaluate how these features enable it to survive in a particular environment.

Reporting Category: Interdependence, Biodiversity & Change

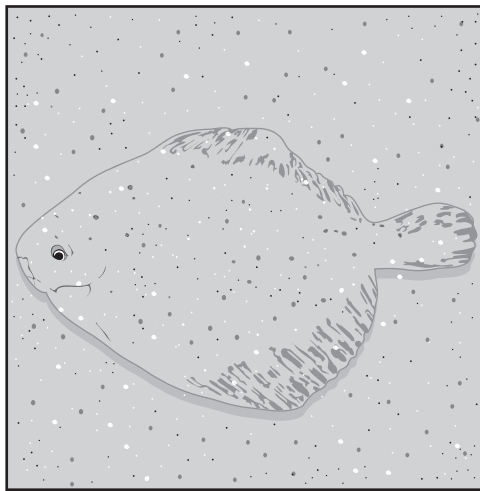
Correct Answer: D

DOK Level: 2

---

**A flounder is shown in the picture below.**

**Flounder**



**The flounder is a flat fish that lives in shallow ocean water. Which feature most helps to protect the flounder from other fish?**

- A** its tail
- B** its fins
- C** its eyes
- D** its color



**Item Information**

Item Code: TNS20517

Passage Title:

Standard Code: 0307.5.2

Passage Code:

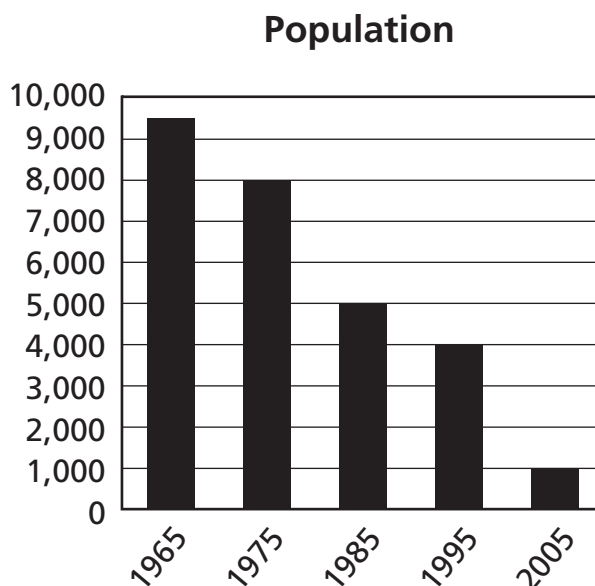
Standard Text: Investigate populations of different organisms and classify them as thriving, threatened, endangered, or extinct.

Reporting Category: Interdependence, Biodiversity &amp; Change

Correct Answer: D

DOK Level: 2

An animal population is studied over time, and the changes are shown in the graph.



Based on the graph, the 2005 population is best classified as

- A extinct.
- B thriving.
- C growing.
- D endangered.

---

**Item Information**

Item Code:	TNS20939	Passage Title:	
Standard Code:	0307.5.2	Passage Code:	
Standard Text:	Investigate populations of different organisms and classify them as thriving, threatened, endangered, or extinct.		
Reporting Category:	Interdependence, Biodiversity & Change		
Correct Answer:	D	DOK Level:	2

---

**The Florida manatee is an endangered species.**



**What will most likely happen if the manatee population decreases?**

- A** The manatees will thrive.
- B** The manatees will be protected.
- C** The manatees will be threatened.
- D** The manatees will become extinct.

