FLORIDA

SAMPLER

Integrated Grade 6
Statewide Science Assessment Workbook

SAVVAS SCIENCE
EXPLORATIONS

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Grade 6 Statewide Science Assessment Workbook

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EXPLORATIONS

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LEARNING COMPANY

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PRACTICE PROBLEMS

The *Grade 6 Statewide Science Assessment Workbook* prepares students for the Statewide Science Assessment in Grade 8. The workbook consists of test taking strategies and grade specific practice.

A separate answer key is provided for the teacher on Savvas Realize that lists the Standard codes for each item.

To ensure that this product will successfully prepare your students for the Florida Statewide Science Assessment, we partnered with the nationally recognized organization **WestEd** to conduct an evaluation of the alignment of the grade-level test items to the grade level benchmarks measured by the Florida NGSSS/Florida's Academic Standards for Science and Statewide Science Assessments. The WestEd report found that:

- The **grade level tests** contain items aligned to the corresponding grade level benchmarks.
- The **practice tests** on Savvas Realize include all the benchmarks assessed in the Florida test specifications.
- The distribution of items by cognitive complexity in the **practice tests** falls within the range of percentages indicated in the Florida test specifications.
- The percentage of items associated with each reporting category in the **practice tests** is closely aligned with the percentages indicated in the Florida test specifications.

To view the full report from WestEd, please visit the Getting Started section of your Savvas Realize course at www.savvasrealize.com.

Test-Taking Strategies

STRATEGY Using a Benchmark

Benchmarks are a useful comparison tool that can be used to narrow down options in a test. The process of using a benchmark involves reading the first option and deciding if it sounds correct or not based on your knowledge of the content. If it sounds correct, that option can be used as a benchmark to compare to the other options. If it does not sound correct, the same process is completed with the next option. The benchmark that you end up with after reading each option should be identified as the correct answer.

Carefully read the question and use one option as a benchmark. Read through each option and compare it to the benchmark option. After reading each option, identify the benchmark that you end up with as the correct answer.

Sample Question

1. A food chain in a grassland ecosystem is represented as:

Grass → grasshopper → mouse → snake → hawk

Pollution has caused a decrease in the number of snakes in the ecosystem.

What is **ONE** way this disruption will affect the food chain?

Ⓐ There will be a decrease in the mouse population.

Ⓑ There will be a decrease in the hawk population.

Ⓒ There will be an increase in the grasshopper population.

Ⓓ There will be an increase in the hawk population.

Option **A** is incorrect because with a decrease in snakes, the mouse population would increase, since snakes feed on mice. It makes sense that the hawk population would decrease since hawks feed on snakes, so option **B** is a good benchmark. Option **C** is incorrect because a decrease in the snake population would cause an increase in the mouse population and therefore a decrease, not increase, in the grasshopper population. Option **D** is incorrect because hawks feed on snakes, so the hawk population would decrease, not increase. Therefore, option **B** remains as our benchmark and is the correct answer.

STRATEGY Validating Information

Sometimes options contain both information that is valid, or true, and information that is invalid, or false. When taking a test, it is important to read each option carefully to determine if all the information in the option is valid. To validate information, read each option and determine if all of the information in the option is correct. Are there two unrelated pieces of information in one option? If so, this option can be eliminated. Continue to validate or invalidate information in each option to arrive at the correct answer.

Read the question and the options carefully. Do any of the options contain invalid information? Are each definition and all parts of the definition correct? Eliminate any options that have invalid information to find the correct answer.

Sample Question

2. What is the function of the cell membrane in a cell?

Ⓐ The cell membrane prevents oxygen produced during photosynthesis from being released.

Ⓑ The cell membrane maintains the overall shape of the organism.

Ⓒ The cell membrane regulates the materials that pass into and out of the cell.

Ⓓ The cell membrane produces the energy the cell needs to perform its normal activities.

Option **A** indicates that oxygen is produced during photosynthesis, which is valid, but not all cells perform photosynthesis. Also, the cell membrane does not prevent oxygen from being released. Option **B** contains invalid information because at the cellular level, the cell membrane does not maintain a shape. Option **C** contains all valid information: the cell membrane regulates the materials that pass into and out of the cell. Still, read the last option to make sure it is invalid. Option **D** indicates that the cell membrane produces energy, which is not valid. Option **C** is therefore the correct answer.

