DIRECTIONS
Read each question carefully and choose the best answer.

SAMPLE

When the Earth is seen from outer space, it looks mainly blue. This is because most of the Earth is covered with —

A  ice
B  mountains
C  oceans
D  deserts

1 The pictures below show the same tree at different times of the year. Which picture was taken during the winter?

A  
B  
C  
D  
2 Which of these is used mainly for the sense of touch?

F  Eyes
G  Ears
H  Nose
J  Skin

3 What protects this animal from predators?

A  Large shell
B  Large mouth
C  Thick legs
D  Long neck

4 Which picture shows the map correctly pointing to the North Pole?

F
G
H
J
5 Which of these probably causes the most air pollution?

A Trees
B Cars
C Wind
D Rain

6 Which one of these would be best to use to move the box out of the truck?

F A pulley
G A lever
H A wheel and axle
J An inclined plane

7 Which of these beetles is 5 centimeters long?

A

B

C

D

Note that due to varying printer properties, measurement items may not appear in exact proportions.
9 Some children are making mud balls. They cut the mud balls in half. Which of these changed when the mud balls were cut in half?

A The softness of the mud ball
B The size of the mud ball
C The color of the mud ball
D The stickiness of the mud ball

10 Beetle → Cat → Goat → Horse

These animals are in order from —

F oldest to youngest
G smallest to largest
H heaviest to lightest
J roughest to smoothest

11 One reason people build tall buildings in cities is that there is too little —

A land
B air
C minerals
D water
Bethany saw this jawbone while walking in the woods. She could tell by the teeth that this animal was —

F a herbivore  
G a producer  
H a decomposer  
J a carnivore

A student saw a bird leave a nest. What does the student need to do to find out if the bird really lives in the nest?

A Put out lots of bird food  
B Build a bird bath  
C Watch the bird many times  
D Measure the size of the bird

What part of an apple tree becomes the fruit?

F The roots  
G The stems  
H The leaves  
J The flower

Plucking the string on a guitar creates what kind of motion in the string?

A Circular  
B Rolling  
C Vibrating  
D Sliding

Some students were watching the movement of a shadow. In the diagram above, where is the sun?

F W  
G X  
H Y  
J Z
17. Humus, silt, clay, and sand are all parts of —
   A. soil
   B. fungi
   C. rocks
   D. plants

18. Which of these is attracted to a magnet?
   F. An iron nail
   G. A copper penny
   H. A silver spoon
   J. An aluminum pan

19. Which of these carries away the most soil?
   A. Fires
   B. Floods
   C. Earthquakes
   D. Volcanoes

20. Which of these is a decomposer?
    F. Mouse
    G. Mushroom
    H. Tree
    J. Fox

21. Which of these best shows a change in a state of matter?
    A. [Image of a hand pouring milk]
    B. [Image of milk being poured into a glass]
    C. [Image of a solid substance melting]
    D. [Image of a solid substance changing to a liquid]
22 Which of these is most likely to cause floods?
   F  Evaporation
   G  Low temperatures
   H  High winds
   J  Heavy rain

23 Which of these best shows circular motion?
   A  A dog jumping up and down
   B  A dog walking to its house
   C  A dog chasing its tail
   D  A dog running after a ball

24 Which of the following would fit in the empty box?

- Animals with fur
- Animals with hooves
- Animals without hooves
- Animals with short tails
- Animals with long tails
- Animals with short tails
- Animals with long tails

Choose: F, G, H, or J
The animals in box B are different from the animals in box A because the animals in box B have —

A  short legs  
B  feet for catching food  
C  feathers  
D  long beaks

26 Which of these shows an animal that looks similar to its parent during its life after hatching?

F  
G  
H  
J  

2003 Commonwealth of Virginia Department of Education
27 Which of these does not live in the same place as the others?

A

B

C

D

28 People learn many things, but they do some things by instinct. Which of these is instinctive behavior?

F Swallowing food
G Turning off a television set
H Talking with friends
J Reading a book

29 The picture shows some ring magnets on a pencil. A student pushed the magnets together, but they came apart as soon as the student let go. The magnets stay apart from each other because the —

A magnets are too weak to stay together
B materials that make up the magnets are not magnetic
C same poles of the magnets are facing each other
D pencil stops the force of the magnets
30 The following chart shows the growth of two flowers for four weeks.

