SCIENCE TEST

35 Minutes—40 Questions

DIRECTIONS: There are several passages in this test. Each passage is followed by several questions. After reading a passage, choose the best answer to each question and fill in the corresponding oval on your answer document. You may refer to the passages as often as necessary.

You are NOT permitted to use a calculator on this test.

Passage I

Scientists conducted a study to examine the *caching* (storing food) and feeding behaviors of gray squirrels.

Prior to the study, acorns were collected from a park and sorted into types, first according to the species of tree they grew on—red oak, pin oak, or white oak—and then according to whether the acorn was undamaged, *infested* (contained insect larvae), or *shelled* (shell removed). Each acorn was stored at 2°C until the day it was to be used.

Study

The study was conducted over 75 consecutive autumn days. Beginning at the same time each morning, 225 acorns were placed, one at a time, at a given location in the park where the acorns had been collected. Each of the 9 acorn types was presented an equal number of times, and the order in which the acorns were presented was random. All the acorns were picked up by squirrels within 1 minute. Table 1 shows, for each acorn type, the percent of acorns that were cached, eaten, or *rejected* (dropped after being picked up) by the squirrels.

Table 1

Acorn type	Percent of acorns: cached	eaten	rejected
Undamaged red oak	52	44	4
Infested red oak	40	56	4
Shelled red oak	32	60	8
Undamaged pin oak	24	64	12
Infested pin oak	24	68	8
Shelled pin oak	20	64	16
Undamaged white oak	12	88	0
Infested white oak	24	76	0
Shelled white oak	20	76	4

In addition, for each red oak acorn that was not rejected, the average distance (including both horizontal and vertical) the squirrel traveled before caching or eating the acorn was determined (see Table 2).

Table 2

Acorn type	Average distance traveled (m) before: caching	eating
Undamaged red oak	11.4	22.2
Infested red oak	12.5	20.2
Shelled red oak	10.4	15.0

Adapted from M. A. Steele et al., "Caching and Feeding Decisions by *Sciurus carolinensis*: Responses to Weevil-Infested Acorns." ©1996 by American Society of Mammalogists.

1. The study was most likely designed to answer which of the following questions about squirrel behavior?

- **A.** Does the presence of insect larvae in acorns increase the amount of protein consumed by squirrels?
- **B.** Are squirrels more likely to reject acorns that are infested or acorns that are shelled?
- **C.** Does the percent of acorns cached by squirrels vary from season to season?
- **D.** Are squirrels more likely to travel a greater distance during the morning or during the afternoon?

2. Which of the following factors was held constant during the study?

- **F.** Percent of acorns that were cached
- **G.** Time of day scientists began placing acorns at the park
- **H.** Order in which the acorn types were presented
- **J.** Distance a squirrel traveled before eating acorns

3. Which of the following statements about pin oak acorns is consistent with the results of the study?

A. Shelled pin oak acorns were eaten more frequently than infested pin oak acorns.
B. Shelled pin oak acorns were rejected less frequently than undamaged pin oak acorns.
C. Undamaged pin oak acorns and infested pin oak acorns were cached 24% of the time.
D. Undamaged pin oak acorns were cached 64% of the time, and infested pin oak acorns were cached 68% of the time.

4. According to Table 2, before eating shelled red oak acorns, the squirrels traveled an average distance of:

F. 10.4 m.
G. 11.4 m.
H. 12.5 m.
J. 15.0 m.

5. Which of the following statements comparing the distances squirrels traveled before eating infested acorns to the distances they traveled before caching infested acorns is supported by the results in Table 2 ? On average, the distance traveled before:

A. eating was farther than the distance traveled before caching for infested red oak acorns.
B. caching was farther than the distance traveled before eating for infested red oak acorns.
C. eating was farther than the distance traveled before caching for infested white oak acorns.
D. caching was farther than the distance traveled before eating for infested white oak acorns.

6. Assume that the more *perishable* (likely to decay) a given type of acorn, the more likely a squirrel is to eat that acorn rather than cache it. Consider the results in Table 1 for the shelled red oak acorns, infested pin oak acorns, and undamaged white oak acorns. Based on these results, what is the order of these 3 acorn types, from most perishable to least perishable?