STRATEGY Reading All the Answer Choices

When taking a test, it is important to read each option carefully before deciding the correct answer. By reading through all the answer choices, it may be possible to eliminate one or more options that are clearly incorrect. This strategy is useful for questions that are challenging and require more complex analysis.

Read the question and think about what it is asking. Then, read each of the options carefully. Do any of the options stand out as incorrect? Do not decide on the correct answer until each option is carefully read.

Sample Question

3. Global patterns of atmospheric movement can cause changes to local weather. As air masses move around, they collide with each other, creating fronts. Fronts can be warm or cold, depending upon the type of air being moved.

What type of weather occurs after a cold front has moved through an area?

Ⓐ Colder, wetter air

Ⓑ Long periods of rain and clouds

Ⓒ Light rain or snow

Ⓓ Colder, drier air

Option **A** partially describes what happens after a cold front passes through an area but read the option carefully. The air after a cold front passes through is drier, not wetter, so this option is wrong. Option **B** identifies long periods of rain and clouds. Since precipitation does not occur after a cold front passes, this is incorrect. Similarly, option **C** indicates that light rain or snow falls after a cold front passes, which is incorrect. Read option **D**. The air that follows a cold front is cold and dry, so option **D** is correct.

STRATEGY **Making Predictions**

When taking a test, you can often predict the answer before even reading the options. If you recall the content that you learned and evaluate the question, it will be easier to answer the question. Making predictions involves reading the question carefully and using your knowledge to predict what the correct answer will be before reading the options. What is the question asking and what information do you already know about the topic? Read the options and keep your prediction in mind. Do any of the options closely match your prediction? That option will most likely be the correct answer.

Read the question and pause for a few moments to predict the correct answer. After you make a prediction, read the options to see if you can find an option that matches it. Identify that option as the correct answer.

Sample Question

4. The chemical equation for photosynthesis is:

$6CO_2 + 6H_2O \rightarrow C_6H_{12}O_6 + 6O_2$

How does this equation support the conservation of mass?

Ⓐ The products have more energy than the reactants.

Ⓑ Six molecules of water produce six molecules of oxygen.

Ⓒ There are two reactants and two products in the reaction.

Ⓓ There are the same number of atoms in the reactants and the products.

The question is about conservation of mass. Since the conservation of mass states that in a chemical reaction, mass is neither created nor destroyed, we can predict that the answer will indicate that the mass is the same in both the reactants and products. Option **A** only references energy, not mass, so this does not match our prediction. Also, it indicates that the products have more energy than the reactants, and we are looking for equal amounts. Option **B** references equal amounts of reactants and products but only references some of the molecules in the equation. This is close to our prediction but does not directly match it. Option **C** references an equal number of reactants and products but does not reference the number of *atoms*, making it different from our prediction. Finally, option **D** refers to the same number of atoms in the reactants and products, which means that the mass is the same. Option **D** matches our prediction and is therefore the correct answer.

STRATEGY Interpreting Data Tables

Sometimes test questions present information in a data table. Data can consist of numbers or words. Data tables usually contain titles, row headings, and column headings. The title tells us the bigger picture of what the data table is showing. The column or row headings show us different categories. The values or words contained under or across each heading indicate the data that relates to that particular category. Tables make data easy to see so you can identify patterns and make comparisons. In some cases, the table has empty cells. This usually means that you will have to use the patterns or relationships you found to complete the empty cells. By organizing and interpreting information in data tables, knowledge can be gathered before even reading the question and options.

Read the table's title, columns, and row headings to figure out what information the table is communicating. Then, read the data and look for patterns or relationships in the data. Once you have interpreted the data, read the question and choose the answer that matches your data interpretation.

Sample Question

5. Four objects with different masses and applied forces are moving with different accelerations. The data are shown in the table.

Object	Mass (kg)	Acceleration (m/s^2)	Applied Force ($kg \cdot m/s^2$)
1	25	34	850
2	14	2	28
3	9	65	585
4	20	50	1000

What is the relationship between the variables in the data table?

Ⓐ The greater the mass, the greater the force, regardless of the acceleration.

Ⓑ The greater the acceleration, the greater the force, regardless of the mass.

Ⓒ The sum of the mass and the acceleration equals the force.

Ⓓ The product of the mass and the acceleration equals the force.

