

VIRGINIA STANDARDS OF LEARNING

Spring 2008 Released Test

GRADE 5 SCIENCE

Form S0118, CORE 1

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Directions

Read each question and choose the best answer. Then fill in the circle on your answer document for the answer you have chosen.

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 Which picture shows an animal that is *most* likely found in Virginia forests?

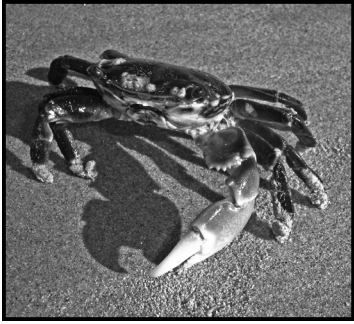
A



C



B

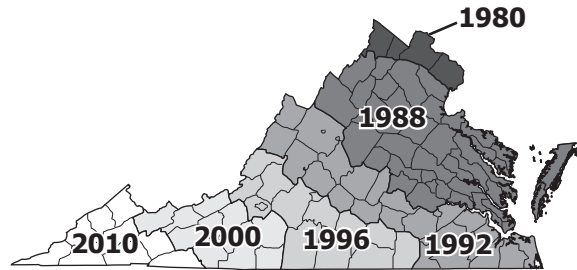


D



2

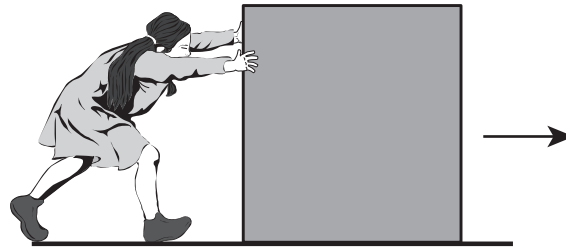
Spread of Gypsy Moths Across Virginia



The map shows how gypsy moths have spread across Virginia over the years. Based on the map, gypsy moths —

- F live in every state in the United States
- G will be in all of Virginia by 2010
- H first came to Virginia in 1960
- J stopped spreading in 1996

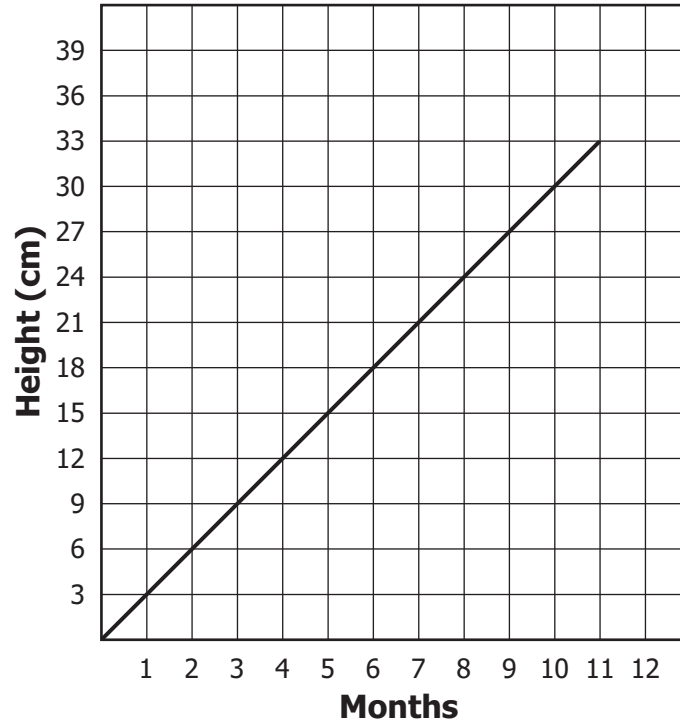
3



A person pushes a box as shown. What is the push *most* likely to change?