F. Shelled red oak, infested pin oak, undamaged white oak
G. Shelled red oak, undamaged white oak, infested pin oak
H. Undamaged white oak, shelled red oak, infested pin oak
J. Undamaged white oak, infested pin oak, shelled red oak

7. Of the 1,875 undamaged pin oak acorns tested in the study, the number of those acorns that were cached by squirrels was closest to which of the following?

A. 225
B. 475
C. 675
D. 1,200

Passage II

In the periodic table, a column of elements is called a *group*. For each of 5 elements in Group 2A and for each of 5 elements in Group 3A, Table 1 gives the *atomic mass* (average mass of 1 atom in atomic mass units, amu) and 3 other properties at a temperature of 298 K:

- density,
- *specific heat* (amount of heat required to raise the temperature of 1 g of a substance by 1 K),
- *thermal conductivity* (ability to conduct heat; the greater the thermal conductivity, the more effectively the substance conducts heat).

Table 1

Group in periodic table	Element (symbol)	Atomic mass (amu)	Density at 298 K (g/cm^3*)	Specific heat at 298 K [J/(g·K)†]	Thermal conductivity at 298 K [W/(m·K)‡]
2A	Beryllium (Be)	9.012	1.85	1.83	200
	Magnesium (Mg)	24.31	1.74	1.02	156
	Calcium (Ca)	40.08	1.54	0.647	200
	Strontium (Sr)	87.62	2.64	0.306	35.3
	Barium (Ba)	137.3	3.62	0.204	18.4
3A	Boron (B)	10.81	2.34	1.03	27.4
	Aluminum (Al)	26.98	2.70	0.897	237
	Gallium (Ga)	69.72	5.91	0.373	40.6
	Indium (In)	114.8	7.31	0.233	81.6
	Thallium (Tl)	204.4	11.8	0.129	46.1

*grams per cubic centimeter
†joules per gram per kelvin
‡watts per meter per kelvin

Figure 1 shows, for Al and for Mg, how the thermal conductivity varies between 1 K and 100 K.

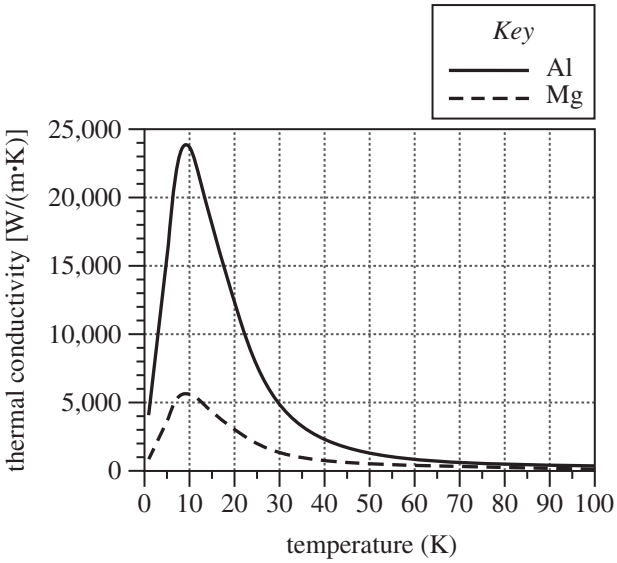


Figure 1

8. Based on Table 1, among the Group 2A elements, as atomic mass increases, the specific heat:

F. increases only.
G. decreases only.
H. increases and then decreases.
J. decreases and then increases.

9. According to Table 1, at 298 K, the specific heat of indium is closest in value to the specific heat of which of the following elements?

A. Ba
B. Ca
C. Sr
D. Tl

10. Based on the definition of thermal conductivity and on Table 1, does strontium or thallium conduct heat more effectively at 298 K ?

F. Strontium; the thermal conductivity of strontium is greater than that of thallium.
G. Strontium; the thermal conductivity of strontium is less than that of thallium.
H. Thallium; the thermal conductivity of thallium is greater than that of strontium.
J. Thallium; the thermal conductivity of thallium is less than that of strontium.

