To the Teacher

Macmillan/McGraw-Hill Standards Test Preparation for TCAP is designed to familiarize students with standardized testing and to review the concepts covered in the Tennessee Science Standards.

About This Book

The test items in this book will accustom students in a grade-appropriate manner with standardized testing in preparation for the Tennessee Comprehensive Assessment Program (TCAP). Each test item is correlated to a specific State Performance Indicator (SPI), or Grade Level Expectation (GLE) in the case of Grades 1 and 2.

- **Correlation Chart**: The first correlation chart illustrates how the SPIs or GLEs covered in this book align with lessons in Macmillan/McGraw-Hill *Tennessee Science A Closer Look*. The second chart illustrates how the SPIs or GLEs align with Macmillan/McGraw-Hill *Key Concept Cards* and other materials that can be used for intervention if test results indicate that students are having difficulty with particular SPIs or GLEs.

- **Diagnostic Tests**: Two Diagnostic Tests, which can be used as pretests or posttests, are provided. The Diagnostic Tests are designed to simulate the statewide TCAP tests that students will be taking. Each Diagnostic Test consists of multiple-choice questions that cover SPIs or GLEs spanning all 12 Conceptual Strands in Life Science, Earth and Space Science, and Physical Science. Inquiry and Technology & Engineering SPIs or GLEs are embedded within each test.

- **Standards Tests**: These practice tests give students the opportunity to answer questions that focus on each of the Conceptual Strands of the Tennessee Science Standards. One test is provided for each of the 12 Life Science, Earth and Space Science, and Physical Science Conceptual Strands. Inquiry and Technology & Engineering SPIs or GLEs are embedded within each test. These tests can also be used as pretests and posttests, or as homework assignments or extra practice.
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Directions: On your answer sheet, fill in the circle next to the correct answer.

1. Look at the picture below.

What will happen to some of the water in this pond on a hot day?

A. Some of the water will dissolve.
B. Some of the water will freeze.
C. Some of the water will evaporate.
D. Some of the water will cause a flood.

2. What is true about all living things?

F. All living things make their own food.
G. All living things need water.
H. All living things can move around.
J. All living things live on land.

3. Look at the chart below.

<table>
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<th>Job</th>
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<td>mouth</td>
<td>takes in food</td>
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<tr>
<td>hard shell</td>
<td>protects body</td>
</tr>
<tr>
<td>thick fur</td>
<td>keeps body warm</td>
</tr>
<tr>
<td>strong legs</td>
<td>move fast</td>
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</table>

What part helps a sea otter live in cold water?

A. thick fur
B. gills
C. wings
D. fins
4 Why do the Sun and the Moon seem to move in the sky?

(P) The Sun rotates.
(Q) Earth rotates.
(R) The Moon rotates.
(S) The Sun and the Moon rotate.

5 What does a lion eat?

(A) flowers
(B) nuts
(C) bark
(D) meat

6 Which word describes the temperature in summer?

(P) rainy
(Q) icy
(R) hot
(S) cold

7 Coal is a nonrenewable resource because

(A) people will never run out of it.
(B) it is used to heat homes.
(C) once it is all used up, there will be no more left.
(D) it is mined only two times each year.

8 What happens as the Moon orbits Earth?

(P) The Moon’s mass appears to change.
(Q) The Moon’s color appears to change.
(R) The Moon’s shape appears to change.
(S) The Moon’s texture appears to change.
9. Look at the picture below.

Why are trees important to this habitat?

A. The trees help block sunlight.
B. Their leaves change color in the fall.
C. The trees provide food and shelter to animals.
D. The trees provide wood for buildings.

10. It is a hot day. You are eating ice cream. You notice that the ice cream gets soft very quickly. Why?

F. The ice cream freezes as it gets warm.
G. There is a lot of water in ice cream.
H. It is chocolate ice cream.
J. The ice cream melts as it gets warm.
11. Look at the picture of a dinosaur fossil.

What can the fossil teeth of *Triceratops* tell you?

A. They tell what color *Triceratops* was.
B. They tell how tall *Triceratops* was.
C. They tell that *Triceratops* ate plants.
D. They tell how *Triceratops* died.

12. What would you have to do to make a loud sound on a guitar?

F. Pluck only the short strings.
G. Pluck only the long strings.
H. Pluck any of the strings very gently.
I. Pluck any of the strings very hard.

13. Look at the diagram below.

What would you expect to happen next in any plant’s life cycle?