---

**Item Information**

Item Code: TNS10298

Passage Title:

Standard Code: 0307.5.3

Passage Code:

Standard Text: Match the organism with evidence of its prior existence

Reporting Category: Interdependence, Biodiversity & Change

Correct Answer: A

DOK Level: 1

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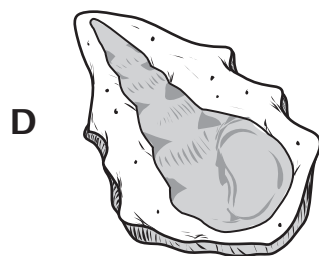
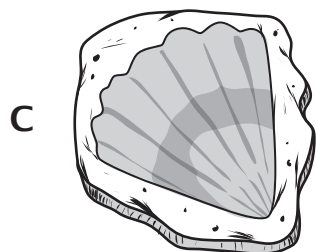
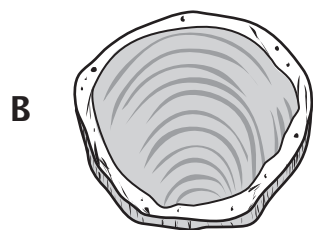
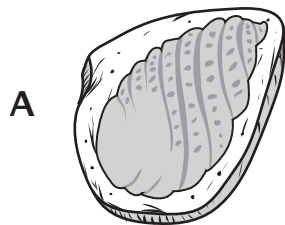
**A type of seashell is pictured below.**



*(This item continues on the next page.)*

*(Item 22, continued from the previous page)*

Which best shows a fossil of this same type of seashell?



**Item Information**

Item Code:	TNS10109	Passage Title:	
Standard Code:	0307.6.1	Passage Code:	
Standard Text:	Identify the major components of the solar system (i.e., sun, planets and moons).		
Reporting Category:	The Universe, The Earth, The Atmosphere		
Correct Answer:	C	DOK Level:	1

---

**Which object in the solar system produces light?**

- A** comet
- B** moon
- C** sun
- D** planet

**Item Information**

Item Code: TNS21084

Passage Title:

Standard Code: 0307.6.1

Passage Code:

Standard Text: Identify the major components of the solar system (i.e., sun, planets and moons).

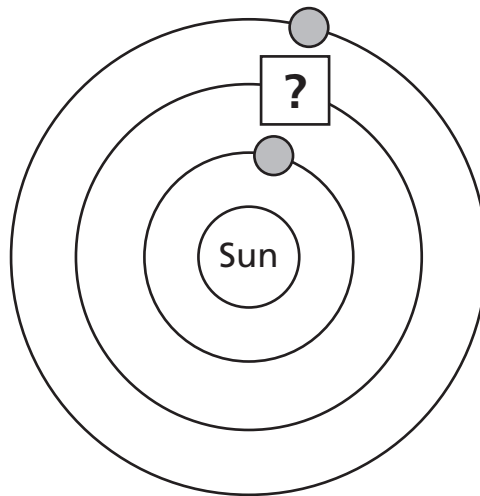
Reporting Category: The Universe, The Earth, The Atmosphere

Correct Answer: C

DOK Level: 2

---

**Part of the solar system is shown below.**



**Which object best completes the diagram?**

- A** a star
- B** a galaxy
- C** a planet
- D** a moon

**Item Information**

Item Code: TNS02224

Passage Title:

Standard Code: 0307.7.1

Passage Code:

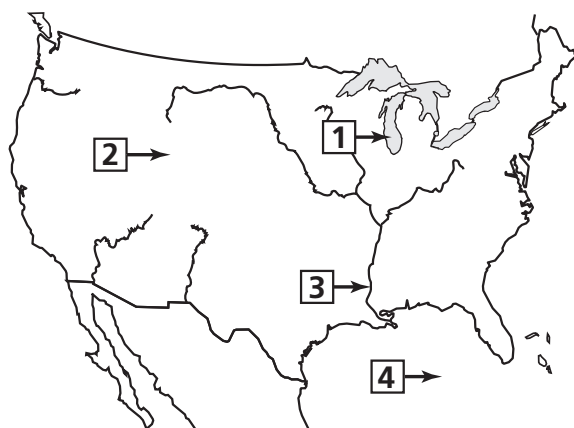
Standard Text: Classify landforms and bodies of water according to their geological features and identify them on a map.