- A The size of the box
- B The mass of the box
- C The color of the box
- D The position of the box

4

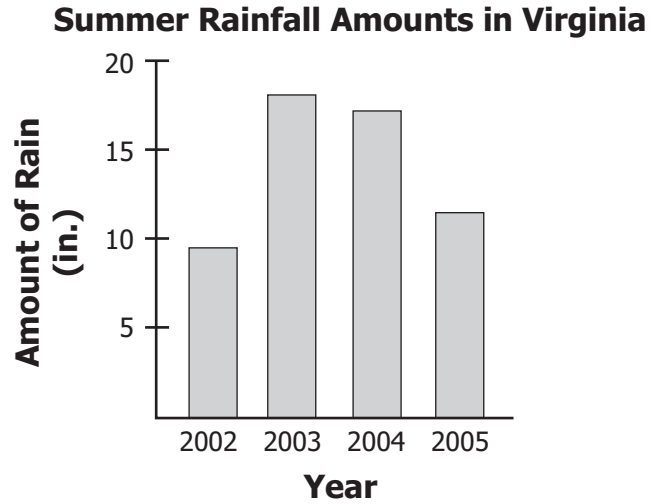


The graph shows the height change of a plant over a period of 11 months. How tall should the plant be at month 12 if all conditions remain the same and the plant continues to grow at the same rate?

- F 36 cm
- G 39 cm
- H 42 cm
- J 45 cm

5 Which is the *best* action to help protect water resources in Virginia?

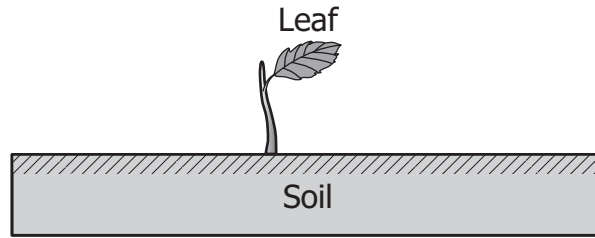
- A Dispose of pet waste in a stream.
- B Rinse spilled gasoline with a hose.
- C Organize a river cleanup program.
- D Put hazardous waste in with house trash.



The graph shows the amount of rain that fell during the summer for each of four years. Weather data show that the average rainfall during the summer is about 12 inches. Based on the graph, rainfall was closest to the average during —

- F 2002
- G 2003
- H 2004
- J 2005

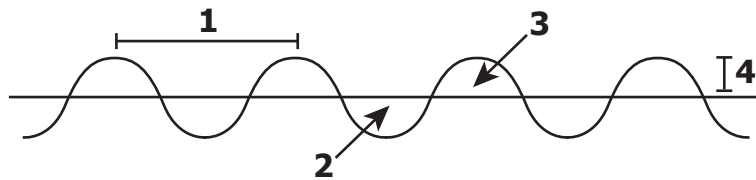
7



The picture shows a sprouting bean plant. The leaf produced will help the plant by —

- A absorbing water from the air for nourishment
- B using sunlight for energy in food production
- C reproducing more bean plants for survival of the species
- D adding support for the plant as it grows taller

8



Which number on the diagram shows the wavelength?

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

9 Earth makes a complete revolution around the Sun about once every —

- A** day
- B** year
- C** season
- D** minute

10 Which of these objects is opaque?

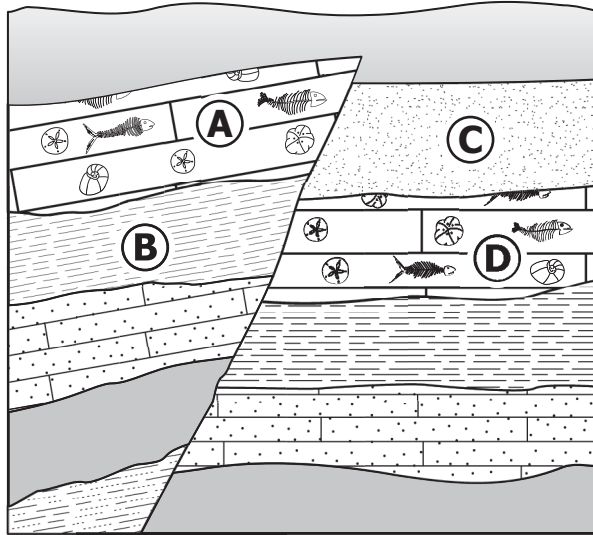
- F** A brick wall
- G** Eyeglass lenses
- H** Liquid water
- J** Stained glass windows

11 Students collect pond water in their beakers. Which is the *best* unit of measurement for the volume of water they collect?