The table's title and column headings show us that the data include the object, the mass, the acceleration of the object, and the applied force on the object. The question is about finding a relationship in the data. Look at the values in the table and search for a trend. Notice that when you look at the data for each object, the applied force column is the product of the mass and acceleration columns. This indicates that option **D** is the correct answer. Option **A** is incorrect since object 1 has the greatest mass but not the greatest force. Option **B** is incorrect since object 3 has the greatest acceleration but not the greatest force. Option **C** is incorrect because we can see in the data table that the sum of the mass and acceleration does not equal the force. So, option **D** is the correct answer.

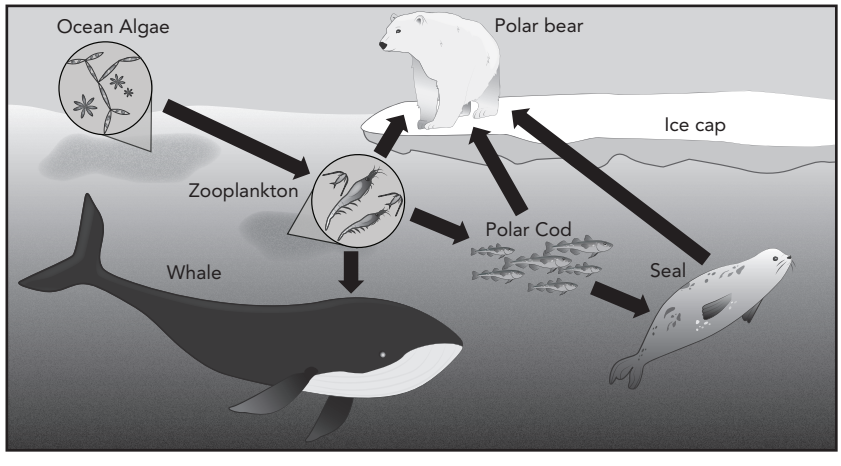
STRATEGY Interpreting Diagrams

Diagrams communicate information in a visual format using images, headings, labels, keys, legends, and units. Titles and headings give us an overall understanding of the diagram. Labels identify each part of a diagram. Keys tell us what particular symbols or lines in the diagram represent so the information can be interpreted. Some diagrams explain a process or a relationship between things. Identifying similarities and differences within or between diagrams also provides the test-taker with important information that will help answer the question.

Identify labels and directional arrows that show the relationships between organisms. Relate the diagram to the question by searching the question for terms and descriptions that match features in the diagram. See how these pieces of information relate to the main ideas presented in the diagram. Once the diagram is interpreted, use your knowledge to answer the question.

Sample Question

6. A food web of an arctic ecosystem is shown.



Which population is **MOST DIRECTLY** affected by a decrease in zooplankton?

Ⓐ Ocean Algae

Ⓑ Whale

Ⓒ Polar Bear

Ⓓ Seal

The arrows in the food web diagram show the direction of energy flow between organisms in an aquatic ecosystem. We can relate the diagram to the question by observing where zooplankton are in the diagram. Zooplankton consume ocean algae and are consumed by polar bears, polar cod, and whales. They are also the **only** source of food for whales and polar cod in this diagram. Option **A** is the source of food for zooplankton so is not the best answer. The polar bear, option **C**, and the seal, option **D**, have multiple sources of food, so they would not be most affected. The whale is the only option that matches our diagram interpretation. So, option **B** is the correct choice.

STRATEGY Breaking Up the Question

Breaking up the question provides a test-taker with the opportunity to process the question in pieces, rather than trying to understand all the components at once. Smaller pieces of information can be more easily understood and then pieced together to create a clearer, bigger picture of the scenario. Applying this strategy involves reading the question and breaking it up into at least two parts. If the question involves confirming that multiple things are true, read through each option and confirm that the option is true for both parts of the question.

Read the entire question and look for ways that the question can be broken down into smaller pieces of information. Are there multiple pieces of information that need to be confirmed? Most likely, each piece will provide a portion of the correct answer.

Sample Question

7. A geologist performs multiple tests on a sample of an element. The element is determined to be solid and an excellent conductor of both electricity and heat.

Based on the tests conducted, the element is **MOST LIKELY** part of which element group?

Ⓐ Noble gases

Ⓑ Metalloids

Ⓒ Nonmetals

Ⓓ Metals

This question can be broken up into two parts because it is asking to confirm two different pieces of information. First, the element must be solid. This means that option **A** can be eliminated. Second, the element must be an excellent conductor of both electricity and heat. Metalloids and nonmetals, options **B** and **C**, do not meet this condition. Therefore, the only option that includes solid elements that are excellent conductors of heat **and** electricity is option **D**, metals. Option **D** is the correct answer.