Reporting Category: The Universe, The Earth, The Atmosphere

Correct Answer: A

DOK Level: 1

**Look at the map below.**



**Which of these arrows is pointing to a lake?**

- A** 1
- B** 2
- C** 3
- D** 4

---

**Item Information**

Item Code: TNS21051

Passage Title:

Standard Code: 0307.7.2

Passage Code:

Standard Text: Describe how rocks can be classified according to their physical characteristics.

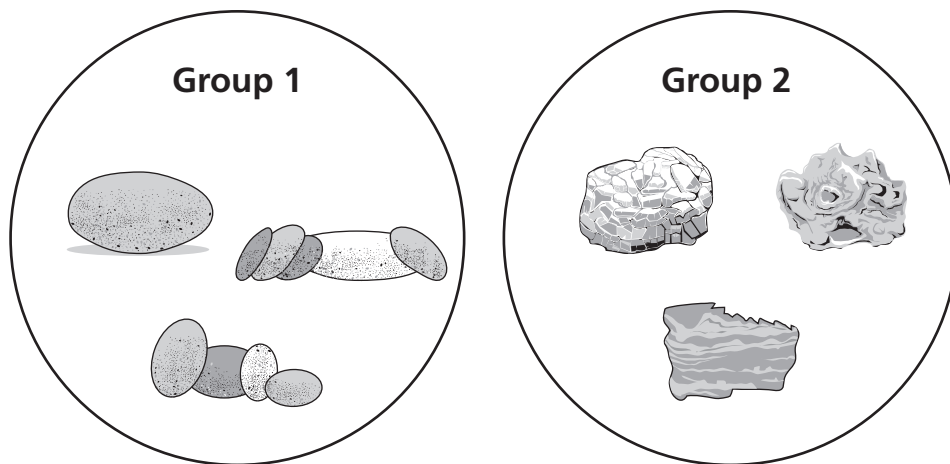
Reporting Category: The Universe, The Earth, The Atmosphere

Correct Answer: D

DOK Level: 2

---

**Some rocks were put into two groups.**



**What property was most likely used to sort the rocks into Group 1?**

- A** They all are about the same size.
- B** They all have the same color.
- C** They all have layers.
- D** They all are smooth.

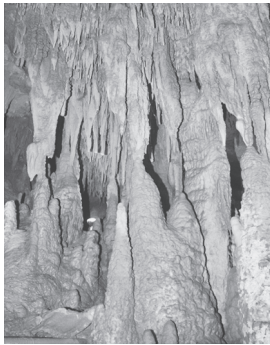


**Item Information**

Item Code: TNS21085	Passage Title:
Standard Code: 0307.7.3	Passage Code:
Standard Text: Identify an object as natural or man-made.	
Reporting Category: The Universe, The Earth, The Atmosphere	
Correct Answer: B	DOK Level: 1

**Which of these was made by humans?**

**A**



© iStock.com/Clayton Sharrad #2682081

Cave

**C**



© iStock.com/Matt Tighman #4599564

River

**B**



© iStock.com/Wendell Franks #6552124

Tunnel

**D**



© iStock.com/William Britten #5809565

Waterfall

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**Item Information**

Item Code: TNS21037	Passage Title:
Standard Code: 0307.7.4	Passage Code:
Standard Text: Determine methods for conserving natural resources.	
Reporting Category: The Universe, The Earth, The Atmosphere	
Correct Answer: A	DOK Level: 1

---

**Which is the best example of conserving a natural resource?**

- A** recycling aluminum cans
- B** painting a fence
- C** sweeping dust off of a floor
- D** pulling weeds out of grass

---

**Item Information**

Item Code: TNS01859

Passage Title:

Standard Code: 0307.8.1

Passage Code:

Standard Text: Choose the correct tool for measuring a particular atmospheric condition.

Reporting Category: The Universe, The Earth, The Atmosphere

Correct Answer: D

DOK Level: 1

---

**Cameron is using a rain gauge to collect weather data.**

**Which type of data is Cameron collecting with the rain gauge?**

- A** air pressure
- B** air temperature
- C** direction of the wind
- D** amount of precipitation

---

**Item Information**

Item Code: TNS00051

Passage Title:

Standard Code: 0307.8.2

Passage Code:

Standard Text: Match major cloud types with specific atmospheric conditions.