A. The plant will stop growing.
B. The plant will continue to grow.
C. Other plants will grow.
D. An animal will eat the plant.
14 What is the layer of soil where animals live called?
- (F) clay
- (G) topsoil
- (H) subsoil
- (J) sand

15 Which moon phase is shown below?
- (A) new moon
- (B) full moon
- (C) first quarter moon
- (D) half moon

16 Which kind of plant grows in a woodland forest?
- (F) water lily
- (G) oak tree
- (H) cactus
- (J) seaweed
17. How can you tell when winter is changing to spring?

- The weather starts to get warmer.
- The weather starts to get colder.
- The Moon changes shape.
- There is less sunlight.

18. How are kittens and puppies alike?

- Their life cycles differ from their parents’ life cycles.
- They are both hatched from eggs.
- They do not grow and change.
- Their traits are similar to their parents’ traits.

19. Jessie placed a pencil, a rock, and a spoon in a group.

Jessie wants to find out which object is the longest. What tool should he use?

- a microscope
- a thermometer
- a ruler
- a balance

20. Ethan dug very deep into the soil. As he dug, the color of the soil became lighter and the soil became rockier. Why?

- Deeper soil has fewer nutrients.
- Ethan’s spade was heavy.
- The deeper layer of soil is richer.
- Many living things live and die there.
21 Joy has a toy car on her desk. The car is made of steel. How can she move the car without touching it?

A Push it with her hand.
B Use a magnet.
C Use a filter.
D Wait until it gets hot.

22 You throw a ball straight up in the air. What happens next?

F The ball stays in the air.
G The ball moves right.
H The ball moves left.
J Gravity pulls it down.

23 Which animal lives in a cave?

F Fish
G Deer
H Spider
J Duck
24. Julio put a glass of water on the kitchen table each day for a week. The glass stayed in the same place from breakfast to dinner. Julio saw that the height of the water went down a little each day. What happened to the water in the glass?

- The water melted.
- The water evaporated.
- The water froze.
- The water condensed.

**GLE 0207.Inq.3, 0207.9.2**

25. How can you move a pile of steel paper clips without touching any?

- Use your hand.
- Use an ice cube.
- Use your fingers.
- Use a magnet.

**GLE 0207.T/E.2, 0207.12.1**

26. What is the same about all rocks?

- They are all the same color.
- They are all the same size.
- They are all made of minerals.
- They are all the same texture.

**GLE 0207.7.2**

27. What kind of sound will you make if you gently pull the short strings of a harp?

- a low pitch sound
- a high pitch sound
- a loud sound
- no sound

**GLE 0207.II.2**
28 Look at the picture below.

Which pictures show water habitats?

- Pictures 1 and 3
- Pictures 2 and 3
- Pictures 1 and 4
- Pictures 3 and 4

29 What happens when a balloon is pumped with air?

- The balloon changes color.
- The balloon changes shape.
- The balloon flies away
- The balloon gets smaller.
30 Look at the picture below.

- lizards, snakes, coyotes
- turtle, frog, fish
- seals, walruses, polar bears
- dolphins, sea turtles, sharks

31 How is sound made?

A. Something spins.
B. Something burns.
C. Something vibrates.
D. Something glows.

32 What is a bear most likely to eat?

A. grass and seaweed
B. berries and fish
C. other bears
D. whales and dolphins

33 What happens when you jump in the air?

A. Your mass changes.
B. You start to float.
C. Gravity pulls you back down.
D. Your volume changes.
34. What kinds of resources are sunlight and oil?

- F. Oil is a renewable resource. Sunlight is a nonrenewable resource.
- G. Both are nonrenewable resources.
- H. Sunlight is a renewable resource. Oil is a nonrenewable resource.
- J. Both are renewable resources.

35. Which tool can help us examine very tiny things?

- A. hand lens
- B. ruler
- C. thermometer
- D. measuring cup

36. What does a seed need to start growing?

- F. other plants
- G. a dry place
- H. water
- J. hot air
Look at the picture of a Triceratops fossil.

What can you predict about Triceratops from this fossil?

A  Triceratops was probably a gentle animal.
B  Triceratops was very different from animals living today.
C  Triceratops probably ate meat.
D  Triceratops probably lived in groups.
38 Look at the picture of animals in their habitat.

How do the living things in this habitat interact?

- The tree keeps the animals from getting lonely.
- The animals can get things they need from the tree.
- The tree doesn’t need to live.
- The animals stay away from each other.

39 Which is the brightest star in the sky?

- the Moon
- the Sun
- Jupiter
- Saturn
40 Look at the drawing of a tree.

What will this young tree look like when it becomes an adult tree?

- It will look like its parent.
- It will look different from its parent.
- It will have a skeleton.
- It will grow flowers.

41 The tires of a bicycle are filled with air. What happens when you put air into a tire?

- The tire falls off.
- The air takes up space inside the tire.
- The tire gets smaller.
- The tire does not work.
42 Look at the picture below.