11. Neither Table 1 nor Figure 1 gives the thermal conductivity of magnesium at which of the following temperatures?

A. 50 K
B. 98 K
C. 200 K
D. 298 K

12. Based on Figure 1, at which of the following temperatures is the thermal conductivity of Al closest in value to the thermal conductivity of Mg ?

F. 10 K
G. 30 K
H. 50 K
J. 80 K

13. What is the meaning of the value for the density of indium given in Table 1 ?

A. Each cm^3 of indium has a mass of 7.31 g.
B. Each cm^3 of indium has a volume of 7.31 g.
C. Each g of indium has a volume of 7.31 cm^3.
D. Each g of indium has a mass of 7.31 cm^3.

Passage III

When viewed from above, the path of a launched object is expected to be a straight line. However, because Earth rotates, the *Coriolis effect* causes the object to be deflected, either to the right of the expected path in the Northern Hemisphere, or to the left of the expected path in the Southern Hemisphere. The *magnitude of deflection* (MOD) is a distance that serves as a measure of the Coriolis effect (see Figure 1). The MOD is the same when measured at the same latitude (for example, 30°) in either hemisphere.

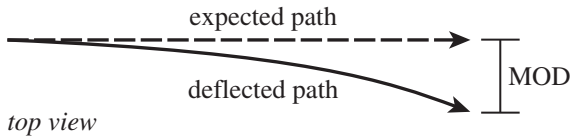


Figure 1

Students conducted 3 experiments to study the Coriolis effect.

Experiment 1

The students performed 5 trials, each at a different latitude. In each trial, they launched a ball due east at a speed of 25 m/s over a distance of 100 m. They then measured the ball's MOD, in cm (see Table 1).

Table 1

Latitude (°N)	MOD (cm)
15	0.75
30	1.46
45	2.06
60	2.53
75	2.82

Experiment 2

The students performed 5 trials, each at 45°N latitude. In each trial, they launched a ball due east at a different speed over a distance of 100 m. They then measured the ball's MOD (see Table 2).

Table 2

Speed (m/s)	MOD (cm)
15	3.44
20	2.58
30	1.72
35	1.47
40	1.29

Experiment 3

The students performed 5 trials, each at a different latitude. In each trial, they repeatedly launched 2 identical disks, each 4 cm in diameter, directly toward one another at identical speeds across a 200 m long frictionless horizontal plane. The speed was adjusted for each launch until the students had determined the *minimum* launch speed required for the disks to just avoid colliding (see Figure 2). Table 3 shows their results.

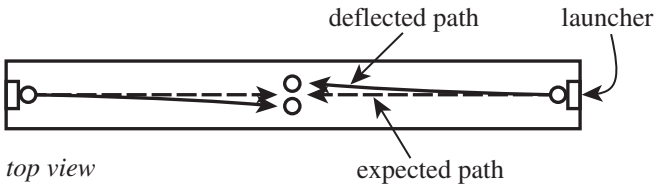


Figure 2

Table 3

Latitude (°N)	Minimum speed (m/s)
15	9.44
30	18.23
45	25.78
60	31.58
75	35.22

14. Suppose that in Experiment 2, the students had launched the ball at a speed of 33 m/s. The ball's MOD at this speed would most likely have been:

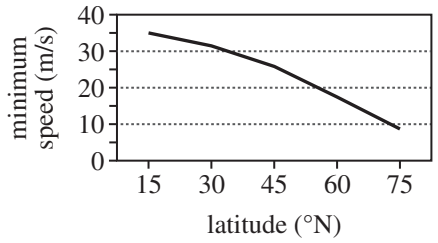
F. smaller than 1.29 cm.
G. between 1.29 cm and 1.47 cm.
H. between 1.47 cm and 1.72 cm.
J. larger than 1.72 cm.

15. According to the results of Experiment 1, as latitude increased, the MOD due to the Coriolis effect:

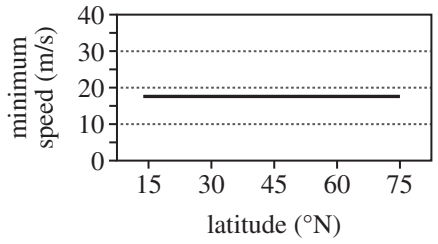
A. decreased only.
B. increased only.
C. decreased and then increased.
D. increased and then decreased.