STRATEGY Underlining Key Terms

Underlining key terms helps test-takers focus on important concepts covered in the question. This strategy is especially helpful when you are unsure of the answer. Key terms include scientific terms, ordering or sequencing terms, as well as relational terms. Sometimes key terms in a question are similar to, or synonyms of, words in the options. Defining key terms in a question can help lead the test-taker to the answer, since the correct answer will most likely depend on those definitions.

Underline key terms in the question and define those terms. Read the question again and replace the key terms with the definitions that you wrote down for them. Now, the question should be much easier to answer as you read through the options. Choose the option that makes sense based on your definitions.

Sample Question

8. Organisms depend on both biotic factors and abiotic factors for survival. When resources are limited, populations that share the same ecosystem must compete.

Which **ABIOTIC** resource are all populations competing for in a desert environment?

Ⓐ Sunlight

Ⓑ Plants

Ⓒ Water

Ⓓ Animals

Key terms to underline in the passage are **biotic factors** and **abiotic factors**. We know that the term **abiotic** means not derived from living organisms. We also know that **biotic** means derived from living or once-living organisms. Since the question calls for an **abiotic** resource, we know that the correct option should not be derived from living organisms. This automatically eliminates options **B** and **D** because plants and animals are **biotic** factors or derived from living or once-living organisms. The question also calls for an **abiotic** resource that all populations compete for. Sunlight, option **A**, is **abiotic**, but only plants compete for sunlight. Therefore, option **C**, water, is the only **abiotic** resource that all populations compete for in a desert environment.

STRATEGY Making Inferences

Making an inference means drawing conclusions based on information that is implied rather than directly stated. Evidence is provided in the passage, but reasoning is also needed to make an inference. Previous knowledge of the content helps test-takers reason to make correct inferences. Making an inference is a useful strategy for questions that are long and complex.

Determine what the focus of the question is. After identifying the focus, search for clues within the text or question stem. List the details that are relevant to the topic. Compare the clues in the text to make an inference. Compare your inference to the options to help identify the correct answer.

Sample Question

9. Researchers are studying ferns growing in a forest ecosystem. At the beginning of the study, the researchers identify fifteen fern species. Later, a flood occurs, and researchers return to the area to find only two fern species and a damaged ecosystem. Over time, more fern species and organisms populate the area.

What conclusion can the researchers make based on their study?

Ⓐ Primary succession occurred, and biodiversity decreased over time.

Ⓑ Secondary succession occurred, and biodiversity increased over time.

Ⓒ Primary succession occurred, and biodiversity increased over time.

Ⓓ Secondary succession occurred, and biodiversity decreased over time.

The focus of the question is that after a flood occurs, the number of fern species decreases and then over time, increases. We know that secondary succession occurs after an ecosystem is damaged but still contains soil and organisms. Since there are still fern species remaining after the flood, we can infer that secondary succession occurred in this ecosystem. We can also infer that biodiversity increased over time, because the question indicates that fern species increased and organisms repopulated the area. Our inference automatically eliminates options **A** and **C**. Although option **D** identifies secondary succession, it does not match our inference and indicates that biodiversity decreased over time. Option **B** is the correct answer and matches our inference.

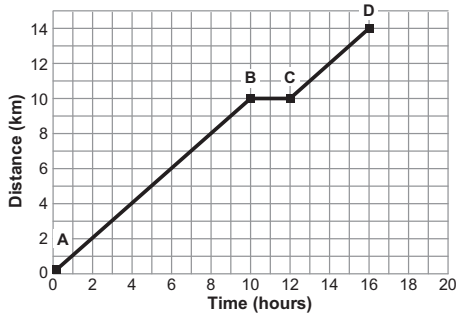
STRATEGY Interpreting Line Graphs

Line graphs provide a visual way to analyze patterns, trends, or relationships in data and make predictions. Identifying titles, scales, *x*- and *y*-axes labels, and units will help the test-taker understand what type of data the graph is presenting. The slope of the graph tells us important information about the relationship between the *x*- and *y*-axes. If the coordinates of the *x*- and *y*-axes are both increasing, the factors have a direct relationship, where an increase in one factor results in an increase in the other factor. If the coordinates of one axis are decreasing as the coordinates of the other axis are increasing, the factors have an indirect relationship. If you interpret a line graph before reading the question, you will be prepared to answer the question.