Which habitat does this picture show?

- a woodland forest
- cave
- barrens
- river

43 When does a guitar make a sound?

- when its strings vibrate
- when you shake it back and forth
- when you blow on its strings
- when you carry it
44 Look at the group of rocks below.

![Rocks](Image)

What can you tell about the rocks from these pictures?

- F They all have a smooth texture.
- G They all have a light color.
- H They all have a dark color.
- J They all have different textures.

45 This picture shows the life cycle of a butterfly.

![Butterfly Life Cycle](Image)

What happens after stage 4 of this life cycle?

- A The butterfly eats a caterpillar.
- B The butterfly becomes a caterpillar.
- C The butterfly becomes a pupa.
- D The butterfly makes more of its kind.
46  Which of these tools would you use to find out how big your desk is?

- a hand lens
- a balance
- a ruler
- a thermometer

47  Trees get the energy they need to make their own food from

- batteries.
- coal.
- the Sun.
- oil.
Directions: On your answer sheet, fill in the circle next to the correct answer.

1. How are all plants and animals alike?
   - They both need air and water.
   - They both make their own food.
   - They both have the same parts.
   - They do not need water.

2. Which statement is true about all living things?
   - All living things have hair.
   - All living things can live in very cold places.
   - All living things can live in very hot places.
   - All living things have parts that work together.

3. Why do plants and animals need food?
   - Food helps them chew.
   - Food gives them shelter.
   - Food gives them energy.
   - Food gives them oxygen.
4 Look at the diagram of a plant.

Which part helps plants get sunlight?

- [ ] leaves
- [ ] roots
- [ ] fruit
- [ ] flower

5 Elvira saw a large bird catch a fish in a stream. Why might the large bird catch a fish?

- [ ] for exercise
- [ ] for food
- [ ] for shelter
- [ ] for air
Directions: On your answer sheet, mark the correct answer.

1 Look at the picture of a habitat in Tennessee.

Which animal lives in this habitat?

- A lion
- B elephant
- C duck
- D buffalo
The picture below shows a Tennessee habitat. Use the picture to answer questions 2 and 3.

2 Look at the picture. What is this habitat called?

- F woodland forest
- G barren
- H cave
- J river

3 What kinds of animals live in the habitat shown in the picture above?

- A fish and frogs
- B zebras and giraffes
- C whales and dolphins
- D deer and raccoons
Look at the chart below. It tells where some animals live.

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<tr>
<th>Where Animals live</th>
<th></th>
<th></th>
<th></th>
</tr>
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<tr>
<td></td>
<td><strong>Land</strong></td>
<td><strong>Air</strong></td>
<td><strong>Water</strong></td>
</tr>
<tr>
<td>raccoon</td>
<td>•</td>
<td>eaGLE</td>
<td>• shark</td>
</tr>
<tr>
<td>squirrel</td>
<td>•</td>
<td>butterfly</td>
<td>• whale</td>
</tr>
<tr>
<td>elephant</td>
<td>•</td>
<td>bat</td>
<td>• ?</td>
</tr>
</tbody>
</table>

The chart is missing another animal that lives in water. Which animal might that be?

- a lizard
- a horse
- a fish
- an owl

5. A habitat with low hills covered in tall grasses and small plants is a

- woodland forest
- river
- barren
- lake
6. Which of these lives in a cave?

- F. Spider
- G. Chicken
- H. Panda
- J. Owl

GLE 0207.2.2
Which picture shows a woodland forest plant?

A

B

C

D

GLE 0207.2.2
8 Where could you find a turtle?

F in a cave  
G in a lake  
H in a forest  
J under the soil

9 Where do polar bears live?

A in hot and dry habitats  
B in forests  
C in warm and wet habitats  
D in cold and snowy habitats

10 Here is a picture of two rabbits.

How do rabbits get shelter?

F They live in bushes.  
G They live in trees.  
H They live under leaves in the forest.  
J They dig burrows in the soil.
Use the picture below to answer questions 11, 12, and 13.

11. Look at the picture. What does the squirrel get from the tree?

- (A) water
- (B) air
- (C) shelter
- (D) sunlight

12. How might the squirrel help the tree?

- (E) It gets food for the tree.
- (F) It helps the tree get water.
- (G) It spreads the tree’s seeds.
- (H) It is friends with the tree.
13 What is the woodpecker getting from the tree?

- A. water
- B. food
- C. air
- D. soil

14 How do earthworms help plants?

- F. They eat weeds.
- G. They are food for birds.
- H. They move seeds from place to place.
- I. They help break up the soil.

15 How do hummingbirds and plants help each other?

- A. Hummingbirds eat fruit.
- B. Hummingbirds spread a plant’s seeds.
- C. Flowers shelter hummingbirds.
- D. Hummingbirds drink nectar from flowers and move pollen from plant to plant.
Directions: On your answer sheet, mark the correct answer.