Reporting Category: The Universe, The Earth, The Atmosphere

Correct Answer: C

DOK Level: 2

---

Which of these types of clouds is most often seen just before a thunderstorm?

A



C



B



D



**Item Information**

Item Code: TNS21043

Passage Title:

Standard Code: 0307.9.1

Passage Code:

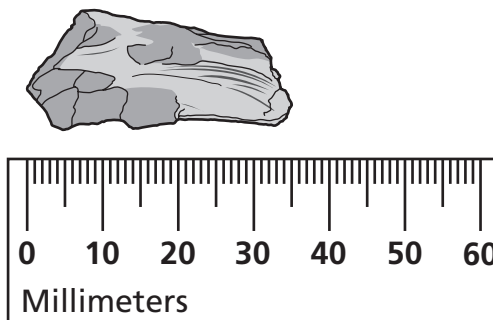
Standard Text: Describe a substance in terms of its physical properties.

Reporting Category: Matter and Energy

Correct Answer: C

DOK Level: 1

**A student is measuring a rock sample in science class.**



**What is the length of this sample?**

- A** 25 mm
- B** 30 mm
- C** 35 mm
- D** 40 mm

---

**Item Information**

Item Code: TNS10116	Passage Title:
Standard Code: 0307.9.1	Passage Code:
Standard Text: Describe a substance in terms of its physical properties.	
Reporting Category: Matter and Energy	
Correct Answer: C	DOK Level: 2

---

**Apple juice has which of these properties?**

- A** It is rough.
- B** It mixes with oil.
- C** It is a liquid.
- D** It is hard to the touch.

**Item Information**

Item Code: TNS10294	Passage Title:
Standard Code: 0307.9.2	Passage Code:
Standard Text: Identify methods for separating different types of mixtures.	
Reporting Category: Matter and Energy	
Correct Answer: D	DOK Level: 2

---

**Leslie has a mixture of corks and marbles in a cup. Which method will best separate the corks from the marbles?**

- A** placing the mixture in the freezer
- B** pulling a magnet through the mixture
- C** placing the mixture in the sun
- D** pouring the mixture into a bucket of water

---

**Item Information**

Item Code:	TNS20382	Passage Title:	
Standard Code:	1.0307.TE.2	Passage Code:	
Standard Text:	Recognize the connection between a scientific advance and the development of a new tool or technology.		
Reporting Category:	Cells, Flow of Matter & Energy, Heredity		
Correct Answer:	A	DOK Level:	2

---

**The invention of the microscope has most helped people to**

- A** observe very small parts of plants.
- B** learn how to make new materials.
- C** conserve natural resources.
- D** measure the distance to other planets.



**Item Information**

Item Code:	TNS21022	Passage Title:	
Standard Code:	3.0307.TE.1	Passage Code:	
Standard Text:	Select a tool, technology, or invention that was used to solve a human problem.		
Reporting Category:	The Universe, The Earth, The Atmosphere		
Correct Answer:	C	DOK Level:	2

---

**People began to use barometers many years ago. Barometers made it possible for people to know**

- A** how fast wind blows.
- B** how much rain has fallen.
- C** when air pressure has changed.
- D** when air temperature has changed.