16. Based on the results of Experiment 3, which of the following graphs best shows the relationship between latitude and minimum speed required to avoid a collision?

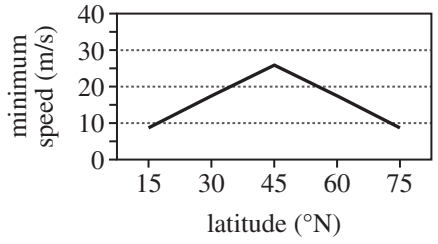
F.



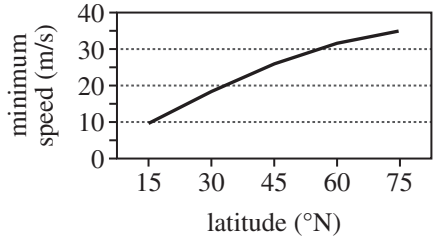
G.



H.



J.



17. The students made certain to use the same ball in both Experiment 1 and Experiment 2. The students most likely did this to ensure that the ball's MOD would be:

A. unaffected by variations in object shape or mass.
B. unaffected by variations in launch speed or latitude.
C. the same for each trial.
D. different for each trial.

18. Based on the results of Experiment 2, by how many *millimeters* did the ball's MOD decrease when the launch speed was increased from 15 m/s to 20 m/s ?

F. 2.5 mm
G. 3.4 mm
H. 5.2 mm
J. 8.6 mm

19. Suppose that in Experiment 1, a trial had been performed in which a ball had been launched at a speed of 25 m/s at 45° *South* latitude. This trial would most likely have resulted in the ball deflecting to the:

A. right of its expected path with an MOD of 2.06 cm.
B. right of its expected path with an MOD of 25.78 cm.
C. left of its expected path with an MOD of 2.06 cm.
D. left of its expected path with an MOD of 25.78 cm.

20. Which of the following statements best summarizes the procedures of Experiment 3 ? The students:

F. repeatedly adjusted the disks' launch speed until the resulting MOD for each disk was slightly larger than 2 cm.
G. repeatedly adjusted the latitude at which the disks were launched until the resulting MOD for each disk was slightly larger than 2 cm.
H. repeatedly adjusted the disks' launch speed until the resulting MOD for each disk was slightly larger than 200 cm.
J. repeatedly adjusted the latitude at which the disks were launched until the resulting MOD for each disk was slightly larger than 200 cm.

Passage IV

In human blood, calcium (Ca^{2+}) concentration is regulated by vitamin D_3. First, vitamin D_3 is converted to *calcidiol* (CD) in the liver. An elevated concentration of CD inhibits further conversion of vitamin D_3. Next, CD is converted to *calcitriol* (CT) in the kidneys in a reaction that requires *parathyroid hormone* (PTH). An elevated concentration of CT increases Ca^{2+} concentration, which in turn inhibits further release of PTH. See Figure 1.

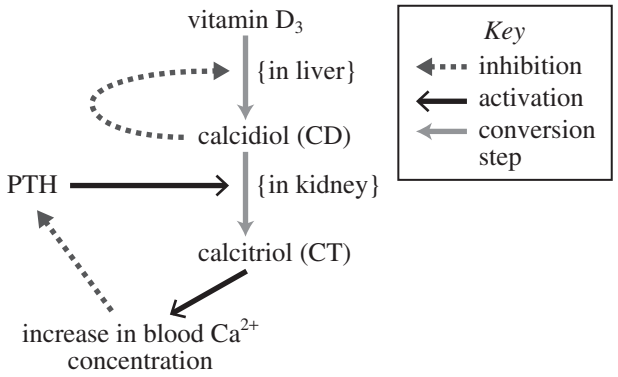
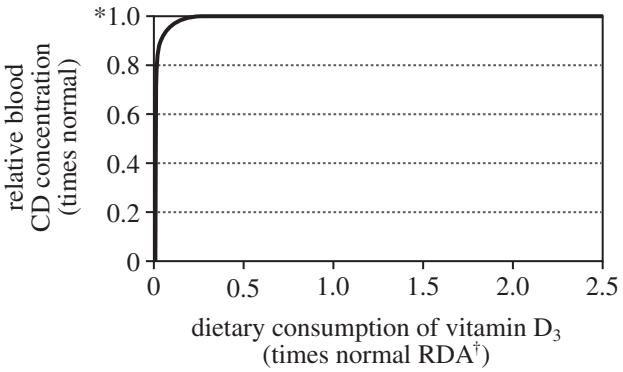