1. Look at the picture of a food chain.

Which living thing is near the beginning of this food chain?

- A. lizard
- B. snake
- C. plant
- D. insect

GLE 0207.3.1
2. Which statement is a true statement about animals?

- Animals eat plants and other animals for food.  
- Animals make their own food.  
- Animals make their own energy.  
- Animals eat only plants.

Look at the diagram of a food chain. Use the diagram to answer questions 3, 4 and 5.

3. Which animal eats only plants?

- the insect
- the lizard
- the snake
- the hawk

4. Which living thing eats the lizard?

- the insect
- the snake
- the hawk
- the plant
5 Which living thing is both a predator and a prey?

A  the plant  
B  the insect  
C  the lizard  
D  the hawk  

GLE 0207.3.1
Directions: On your answer sheet, mark the correct answer.

1. Look at the picture of a growing plant.

How is what will happen to the plant like what will happen to a young panda?

- A. Both will stop growing.
- B. Both will get bigger.
- C. Both will start to die.
- D. Both will eat insects.

2. What happens after a chick and a caterpillar hatch from an egg?

- F. Both stop growing.
- G. Both become pupas.
- H. Both begin to fly.
- J. Both begin to grow into adults.
Look at the pictures of a butterfly life cycle and a frog life cycle. Use the pictures to answer questions 3, 4, and 5.
3. How do both butterflies and frogs start life?

(A) egg  (B) larva  (C) pupa  (D) adult

4. The tadpole stage in a frog’s life is similar to which stage in a butterfly’s life?

(E) egg  (F) larva  (G) pupa  (H) adult

5. What is true about both frogs and butterflies?

(A) They both change shape during their lives.
(B) They both look like their parents as soon as they hatch from eggs.
(C) They both are born live from their mothers.
(D) They both start life in water.
6. Look at the picture below.

How does the small tree compare to the big tree?

A. They are different types of trees.
B. They have similar characteristics.
C. Both are adult trees.
D. Both are very young trees.

7. How are kittens like their parents?

A. They have the same color fur as their parents.
B. They are the same size and shape as their parents.
C. They like to play with people and other kittens.
D. They have four legs and are covered with fur.
8. Look at the picture of a dog and her puppies.

How do the puppies compare with their parent?

A. identical color  
B. identical size  
C. similar characteristics  
D. same age

9. How are kittens and caterpillars alike?

A. Their life cycles are different from their parents’ life cycles.  
B. They hatch from eggs.  
C. They do not grow and change.  
D. Their traits are similar to their parents’ traits.

10. How can you tell if two plants are related?

A. They grow apart.  
B. They use sunlight to make food.  
C. They have similar traits.  
D. They grow tall.
Directions: On your answer sheet, mark the correct answer.

1. Which trait is most useful in a very cold climate?
   - A. a long tail
   - B. an extra layer of fat
   - C. dark fur
   - D. good hearing

2. What helps a sea otter live in cold water?
   - F. thick fur
   - G. gills
   - H. sharp teeth
   - I. fins

3. What is true about turtles?
   - A. Turtles can change into snakes.
   - B. Turtles have a hard shell for protection.
   - C. Turtles change color to blend in with their surroundings.
   - D. Turtles build cocoons.
4. Which part of the body helps an animal swim?

F

G

H

J
5  Look at the picture below.

What is the habitat for which this animal has the best traits?

A  a river
B  a pond
C  a cave
D  a woodland forest

6  What are fossils?

F  remains of plants and animals from long ago
G  pictures of living plants and animals
H  living dinosaurs
J  types of plants that grow in rocks
7. Look at the picture of a dinosaur fossil.

What can we learn about this animal from its fossil?

A. It looked like a sheep.
B. It had horns.
C. It lived in water.
D. It had wings.

8. Look again at the dinosaur fossil in question 7. What else can scientists learn about this animal from this fossil?

F. It had two feet.
G. It had four legs.
H. It had green skin.
J. It barked.

9. What can dinosaur fossils tell us?

A. the color of the dinosaur
B. who the dinosaur’s parents were
C. what the dinosaur ate
D. how many relatives the dinosaur had
10 Look at the picture of a fossil.

What living thing might this fossil be related to?

- fish
- bird
- dinosaur
- plant

GLE 0207.5.2
Directions: On your answer sheet, mark the correct answer.