**Plant Growth**

<table>
<thead>
<tr>
<th>Height of Plant (cm)</th>
<th>Azalea</th>
<th>Wildflower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Week 2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Week 3</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Week 4</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

Which week did the wildflower grow the most?

F Week 1
G Week 2
H Week 3
J Week 4

31 The spotted turtle is common in fresh water. It eats insects, tadpoles, dead fish, and tender aquatic plants. Which of these best describes the spotted turtle?

A A herbivore
B A carnivore
C An omnivore
D A decomposer

32 The picture above best shows that air has —

F mass
G energy
H oxygen
J moisture
33 Which of these pictures shows the way a seed would grow?

A

B

C

D

34 Which of these will probably cause the most changes in a pond habitat?

F A frog swimming in the pond
G A human fishing in the pond
H Rocks at the bottom of the pond
J Many years with little rain in the pond

35 A student was outside playing. He could tell that there was an apple pie in the oven. Which sense did the student use to let him know a pie was baking?

A Sense of taste
B Sense of hearing
C Sense of smell
D Sense of touch

36 The basket is being lifted by —

F a pulley
G a wheel and axle
H an inclined plane
J a lever
37 What is the volume of salt water in this cylinder?
A 40 mL  
B 41 mL  
C 44 mL  
D 50 mL

38 A class was studying the weather that occurs in their community. Which of these is something they should record in their weather charts?
F The size of the sun  
G The phases of the moon  
H The amount of rainfall  
J The speed of evaporation

39 Which of these models might help show how a windmill works?
A  
B  
C  
D

40 Which of these will cause an animal to hibernate?
F Heavy rains  
G Cloudy skies  
H Cold weather  
J Longer days
## Answer Key

<table>
<thead>
<tr>
<th>Test Sequence</th>
<th>Correct Answer</th>
<th>Reporting Category</th>
<th>Reporting Category Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>2</td>
<td>J</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>3</td>
<td>A</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>4</td>
<td>F</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>5</td>
<td>B</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>6</td>
<td>J</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>7</td>
<td>C</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>8</td>
<td>H</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>9</td>
<td>B</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>10</td>
<td>G</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>11</td>
<td>A</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>12</td>
<td>F</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>13</td>
<td>C</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>14</td>
<td>J</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>15</td>
<td>C</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>16</td>
<td>F</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>17</td>
<td>A</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>18</td>
<td>F</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>19</td>
<td>B</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>20</td>
<td>G</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>21</td>
<td>C</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>22</td>
<td>J</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>23</td>
<td>C</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>24</td>
<td>F</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>25</td>
<td>D</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>26</td>
<td>J</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>27</td>
<td>C</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>28</td>
<td>F</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>29</td>
<td>C</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>30</td>
<td>J</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>31</td>
<td>C</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>32</td>
<td>F</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>33</td>
<td>B</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>34</td>
<td>J</td>
<td>017</td>
<td>Life Processes and Living Systems</td>
</tr>
<tr>
<td>35</td>
<td>C</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>36</td>
<td>F</td>
<td>016</td>
<td>Force, Motion, Energy, and Matter</td>
</tr>
<tr>
<td>37</td>
<td>C</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>38</td>
<td>H</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
<tr>
<td>39</td>
<td>D</td>
<td>015</td>
<td>Scientific Investigation</td>
</tr>
<tr>
<td>40</td>
<td>H</td>
<td>018</td>
<td>Earth/Space Systems and Cycles</td>
</tr>
</tbody>
</table>