- A** Grams
- B** Meters
- C** Milliliters
- D** Centimeters

12 Seeds that remain inactive until the right conditions of light, water, and soil are present are called —

- F** pollen
- G** dormant
- H** flowers
- J** recycled

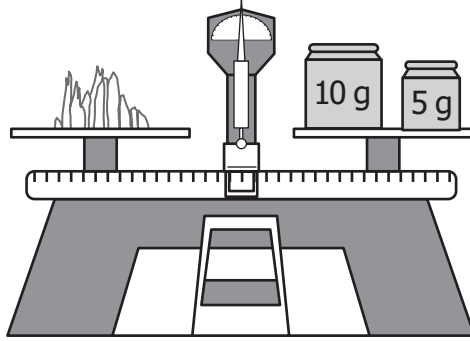


Layer A probably formed in an ocean. Which of these is the *best* clue that layer A formed in an ocean?

- A** The thickness of the layer
- B** The type of fossils in the layer
- C** The position of the layer
- D** The density of the layer

14 Copper wire is often wrapped in plastic. Plastic material is a good —

- F** electromagnet
- G** insulator
- H** circuit
- J** current

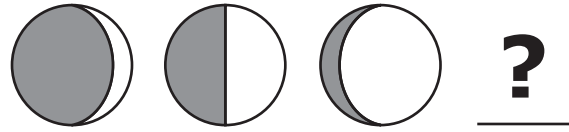


What is the mass of this mineral?

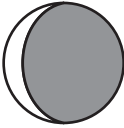
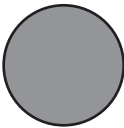
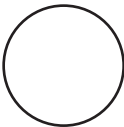
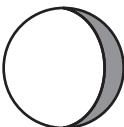
- A** 5 grams
- B** 10 grams
- C** 15 grams
- D** 20 grams

16 Which of these *best* describes a tornado?

- F** A winter storm that produces frozen precipitation
- G** A rotating funnel-shaped cloud with strong winds and thunderstorms
- H** A severe weather condition with low temperatures and blowing snow
- J** A storm that forms over warm ocean water and has extremely strong winds

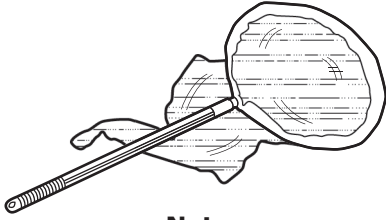


The phases of the Moon occur in a certain order. Three phases are shown here. Which is the next phase in the sequence?

- A 
- B 
- C 
- D 

18 Which of these is the *best* tool to use when measuring the water depth at the edge of a pond?

F



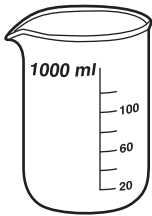
Net

G



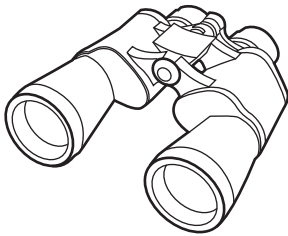
Meter stick

H



Beaker

J



Binoculars

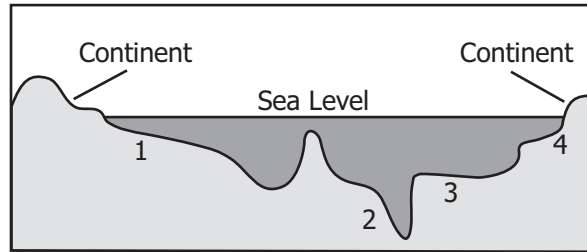
19 Three baseball players investigate to see who can throw a baseball the farthest. They mark off an area on the playground for their investigation. Which should they keep constant?

- A** Height of players
- B** Color of the baseballs thrown
- C** Order in which the players throw
- D** Spot from which players throw

20 A student throws a ball. Which of these *best* describes the moving ball?

- F** The ball has light energy.
- G** The ball has kinetic energy.
- H** The ball is transferring sound energy to the air.
- J** The ball is transferring light energy to the air.

21



Which location is likely to have the greatest water pressure, the coldest temperatures, and the smallest number of living organisms?