Figure 1

Figures 2 and 3, respectively, show how dietary consumption of vitamin D_3 affects relative blood CD concentration and how blood Ca^{2+} concentration affects relative blood CT concentration.

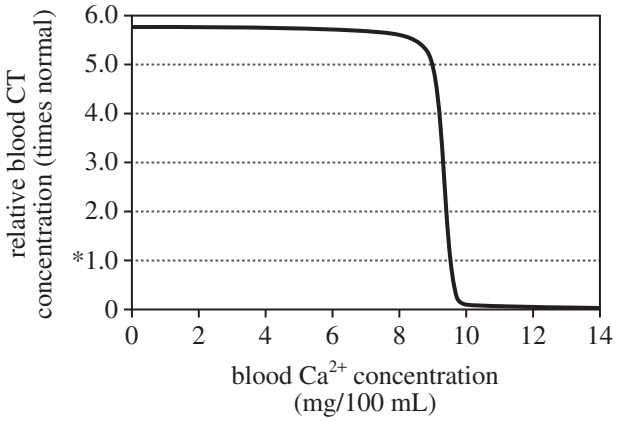


*1.0 represents the normal blood calcidiol concentration

†recommended daily allowance

Note: Assumes minimal exposure to sunlight.

Figure 2



*1.0 represents the normal blood calcitriol concentration

Figure 3

Figures adapted from Hall, John E., *Guyton and Hall Textbook of Medical Physiology*, 12th ed. ©2011 by Saunders Elsevier.

21. According to Figure 2, if an individual increased dietary consumption of vitamin D_3 from 1.0 times the normal RDA to 2.0 times the normal RDA, would the individual's relative blood CD concentration increase?

- **A.** No; according to Figure 2 the relative blood CD concentration would decrease.
- **B.** No; according to Figure 2 the relative blood CD concentration would remain the same.
- **C.** Yes; according to Figure 2 the relative blood CD concentration would increase from 0.5 times normal to 1.0 times normal.
- **D.** Yes; according to Figure 2 the relative blood CD concentration would increase from 1.0 times normal to 2.0 times normal.

22. According to Figure 3, the relative blood CT concentration is between 5 times normal and 6 times normal within which of the following blood Ca^{2+} concentration ranges?

- **F.** 8 mg/100 mL to 9 mg/100 mL
- **G.** 10 mg/100 mL to 11 mg/100 mL
- **H.** 11 mg/100 mL to 12 mg/100 mL
- **J.** 13 mg/100 mL to 14 mg/100 mL

23. According to Figure 1, what activates the conversion of CD to CT?

A. Ca^{2+}
B. CT
C. Vitamin D_3
D. PTH

24. According to Figure 3, when an individual's blood CT concentration is at a normal value, the individual's blood Ca^{2+} concentration is closest to which of the following values?

F. 0.5 mg/100 mL
G. 4.5 mg/100 mL
H. 9.5 mg/100 mL
J. 11.5 mg/100 mL

25. According to Figure 2, the greatest variation in relative blood CD concentration occurs when the dietary consumption of vitamin D_3 is within which of the following ranges?

A. 0 times the normal RDA to 0.25 times the normal RDA
B. 0.25 times the normal RDA to 0.5 times the normal RDA
C. 0.75 times the normal RDA to 1.0 times the normal RDA
D. 1.0 times the normal RDA to 1.25 times the normal RDA

26. According to the given information, the inhibition of the conversion of vitamin D_3 to CD is caused by:

F. a low concentration of CT.
G. a low concentration of CD.
H. an elevated concentration of CT.
J. an elevated concentration of CD.