Look closely at the title of the graph, scale, as well as any additional labels like the *x*- and *y*-axes, and see how they relate to the line graph. Locate the coordinates of points on the graph. Then, think about what trends the graph is showing us. Determine if there is a pattern in the line graph that aligns with the question that is being asked. Once the graph is interpreted, read the question and choose the option that matches your interpretation.

Sample Question

10. The line graph illustrates the motion of an object.



Which of the following **BEST** describes the movement of the object between points **C** and **D**?

Ⓐ The object stopped moving.

Ⓑ The object moved north.

Ⓒ The object accelerated.

Ⓓ The object moved at a constant speed.

The *x*-axis labels the time in hours and the *y*-axis labels the distance in kilometers. The graph shows the distance the object travels and the time it takes to travel that distance. The question asks about points **C** and **D**. We can see that the point **C** coordinate is (12, 10) and the point **D** coordinate is (16, 14). Between points **C** and **D**, the line trends upward in a straight line. So, time and distance are increasing at the same rate (constantly), which means the object is moving at a constant speed. This is indicated in option **D**. The graph does not account for direction, so option **B** cannot be determined. If the object was accelerating, the graph would not show a straight line; the line would be curved. We can eliminate option **C** for this reason. Option **A** indicates that the object stayed in the same place, which would be represented by a horizontal line in the graph, like point **B** to point **C**. Option **D** is therefore the correct answer.

STRATEGY Interpreting Experiments

Interpreting experiments involves collecting as much information as possible about an experiment, such as the goal of the experiment, materials used, and the variables involved. An experiment has an independent variable, a control variable, and a dependent variable. Control variables are not changed in an experiment. The independent variable is changed during the experiment and the dependent variable is measured to see how it responds. Phrases such as "depend on" may identify the dependent variable, and words like "change" or "different" may identify the independent variable in the experiment.

Read the experiment carefully and identify the goal of the experiment and the materials used. Also identify the independent, dependent, and control variables in the experiment. If there are data provided, study the data carefully to determine what is being tested and what the results are. Chances are that the question is related to data from the experiment. Once the experiment is interpreted, read the question and choose the best answer based on your interpretation.

Sample Question

11. Students are investigating how the acceleration of an object depends on the net force applied to it. They push a box with a net force of 15 N and calculate the acceleration of the box as 3 m/s^2. In a second trial, the students push the same box with a different net force of 30 N and calculate the acceleration as 6 m/s^2.

What must the students do next if they want to further increase the acceleration of the same box?

Ⓐ Decrease the net force of the push.

Ⓑ Increase the mass of the box.

Ⓒ Decrease the mass of the box.

Ⓓ Increase the net force of the push.

The purpose of the experiment is to find out how acceleration **depends on** mass and force. Students are using a single box and pushing it across a surface in the experiment. The dependent variable is acceleration, which must be calculated each time the independent variable changes. Since the two trials were conducted with the same box but the applied force is changed, the mass of the box is the control variable, which must be held constant throughout the experiment, and the force of the push is the independent variable. We also see the word **different** connected with "net force", so we know that net force is the independent variable. Options **B** and **C** involve a change in the control variable, which is incorrect. The acceleration of the box is directly proportional to the force applied to it. Option **A** introduces decreasing the force, but if the force is proportional to the acceleration, this would result in a slower acceleration. Option **A** is therefore incorrect. Since the acceleration of the box is directly proportional to the force applied to it, when the force on the box increases, the object's acceleration also increases. Therefore, option **D** is the correct answer.

STRATEGY Using Contextual Clues

Contextual clues are important to consider when taking a test because an answer is only correct if it is correct in the context of the question. Contextual clues can also help the test-taker understand the meanings of new or unfamiliar words by finding hints within a sentence, paragraph, or passage. Sometimes, we can even skip over unfamiliar words if we understand the context of the question. Using contextual clues is an effective strategy to use when all answer options look correct. Once you identify the context and what is expected for an answer, you can eliminate answer choices that *look* correct but clearly do not fit the context of the question. For example, if a question is related to how animals obtain energy and there is an option related to photosynthesis, we know that that option is incorrect. If the context of the question was related to plants, that option would be correct. Understanding the context of the question helps lead us to the correct answer.