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

22 Which of these can be mined from Earth and used as an energy source?

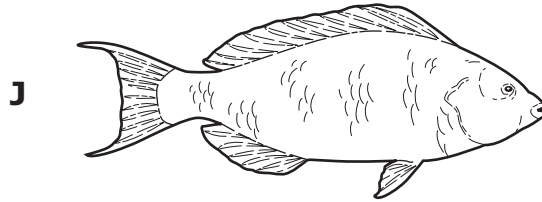
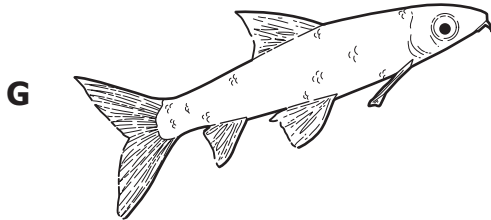
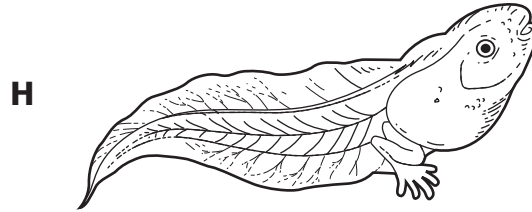
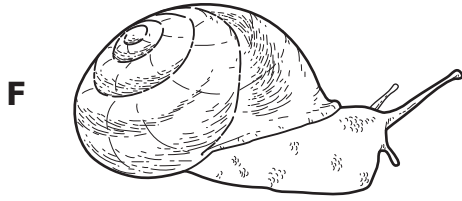
- F Coal
- G Gravel
- H Granite
- J Limestone



Although the mushroom looks like a plant, it is in a different kingdom. The main difference between the fungi kingdom and the plant kingdom is that fungi —

- A** use chlorophyll to make sugar
- B** have special tissues
- C** absorb nutrients from other organisms
- D** depend on the Sun for energy

24 Which of these animals is an invertebrate?



25 A bicyclist rides on a flat road and then stops pedaling but does *not* apply the brakes. The bicycle stops because of —

- A balance
- B friction
- C attraction
- D magnetism

26 Which of these are the deepest parts of the ocean?

- F Continental shelves
- G Continental slopes
- H Ocean trenches
- J Abyssal plains

Puppy Growth Chart

Age (weeks)	Weight (kg)
8	8.0
9	8.5
10	9.0
11	9.5
12	11.0
13	11.5

Based on the chart, between which two weeks did the growth pattern of the puppy change?

- A** 8–9 weeks
- B** 9–10 weeks
- C** 10–11 weeks
- D** 11–12 weeks

28 Submarines have explored many parts of the ocean. As submarines descend, scientists observe that there is an increase in the —

- F** amount of light
- G** water temperature
- H** water pressure
- J** types of ocean organisms



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Based on the bird of prey key, which bird is shown in the picture?

Adult Bird of Prey Key

- | | | |
|----|--------------------------------------|--------------------|
| 1a | Bill straight | Not a bird of prey |
| 1b | Bill curved and sharp | Go to 2 |
| 2a | Both eyes on front of head | Owl |
| 2b | Eyes on sides of head | Go to 3 |
| 3a | Feathers on head | Go to 4 |
| 3b | No feathers on head | Vulture |
| 4a | Feathers on head are all dark | Golden Eagle |
| 4b | Feathers on head are all white | Bald Eagle |

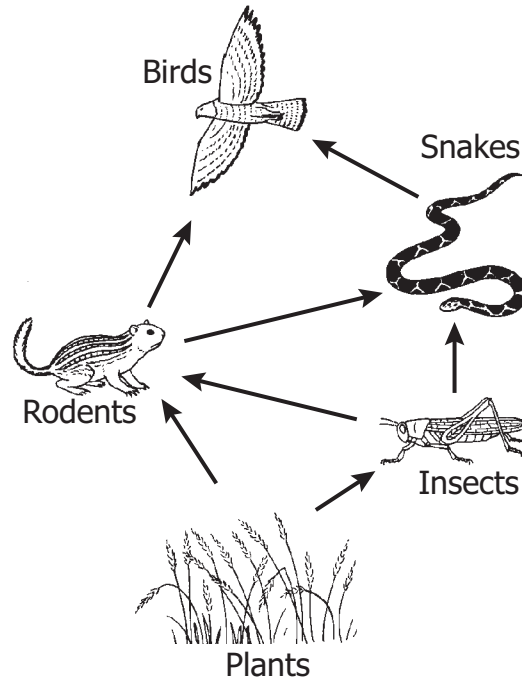
- A** Owl
- B** Vulture
- C** Golden eagle
- D** Bald eagle