Passage V

The *Atwood machine* shown in Figure 1 was used as part of 2 studies on objects moving with constant acceleration.

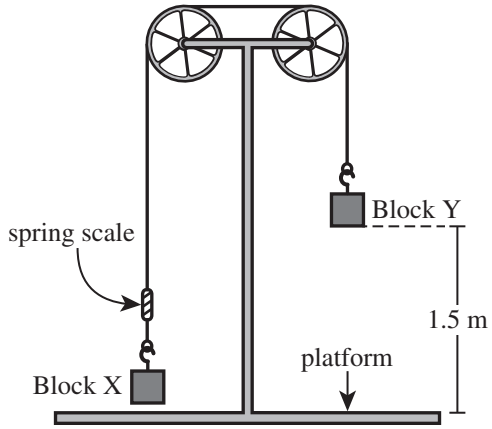


Figure 1

Study 1

In each of 10 trials, the following procedure was performed:

1. A string was passed over 2 pulleys. The string had a ring on each end and a *spring scale* (a device that can measure forces) near one end.

2. Block X, having a mass m_X, was hooked onto the left ring. Block Y, having a mass m_Y, was hooked onto the right ring.

3. Block X was pulled down and held in place so that Block Y was 1.5 m above the platform.

4. With all objects starting at rest, Block X was released, and both F (the force on the string) and t (the time required for Block Y to fall to the platform) were measured.

(Note: All objects other than the 2 blocks had negligible mass. The string was not stretchable.)

Table 1 shows the results, with F in newtons (N) and t in seconds (s).

Table 1

Trial	m_X (kg)	m_Y (kg)	F (N)	t (s)
1	0.2	0.2	1.96	—
2	0.2	0.4	2.61	0.96
3	0.2	0.6	2.94	0.78
4	0.2	0.8	3.14	0.71
5	0.4	0.4	3.92	—
6	0.4	0.6	4.70	1.24
7	0.4	0.8	5.23	0.96
8	0.6	0.6	5.88	—
9	0.6	0.8	6.72	1.46
10	0.8	0.8	7.84	—

Note: A dash indicates that Block Y did not fall.

Study 2

The acceleration, a, of Block Y in each trial of Study 1 was then calculated using the available t data. Table 2 shows the results, with a in meters per second squared (m/s^2).

Table 2

Trial	a (m/s^2)
1	0
2	3.27
3	4.90
4	5.88
5	0
6	1.96
7	3.27
8	0
9	1.40
10	0

27. The *speed* (in m/s) of Block Y can be obtained using the equation:

$$\text{speed} = (\text{acceleration}) \times (\text{time})$$

The speed of Block Y at the time it struck the platform in Trial 2 is correctly represented by which of the following expressions?

A. $(3.27\ \text{m/s}^2) \times (0.78\ \text{s})$
B. $(3.27\ \text{m/s}^2) \times (0.96\ \text{s})$
C. $(4.90\ \text{m/s}^2) \times (0.78\ \text{s})$
D. $(4.90\ \text{m/s}^2) \times (0.96\ \text{s})$

28. Which of the following statements is consistent with the available information about the design or procedures of the studies?

F. More trials were performed in Study 2 than were performed in Study 1.
G. In each trial, the mass of Block X was less than or equal to the mass of Block Y.
H. The results of Study 2 were unrelated to the results of Study 1.
J. There was only 1 trial that involved testing blocks of equal mass.

29. Suppose that in Study 1, a trial had been performed in which Block Y was pulled down and then released when Block X was 1.5 m above the platform. Further suppose that in this trial, m_X was 0.8 kg and m_Y was 0.6 kg. The force on the string in this trial would most likely have been closest to which of the following?

A. 3 N
B. 5 N
C. 7 N
D. 9 N

30. Suppose that in Step 3, Block X had been pulled down and held in place so that Block Y was 100 *centimeters* (NOT meters) above the platform. Would the values of t recorded in Study 1 more likely have been greater than or less than those shown in Table 1 ?