1. Where does the Sun appear at the end of the day?
   - A) low in the sky
   - B) under the Moon
   - C) high in the sky
   - D) behind the Moon

2. Why does the Sun seem to move across the sky?
   - F) because the Sun follows Earth's orbit
   - G) because of Earth's rotation
   - H) because of Earth's revolution
   - J) because the Sun follows the Moon

3. It is the middle of a sunny day. Where can you find the Sun in the sky?
   - A) It appears to be sinking in the sky
   - B) It appears high in the sky.
   - C) It appears behind the Moon
   - D) It appears to be low in the sky.

4. Which is the nearest star in our sky?
   - F) the Moon
   - G) the Sun
   - H) Polaris
   - J) Saturn

Standard 6 Test
GLE 0207.Inq.1, GLE 0207.6.1
5. When does the Sun appear highest in the sky?
   A. sunrise
   B. noon
   C. sunset
   D. midnight

6. What does the Moon look like when it is full?
   F. a crescent
   G. a circle
   H. a triangle
   J. a half-circle

7. Which of these statements about a full moon is true?
   A. A full moon occurs every night.
   B. A full moon occurs every week.
   C. A full moon occurs every month.
   D. A full moon occurs once a year.

8. When do we see a full moon?
   F. every night
   G. every day
   H. once a month
   J. once a year
9. The pictures below show some shapes of the Moon.

What are these shapes called?

A. phases  
B. circles  
C. stars  
D. seasons

10. What happens as the Moon orbits Earth?

F. Its mass appears to change.  
G. Its color appears to change.  
H. Its shape appears to change.  
J. Its texture appears to change.
Directions: On your answer sheet, mark the correct answer.

1. From which layer of soil do plants get nutrients?
   - topsoil
   - sandy soil
   - subsoil
   - clay soil

2. Topsoil is usually what kind of color?
   - pink
   - gray
   - dark
   - light

3. How is gravel different from clay?
   - Gravel is smooth and clay is rough.
   - Clay is smooth and gravel is rough.
   - Gravel holds more water than clay.
   - Clay holds more air than gravel.

4. Which is true about sandy soils?
   - They contain a lot of topsoil.
   - They are made of gravel.
   - They hold less water than rough soils.
   - They hold less water than clay soils.
5 How does topsoil compare to clay?

A Topsoil is lighter in color than clay.
B Clay is redder in color than topsoil.
C Topsoil and clay are made of big pieces of rock.
D Plants can only grow in topsoil.

6 Dara found two rocks. She drew these pictures of the rocks she found.

What is different about the two rocks?

F their size
G their color
H their shape
J their texture

7 Look again at the rocks in question 6. How could you describe rock B?

A black
B square
C spotted
D smooth
8. Which statement about rocks is true?

- A rock can be made of one mineral.
- All rocks are made of different minerals.
- Rocks are living things.
- Water gives rocks their different colors.

9. Look at the picture of rocks.

How could you describe rock A?

- It is white.
- It is shiny.
- It is rough.
- It has many colors.

10. Look again at the rocks in question 9. How are rock B and rock C alike?

- They both are rough.
- They both are dull.
- They both are spotted.
- They both are shiny.
11 How are renewable resources different from nonrenewable?

A Renewable resources cannot be replaced.
B Nonrenewable resources cannot be replaced.
C Renewable resources cannot be recycled.
D Renewable resources cannot be reused.

12 Which of these are natural resources?

F plastic and metal
G Moon and stars
H wires and electricity
I water and air

13 Why should coal and oil be used wisely?

A They are both made in factories
B There is none left on Earth.
C They take a long time to form.
D They come from inside Earth.

14 What is true about Earth’s natural resources?

F We should try to use them wisely.
G We can make them very quickly.
H They are all easily replaced.
I They are harmful to the environment.

15 Which nonrenewable resource helps people grow plants?

A soil
B rocks
C oil
D coal
Directions: On your answer sheet, mark the correct answer.

1  Look at the pictures of objects in the sky.

![Objects in the sky]

Earth orbits around one of these objects. This orbit gives Earth its seasons. Which object does Earth travel around?

A  the stars  
B  the Sun  
C  the Moon  
D  the planets

2  How is spring different from winter?

E  It is warmer.  
F  It is cooler.  
G  It is snowier.  
H  It is windier.
3  Look at the chart below.

<table>
<thead>
<tr>
<th>Season</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>fall</td>
<td>11 1/2 hours</td>
</tr>
<tr>
<td>winter</td>
<td>10 hours</td>
</tr>
<tr>
<td>spring</td>
<td>12 hours</td>
</tr>
<tr>
<td>summer</td>
<td>14 1/2 hours</td>
</tr>
</tbody>
</table>

Which season has the least sunlight?

A  spring
B  summer
C  winter
D  fall

4  Look again at the chart in question 3. Which season has the most sunlight?

F  spring
G  summer
H  winter
J  fall

5  When is air temperature in Tennessee the warmest?

A  winter
B  spring
C  summer
D  fall
Directions: On your answer sheet, mark the correct answer.