30 Which part of a plant cell is responsible for controlling the activities of the other parts of the cell?

- F** Vacuole
- G** Nucleus
- H** Cell wall
- J** Chloroplast

31 Which of these is the main function of a cell wall?

- A** To make food
- B** To store water
- C** To provide support
- D** To make the plant green



Which shows one way that energy flows to birds in this food web?

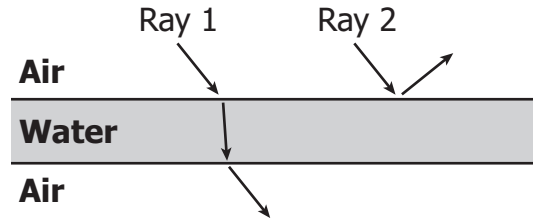
- F** Rodents → insects → birds
- G** Insects → plants → birds
- H** Snakes → rodents → birds
- J** Plants → rodents → birds

33 Michael Faraday showed how electric current in a wire produces —

- A** molecules
- B** chemicals
- C** a vibration
- D** a magnetic field

34 Students notice that in the fall leaves of sugar maple trees turn red, but the leaves of black oak trees turn brown. The students are making —

- F** an observation
- G** a conclusion
- H** a prediction
- J** an inference



Two flashlights are turned on. The light rays they create are shown in the diagram. These light rays *best* illustrate that —

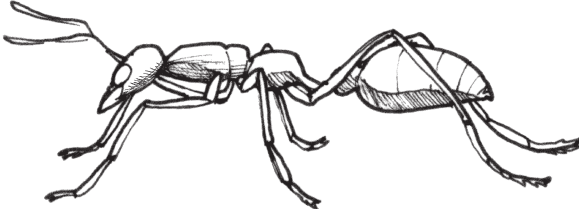
- A** both rays are reflected
- B** both rays are refracted
- C** Ray 1 is reflected and Ray 2 is refracted
- D** Ray 1 is refracted and Ray 2 is reflected

36 Which of these activities is most likely to have a positive impact on the environment of Earth?

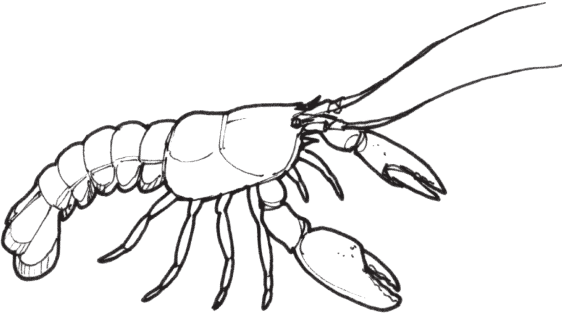
- F** Expanding neighborhoods
- G** Building factories
- H** Constructing highways
- J** Creating nature preserves