F. Greater, because Block Y would have fallen a longer distance.
G. Greater, because Block Y would have fallen a shorter distance.
H. Less, because Block Y would have fallen a longer distance.
J. Less, because Block Y would have fallen a shorter distance.

31. Based on the results of the studies, for a given value of m_X, as m_Y was increased, which of the variables F, t, and a also increased?

A. F and a only
B. F and t only
C. t and a only
D. F, t, and a

32. Based on the description of Study 1, was m_Y a dependent variable or an independent variable?

F. Dependent, because in each trial, its value was intentionally set to one of several chosen values.
G. Dependent, because in each trial, its value was obtained as the result of taking a measurement.
H. Independent, because in each trial, its value was intentionally set to one of several chosen values.
J. Independent, because in each trial, its value was obtained as the result of taking a measurement.

33. Consider any trial in which the block masses were NOT equal. In this trial, once Block X had been released, the gravitational potential energy of Block Y immediately began to:

A. increase, because Block Y began to gain height.
B. increase, because Block Y began to lose height.
C. decrease, because Block Y began to gain height.
D. decrease, because Block Y began to lose height.

Passage VI

Demonstration

A science teacher poured 400 mL of water into a beaker and heated the beaker with a Bunsen burner. After a few minutes, bubbles began to form in the water and float to the surface. Four students were asked to explain how the bubbles were formed and also to describe the composition of the bubbles.

Student 1

The chemical formula of water is H_2O. As H_2O is heated, the chemical bonds between the hydrogen (H) and oxygen (O) atoms break, leaving individual H and O atoms. The H atoms dissolve in the remaining water, while the O atoms combine to form oxygen molecules (O_2). The breakdown of water and the formation of O_2 can be summarized by the following balanced chemical equations:

$$H_2O \rightarrow 2H + O$$
$$O + O \rightarrow O_2$$

Because O_2 is a gas, it forms bubbles in the water, and the bubbles contain O_2 only.

Student 2

Student 1 is correct about how the chemical bonds in H_2O break down and how O_2 molecules are formed. However, the H atoms do not dissolve in the remaining water; rather, they combine to form hydrogen molecules (H_2), as shown in the following equation:

$$H + H \rightarrow H_2$$

Because both O_2 and H_2 are gases, bubbles are formed in the water, and the bubbles contain a mixture of O_2 and H_2 only.

Student 3

The chemical bonds in water do not break when water is heated. Instead, water molecules form new chemical bonds—called *hydrogen bonds*—with other water molecules. As more and more hydrogen bonds form, a thin circular sheet of hydrogen-bonded water molecules is formed. When this sheet comes in contact with the surface of the water, air pressure pushes down on the center of the sheet, causing it to bow in the middle and close up on itself, forming a spherical bubble (see Figure 1). The bubbles contain air (a mixture of gases) only.

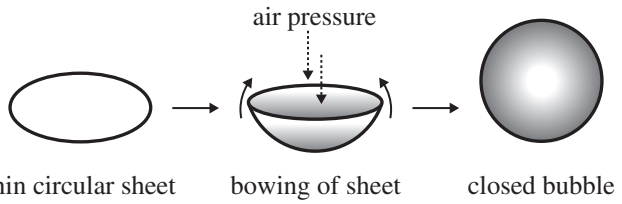


Figure 1

Student 4

As the water is heated, chemical bonds are neither broken nor formed. Instead, the water molecules absorb the heat energy, and this energy is converted into kinetic energy. Once the kinetic energy reaches a certain threshold, the water begins to change from the liquid phase to the gas phase, forming bubbles that contain water vapor only.

34. Based on the description of the demonstration, were the bubbles that formed more dense than the surrounding water, or less dense than the surrounding water?

F. More dense; the bubbles sank to the bottom after formation.
G. More dense; the bubbles floated to the surface of the beaker after formation.
H. Less dense; the bubbles sank to the bottom after formation.
J. Less dense; the bubbles floated to the surface after formation.

35. During the demonstration, bubbles were observed to form well below the water's surface. This information directly *contradicts* the explanation given by which student?