1. Heraldo has a block of wood. He would like to measure its length. Which tool will help him measure the block?
   - A meterstick
   - A pan balance
   - A thermometer
   - A hand lens

2. Which tool is best used to see a very small object?
   - Meter stick
   - Hand lens
   - Scissor
   - Ruler

3. Look at the picture.

What will happen if you put a rock in the empty pan?
   - The balance will stay the same.
   - The pan with the rock will drop down.
   - The pan with the feather will drop down.
   - The pan with the rock will lift up.
4 You pour water into a tall container. You fill it to a line that reads “50 mL.” What are you measuring?

- F mass
- G weight
- H volume
- J temperature

5 Jayda wants to know at what temperature ice melts. Which tool should she use?

- A
- B
- C
- D
6 A scoop of ice cream in a dish starts to melt. The ice cream gets soft. How can you make the ice cream harder?

- Cover it with foil.
- Add some water.
- Put it in a sunny place.
- Put it in the freezer.

7 Janice puts a bowl of ice in a sunny place. How will the ice change?

- The ice will freeze.
- The ice will condense.
- The ice will dissolve.
- The ice will melt.

8 Look at the picture below.

What could you do to keep the water at the same level every day?

- Put the bowl in the Sun.
- Put the bowl in a warm place.
- Put a cover on the bowl.
- Pour the water into a bigger bowl.

9 When does liquid water become a gas?

- when the air is cold
- when the air is warm
- when it is raining
- when there are clouds
10. What happens to water when you add heat to it?
   - The water condenses.
   - The water freezes.
   - The water boils.
   - The water does not change.

11. Mandy had a birthday party. Her friends blew up some balloons. One of the balloons pops. What happened to that balloon?
   - The balloon changed color when air went into it.
   - The balloon lost its shape when air escaped from it.
   - The balloon started to freeze.
   - The balloon started to condense.

12. Manuel learned that matter is all around him. What matter can he not see?
   - ants
   - trees
   - grass
   - air

13. Hector blows up a balloon at the same time that Lily blows up a balloon. Lily’s balloon is larger than Hector’s. Why?
   - Lily’s balloon has less air in it.
   - Lily’s balloon has more air in it.
   - Hector’s balloon has more air in it.
   - Lily’s balloon is colder than Hector’s.

14. Air has volume. What does this mean?
   - Air has no color.
   - Air has no smell.
   - Air takes up space.
   - Air changes temperature.
15 What happens when you blow up a balloon?

A  The balloon’s sound changes.
B  The balloon’s size changes.
C  The balloon’s color changes.
D  The balloon’s taste changes.
Directions: On your answer sheet, mark the correct answer.

1. Where does most of Earth’s light come from?
   - a fire
   - a lamp
   - the Sun
   - the Moon

2. Where does most of Earth’s heat come from?
   - the Moon
   - the planets
   - the Sun
   - the water

3. What can the Sun do to a liquid?
   - It can change the liquid to a solid.
   - It can change the liquid to a gas.
   - It can make the liquid change color.
   - It can change the liquid to ice.

4. One day in summer, it was too hot to play outside. Rebecca’s mother made her stay indoors that day. Where did the heat outside come from?
   - the heater in Rebecca’s home
   - the Sun’s energy
   - the ground’s energy
   - the pull of the Earth
Look at the picture of a beach in summer.

What causes the sand on the beach to get hot?

- A the crowds
- B the ocean
- C the Sun
- D the waves

GLE 0207.10.1
Directions: On your answer sheet, mark the correct answer.

1. When is sound made?
   - A. when something spins
   - B. when something burns
   - C. when something vibrates
   - D. when something freezes

2. Look at the picture.
   ![Drum]
   What must you do to make a sound with the drum?
   - F. Look at it.
   - G. Hit it.
   - H. Shake it.
   - J. Talk to it.

3. What happens if you pull the string of an instrument and then let it go?
   - A. The string breaks.
   - B. The string makes a sound.
   - C. The string changes color.
   - D. The string gets longer.

4. Suppose you touch the moving string of an instrument. The string stops moving. What happens next?
   - F. The string stops making a sound.
   - G. The string makes a different sound.
   - H. The string changes shape.
   - J. The string gets shorter.
5. What is true about some sounds?

- You can move them.
- You can feel them.
- They can change color.
- They last forever.

6. What kinds of sounds do small vibrations make?

- Soft sounds
- Loud sounds
- Deep sounds
- Large sounds

7. What is pitch?

- How high a sound is
- How loud a sound is
- How short a sound is
- How long a sound is

8. Which words can be used to describe the volume of a sound?

- Big and little
- High and low
- Loud and soft
- Smooth and rough

9. What kinds of sounds do fast vibrations make?

- Low-pitch sounds
- High-pitch sounds
- Quiet sounds
- Silly sounds
10 Look at the picture.