37 Which of these animals has a different body support system than the others?

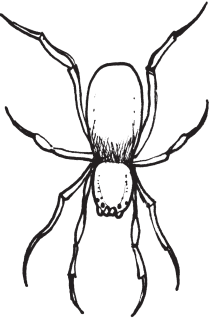
A



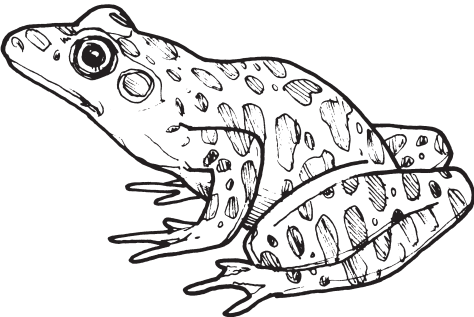
B

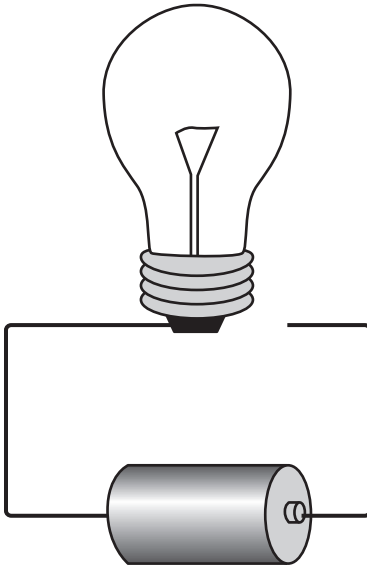


C



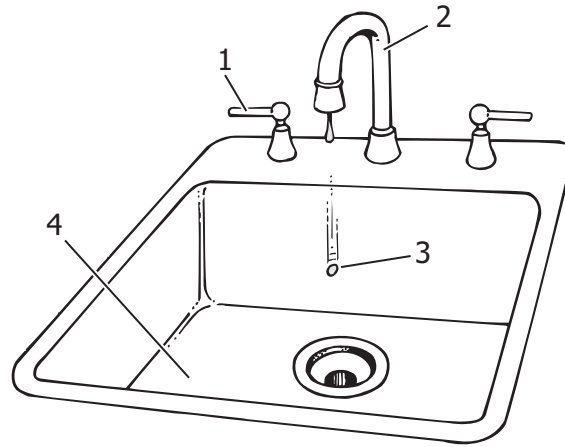
D





Which of these *best* completes the circuit?

- F** Rubber band
- G** Metal nail
- H** Leather shoelace
- J** Wooden toothpick



Which labeled part in this picture has evidence of kinetic energy?

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

40 A wild turkey's forest community includes —

- F insects
- G rainfall
- H soil
- J wind

Answer Key-5005-S0118

Test Sequence Number	Correct Answer	Reporting Category	Reporting Category Description
1	A	003	Life Processes and Living Systems
2	G	001	Scientific Investigation
3	D	002	Force, Motion, Energy, and Matter
4	F	001	Scientific Investigation
5	C	004	Earth/Space Systems and Cycles
6	J	001	Scientific Investigation
7	B	003	Life Processes and Living Systems
8	F	002	Force, Motion, Energy, and Matter
9	B	004	Earth/Space Systems and Cycles
10	F	002	Force, Motion, Energy, and Matter
11	C	001	Scientific Investigation
12	G	003	Life Processes and Living Systems
13	B	004	Earth/Space Systems and Cycles
14	G	002	Force, Motion, Energy, and Matter
15	C	001	Scientific Investigation
16	G	004	Earth/Space Systems and Cycles
17	C	004	Earth/Space Systems and Cycles
18	G	001	Scientific Investigation
19	D	001	Scientific Investigation
20	G	002	Force, Motion, Energy, and Matter
21	B	004	Earth/Space Systems and Cycles
22	F	004	Earth/Space Systems and Cycles
23	C	003	Life Processes and Living Systems
24	F	003	Life Processes and Living Systems
25	B	002	Force, Motion, Energy, and Matter
26	H	004	Earth/Space Systems and Cycles
27	D	001	Scientific Investigation
28	H	004	Earth/Space Systems and Cycles
29	C	001	Scientific Investigation
30	G	003	Life Processes and Living Systems
31	C	003	Life Processes and Living Systems
32	J	003	Life Processes and Living Systems
33	D	002	Force, Motion, Energy, and Matter
34	F	001	Scientific Investigation
35	D	002	Force, Motion, Energy, and Matter
36	J	004	Earth/Space Systems and Cycles
37	D	003	Life Processes and Living Systems
38	G	002	Force, Motion, Energy, and Matter
39	C	002	Force, Motion, Energy, and Matter
40	F	003	Life Processes and Living Systems

Grade 5 Science, Core 1

If you get this many items correct:	Then your converted scale score is:
0	000
1	175
2	211
3	233
4	249
5	262
6	272
7	282
8	291
9	298
10	306
11	312
12	319
13	325
14	331
15	337
16	342
17	348
18	353
19	359
20	364
21	369
22	375
23	380
24	386
25	391
26	397
27	403
28	409
29	415
30	422
31	429
32	437
33	445
34	455
35	465
36	478
37	494
38	515
39	551
40	600