Read the question carefully. Use contextual clues to identify the topic and help understand or skip over unfamiliar words. Analyze each answer option keeping the context of the question in mind. Eliminate answer options that do not fit the context of the question.

Sample Question

12. A cook is making bread. The cook first combines flour, water, yeast, and salt to prepare the dough. Then the cook kneads the dough and gives it the shape of a bread loaf. Finally, the cook puts the dough in the oven to bake it. The resulting product is a delicious loaf of baked bread that has bubbles of gas and is drier, lighter, and bigger than the dough put in the oven.

Did a chemical change take place?

Ⓐ No, because the water just evaporates.

Ⓑ Yes, because a gas was produced.

Ⓒ No, because the dough just rises to change its shape.

Ⓓ Yes, because the baked bread weighs less than the dough.

The context of the question is baking bread and the question is about the formation of a new substance resulting from a chemical reaction or chemical change. If we look at the scenario, we may not know certain terms such as "kneads" or "yeast". Since the question calls for a chemical change, we only need to look for contextual clues that point us to a chemical change. The phrases "drier, lighter, and bigger" could indicate a physical or chemical change. But the phrase "bubbles of gas" is a contextual clue that a chemical change *did* occur. This automatically eliminates options **A** and **C**. Option **D** indicates that a chemical change occurred, but the reasoning is that the bread weighs less than the dough. We are searching for an option that matches our "bubbles of gas" contextual clue, and we also know that a change in weight does not mean a chemical change occurred. Option **B** matches our answer and is the correct choice.

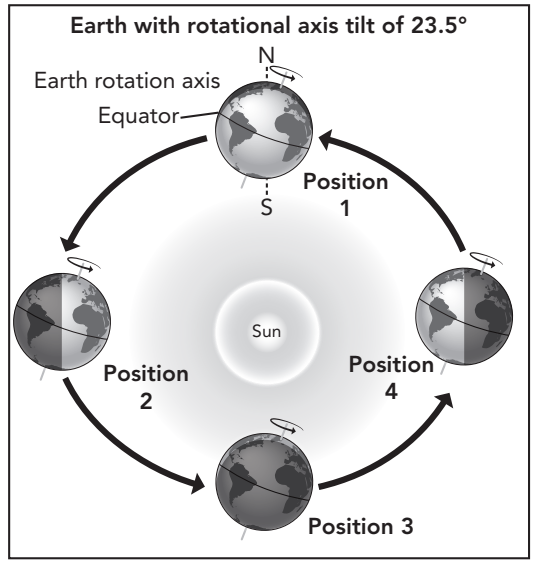
STRATEGY **Anticipating the Answer**

Anticipating the answer means making an educated guess about the answer before looking at the options. When reading the question, it is important to think about what you already know about the topic. What do you anticipate the answer will be? This strategy can help you identify the correct option quickly. Sometimes your educated guess will either match or closely match the correct answer.

Read the question carefully and think about what the answer is most likely to be before looking at the options. What do you know about the topic? How would you answer the question if there were no options? Then, read all the options and pick the answer that closely matches what you anticipated. Be sure to read all the options before selecting the answer.

Sample Question

13. The image shows Earth at four positions as it revolves around the sun.



Which position shows winter in the Northern Hemisphere?

Ⓐ Position 1

Ⓑ Position 2

Ⓒ Position 3

Ⓓ Position 4

If we think about what we already know about Earth's position in relation to the sun, we can recall that it is winter when the Northern Hemisphere is tilted away from the sun and summer when the Northern Hemisphere is tilted toward the sun. Position 4 in the diagram shows the North Pole tilted away from the sun, so we can anticipate this as our answer. This corresponds to option **D**. The remaining options **A**, **B**, and **C** are therefore incorrect.