A. Student 1
B. Student 2
C. Student 3
D. Student 4

36. Which students stated or implied that the bubbles contain gas molecules?

F. Students 1 and 2 only
G. Students 2 and 3 only
H. Students 2, 3, and 4 only
J. Students 1, 2, 3, and 4

37. According to Students 1, 2, and 3, the process of bubble formation (in water) involves which of the following changes?

A. Chemical bonds are formed.
B. Chemical bonds are broken.
C. Kinetic energy of the water molecules is increased.
D. Kinetic energy of the water molecules is decreased.

38. Suppose that after the students gave their responses, the teacher filled a balloon with a mixture of H_2 and O_2. Further suppose that she held a lit candle to the balloon and then the balloon exploded. Based on this information, which of Student 2 and Student 4, if either, would be more likely to claim that an explosion would have occurred during the original demonstration if the teacher had held a lit candle above the surface of the water being heated?

F. Student 2 only
G. Student 4 only
H. Both Student 2 and Student 4
J. Neither Student 2 nor Student 4

39. Which student's explanation is the most scientifically accurate?

A. Student 1
B. Student 2
C. Student 3
D. Student 4

40. Which of the following balanced chemical equations best summarizes Student 2's explanation?

F. $2H_2O \rightarrow 2H_2 + O_2$
G. $2H_2 + O_2 \rightarrow 2H_2O$
H. $H_2O_2 \rightarrow H_2 + O_2$
J. $H_2 + O_2 \rightarrow H_2O_2$

END OF TEST 4

STOP! DO NOT RETURN TO ANY OTHER TEST.

Test 3: Reading—Scoring Key

Key	Reporting Category* KID	CS	IKI
1. A		___	
2. G	___		
3. D	___		
4. F	___		
5. C	___		
6. H		___	
7. D		___	
8. G	___		
9. A	___		
10. J	___		
11. B		___	
12. F			___
13. B	___		
14. J	___		
15. C	___		
16. F	___		
17. B		___	
18. J	___		
19. A			___
20. J		___	

Key	Reporting Category* KID	CS	IKI
21. D		___	
22. F	___		
23. C	___		
24. J	___		
25. D	___		
26. G		___	
27. A		___	
28. J			___
29. C		___	
30. G	___		
31. B	___		
32. G	___		
33. C	___		
34. H	___		
35. A		___	
36. G	___		
37. C	___		
38. F			___
39. D			___
40. H			___

***Reporting Categories**
KID = Key Ideas & Details
CS = Craft & Structure
IKI = Integration of Knowledge & Ideas

Number Correct (Raw Score) for:

Key Ideas & Details (KID) _____ (23)

Craft & Structure (CS) _____ (11)

Integration of Knowledge & Ideas (IKI) _____ (6)

Total Number Correct for Reading Test (KID + CS + IKI) _____ (40)

Test 4: Science—Scoring Key

Key	Reporting Category* IOD	SIN	EMI
1. B		___	
2. G		___	
3. C			___
4. J	___		
5. A			___
6. J	___		
7. B		___	
8. G	___		
9. A	___		
10. H			___
11. C	___		
12. J	___		
13. A	___		
14. H		___	
15. B	___		
16. J	___		
17. A		___	
18. J	___		
19. C		___	
20. F		___	

Key	Reporting Category* IOD	SIN	EMI
21. B	___		
22. F	___		
23. D	___		
24. H	___		
25. A	___		
26. J	___		
27. B	___		
28. G		___	
29. C		___	
30. J		___	
31. A	___		
32. H		___	
33. D			___
34. J			___
35. C			___
36. J			___
37. A			___
38. F			___
39. D			___
40. F			___

***Reporting Categories**
IOD = Interpretation of Data
SIN = Scientific Investigation
EMI = Evaluation of Models, Inferences & Experimental Results

Number Correct (Raw Score) for:

Interpretation of Data (IOD) _____ (18)

Scientific Investigation (SIN) _____ (11)

Evaluation of Models, Inferences & Experimental Results (EMI) _____ (11)

Total Number Correct for Science Test (IOD + SIN + EMI) _____ (40)