What should you do to make a loud sound with the guitar?

- Pluck only the short strings.
- Pluck only the long strings.
- Pluck a string very gently.
- Pluck a string very hard.
Directions: On your answer sheet, mark the correct answer.

1. What is a magnet?
   - A. something that repels objects containing iron
   - B. something that attracts objects containing iron
   - C. something that vibrates when it moves
   - D. something that lights up when you press a switch

2. What happens when two magnets attract each other?
   - F. They change to a solid.
   - G. They are pushed apart.
   - H. They are pulled together.
   - I. They melt.

3. Vita put screws, nails, erasers, and marbles on her desk. Which objects will she be able to move with a magnet?
   - A. screws and nails
   - B. erasers and marbles
   - C. nails and marbles
   - D. erasers and screws
4. Look at the picture of two magnets.

What happens when the two poles of the magnets meet?

F. They attract one another.
G. They repel one another.
H. They push one another apart.
J. They stretch and grow longer.

5. How can you move a pile of steel paper clips without touching any?

A. Push them with your hand.
B. Place an ice cube on them.
C. Use your fingers.
D. Use a magnet.

6. Kylie jumps up in the air. What happens?

F. Her mass changes.
G. She floats up higher.
H. Gravity pulls her back down.
J. Her volume changes.

7. What makes the apples on a tree fall to the ground after their stems break?

A. magnets
B. gravity
C. pitch
D. heat
8. What happens if you drop a pencil and a brick at the same time?
   - They both reach the ground at the same time.
   - The pencil reaches the ground first.
   - The brick reaches the ground first.
   - Gravity pushes them back up.

9. Sara goes to the pool. She dives from the diving board into the water. What force pulls Sara into the water?
   - magnetism
   - gravity
   - electricity
   - friction

10. Jorge kicked a ball into the air. Why did the ball land on the ground?
    - Air held it up.
    - He didn’t kick the ball hard enough.
    - Gravity pulled the ball back to Earth.
    - Earth’s magnetism repelled the ball.
Directions: On your answer sheet, fill in the circle next to the correct answer.

1. What helps a polar bear live in a cold place?
   - A. long claws
   - B. thick fur
   - C. big teeth
   - D. body shape

2. Where does the Sun appear in the early morning?
   - F. low in the sky
   - G. under the Moon
   - H. high in the sky
   - J. behind the Moon

3. Look at the picture of fish.

Why is this a good place for fish to live?
   - A. The fish have other fish near them.
   - B. The fish are far from the Sun.
   - C. The fish can get what they need.
   - D. The fish get too cold on land.
4. Look at the picture of a rock.

How could you describe this rock?

- white
- rough
- smooth
- fuzzy
Which body part helps an animal to survive in a water habitat?

A) [Image of webbed feet]
B) [Image of wings]
C) [Image of a fish's fin]
D) [Image of a mammal's tusk]

GLE 0207.5.1
6. Which season is it in Tennessee when Earth is tilted toward the Sun?

- winter
- spring
- summer
- fall

7. What makes high-pitch sounds different from low-pitch sounds?

- the temperature of the air
- the speed of the vibrations
- the batteries
- how hard the object is hit

8. How are an earthworm and an ant similar to a rabbit?

- They eat the same food as a rabbit.
- They also mix the soil, helping plants to grow.
- They all hurt the environment.
- They have the same number of legs.
9. Which of these are nonrenewable resources?

- A) sunlight and air
- B) water and coal
- C) coal, oil, and gas
- D) oil and air

10. Sally wants to measure a pencil with a balance.

Which measurement might she get?

- F) 5 grams
- G) 5 milliliters
- H) 5 degrees Celsius
- J) 5 cups

11. How are butterflies and young birds alike?

- A) They both grow from seeds.
- B) They both grow from eggs.
- C) They both grow from the water.
- D) They both grow from the sky.

12. The Moon looks as if it changes shape from night to night. What is each shape called?

- F) month
- G) orbit
- H) phase
- J) constellation
13  Which statement is true about all living things?

A  All living things have hair.
B  All living things can live in cold places.
C  All living things are made up of smaller parts.
D  All living things can live in hot places.

14  Which layer of soil has the most living things?

E  the inner layer
F  the topsoil
G  the sandy layer
H  the subsoil
Look at the picture of a chicken.

Which one could be the chicken’s young?

A

B

C

D

GLE 0207.4.2
16 What does the Sun give us?