Item Information

Item Code: TNS21048

Passage Title:

Standard Code: 4.0307.Inq.1

Passage Code:

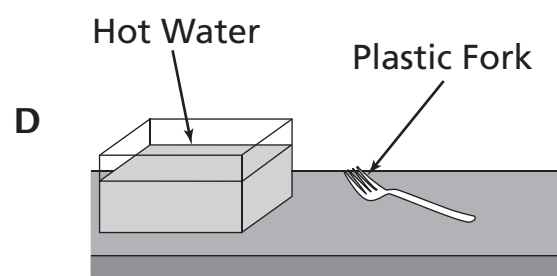
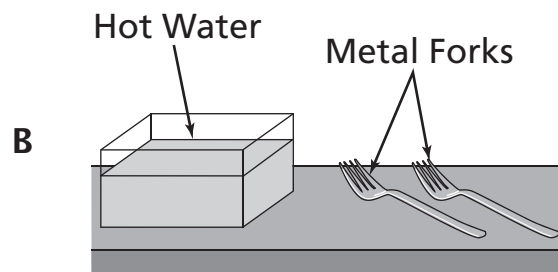
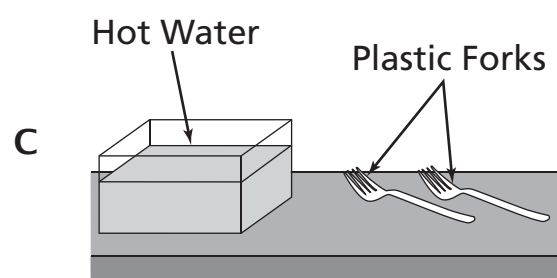
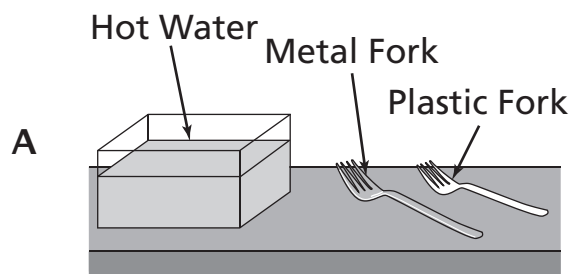
Standard Text: Select an investigation that could be used to answer a specific question.

Reporting Category: Matter and Energy

Correct Answer: A

DOK Level: 2

**A student is setting up an investigation for science class. She wants to know which fork will conduct heat the fastest. Which setup should the student use to answer the question?**



**Item Information**

Item Code: TNS20948

Passage Title:

Standard Code: 5.0307.Inq.1

Passage Code:

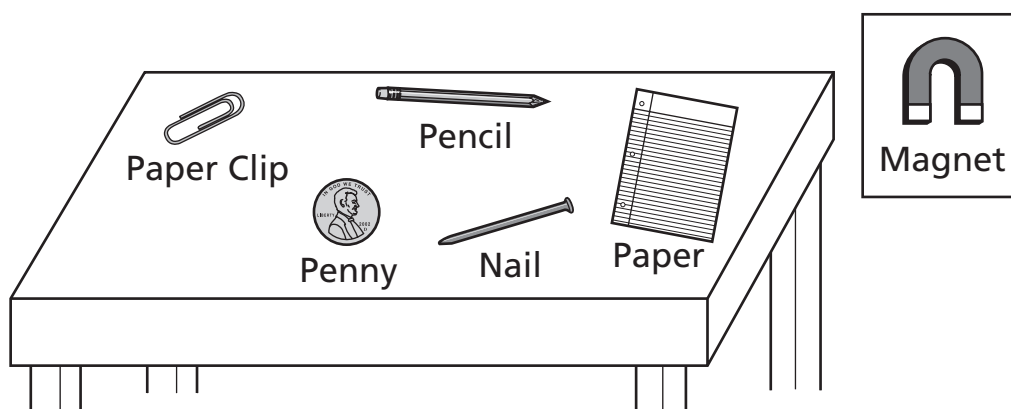
Standard Text: Select an investigation that could be used to answer a specific question.

Reporting Category: Motion, Forces in Nature

Correct Answer: B

DOK Level: 3-4

A student wants to find out which objects are attracted to a small magnet. He places objects on a table, as shown below.



The student could best answer the question by moving the magnet

- A under the table from left to right.
- B 5 centimeters away from each object.
- C 10 centimeters above the pencil.
- D on top of the paper.

Tennessee Comprehensive  
Assessment Program TCAP  
TNReady—Science  
Grade 3 Item Release  
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