- light and cold
- light and heat
- heat and water
- light and air

17 What kind of sounds do fast vibrations make?

- low-pitch sounds
- high-pitch sounds
- quiet sounds
- complicated sounds
Which animal spends its whole life in the water?

- **F** whale
- **G** beaver
- **H** duck
- **J** frog

[GLE 0207.Inq.3, 0207.5.1]
19 Annie wants to do an experiment. She wants to know which objects she can move with a magnet. What should Annie do before she starts her experiment?

- Measure the size of each object.
- Write down the color of each object.
- Make a prediction about what will happen.
- Report her results to the class.

20 Ling wants to measure and cut some paper for a science project. Which tools does she need?

- paper and markers
- ruler and scissors
- pencils and crayons
- thermometer and meterstick

21 Look at the picture of a jackrabbit. It lives in a hot, dry desert.

What helps a jackrabbit stay cool in this habitat?

- thick fur
- long ears
- a layer of blubber
- strong legs
22 A rubber band vibrates. You touch it, and the rubber band stops moving. What happens?

- It stops making a sound.
- It starts making a sound.
- It changes shape.
- It grows bigger.

23 Look at the food chain.

What does the heron eat?

- only plants
- only carrots
- plants and animals
- only animals
24. What is true about air?

- Air has a strong smell.
- Air looks blue.
- Air is always cold.
- Air takes up space.

25. You throw a ball straight up in the air. What does gravity do to the ball?

- pushes the ball up higher
- pulls the ball to the ground
- pushes the ball sideways
- makes the ball stop in the air
Look at the data table. The animals are sorted into two groups.

What are these animal groups sorted into?

F mammals and reptiles
G water habitats and land habitats
H two legs and four legs
I extinct and living

GLE 0207.Inq.3, GLE 0207.5.1
27. Why does the Sun appear to move across the sky?

- A. Earth rotates on its axis.
- B. Earth orbits the Sun.
- C. The Moon orbits Earth.
- D. The Sun orbits Earth.

28. Plants and animals live in many different habitats. Which would be the best habitat for a deer to live in?

- F. a river
- G. a pond
- H. a cave
- J. a woodland forest

29. What helps scientists learn about habitats from long ago?

- A. weather reports
- B. drawings left by dinosaurs
- C. fossils
- D. maps

30. Which of these is a renewable resource?

- F. gas
- G. coal
- H. wind
- J. oil
Look at the picture of a chick hatching from an egg.

What happens to a chick after it hatches?

- A. It becomes a butterfly.
- B. It grows to look like its parents.
- C. It stops growing.
- D. It becomes a larva.

On clear nights, Maya and her grandfather observe the phases of the Moon. Which tool would help them see the Moon better?

- F. a wind sock
- G. a hand lens
- H. a thermometer
- I. a telescope

What do animals need to survive?

- A. teeth and fur
- B. soil and water
- C. air and water
- D. rocks and snow
34 When are the air temperatures usually warmest?

- winter
- spring
- summer
- fall

35 Look at the picture.

What can be found in both topsoil and subsoil?

- rocks, pebbles, and sand
- water, air, and light
- rocks, minerals, and plants
- plants and animals
36  What happens to snow if you bring it indoors?

A  It freezes.
B  It melts.
C  It disappears.
D  It burns.

GLE 0207.Inq.1, 0207.9.2

37  Adam has a toy metal car. He wants to move the car without touching it. What can Adam use?

A  a balloon
B  a ruler
C  a crayon
D  a magnet

GLE 0207.1.1
38 Look at the picture below.

Why is this habitat good for these animals?

A. It provides the things they need.
B. There are no people around.
C. It is located near a lake.
D. It is warm every day of the year.

39 Where does most of Earth’s energy come from?

A. fossil fuels
B. electricity
C. the Sun
D. the Moon

40 Apples fall from apple trees to the ground. What force makes this happen?

F. pushing
G. pulling
H. gravity
I. the Sun
41 Look at the picture of dogs.

What is one way that the puppies are different from their parent?

A. number of ears  
B. number of legs  
C. body shape  
D. size

42 What happens to juice if you put it in the freezer?

F. It gets heavier.  
G. It gets darker.  
H. It becomes a solid.  
J. It becomes a gas.

43 Which habitats are land habitats?

A. cave and pond  
B. river and pond  
C. river and woodland forest  
D. barrens and woodland forest
44 Jose’s father pumped air into Jose’s bicycle tire. How did the tire change?

°F The tire became smaller.
°F The tire became a gas.
°F The tire became filled with air.
°F The tire started to float.

45 What gives a rock its color?

A size
B texture
C shape
D minerals

46 What must happen for a sound to be made?

°F an object must grow
°F an object must vibrate
°F an object must not move
°F an object must shrink