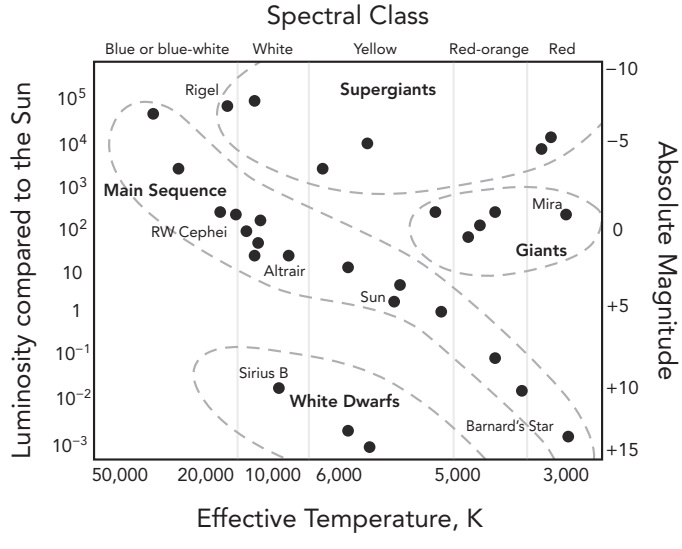
STRATEGY Watching for Qualifiers

A qualifier is a word that either limits or enhances another word's meaning. Watching for qualifiers involves keeping track of words such as *most*, *least*, *always*, and *except* in the question. Qualifiers can change the meaning of the question. Sometimes qualifiers are used if two or more options seem correct but only one of the options is the *best* example of a phenomenon. Watching for qualifiers helps the test-taker choose the answer that is the best choice based on the qualifying word or words in the question. It also helps eliminate options that are not correct based on the qualifying word.

Read the question carefully and identify the qualifier used in the question. Then, analyze each answer option carefully, keeping the qualifier in mind. Eliminate the incorrect options that do not fully match or make sense with the qualifier used in the question.

Sample Question

14. The Hertzsprung-Russell diagram illustrates how the size, color, luminosity, spectral class, and absolute magnitude of stars relate.



Which star is **MOST** like the sun?

Ⓐ A red star with a surface temperature of 3,000 K

Ⓑ A white star with a surface temperature of 10,000 K

Ⓒ A blue star with a surface temperature of 30,000 K

Ⓓ A yellow star with a surface temperature of 6,000 K

The qualifying word in the question is *most*. So we know that the answer needs to be a star that is *most* like the sun. The sun is a yellow star with a temperature of around 5,400 K in the H-R diagram. While options **A**, **B**, and **C** may be considered "similar" to the sun in that they are all stars, they are not the **MOST** similar because option **D** is closest in temperature and color. Therefore, only option **D** is correct.

STRATEGY Sequencing Events

Sequencing events involves arranging events into the correct order. This strategy is useful when the question involves steps, processes, or events that follow a certain order. Recalling the events in order as best as possible can help identify the correct answer quickly, even if you do not recall each event or the exact order. If you only recall part of the sequence, you can eliminate options that do not order the same part correctly.

Read the question carefully and sequence the events before looking at the answer options. Then, read all the options and pick the answer that most closely matches the sequence. Be sure to read all the options before choosing the answer.

Sample Question

15. Which sequence shows the correct order of the different stages in the life cycle of a star that is about the same size as the sun?

Ⓐ Nebula → main-sequence star → giant → black dwarf → white dwarf

Ⓑ Nebula → main-sequence star → supergiant → supernova → black dwarf

Ⓒ Nebula → main-sequence star → giant → white dwarf → black dwarf

Ⓓ Main-sequence star → nebula → supergiant → supernova → black dwarf

Even if you do not recall all the stages in the life cycle of stars the size of the sun, you may recall that the first event in the life cycle of all stars is a nebula. Hence, option **D**, which starts with a main-sequence star, is incorrect. After nebula, we also know that all stars go on to become main-sequence stars, so options **A**, **B**, and **C** may look correct. We can recall that medium-size stars, like the sun, end their life cycles as black dwarfs, so we know that the last stage will be black dwarf. So option **A** is not correct. We also know that black dwarfs evolve from white dwarfs, so we are looking for a sequence of events that ends with white dwarf followed by black dwarf. This makes option **B** incorrect. Option **C** is the only option that has the star start as a nebula and end with a white dwarf becoming a black dwarf, making it the correct answer.

Name _____ Date_____

Florida Science Assessment Practice Grade 6

Read each question and choose the best answer. Then use the answer sheet to fill in the letter for the correct answer.

Use the information to answer questions 1 through 2.

In 2017, an experiment was begun involving two astronauts. Scott Kelley and Mark Kelley are identical twins who both worked at NASA. They both trained to be astronauts at the same time, but in 2017 they separated for an experiment.

The results of this experiment are shown below.

	Scott	**Mark**
Time in space	500 days	0 days
Distance traveled	205 million miles	300 miles
Height before	172 cm	172 cm
Height after	178 cm	172 cm
DNA before	Baseline	Baseline
DNA after	7% mutation rate	Same as baseline

1. For the purposes of this study, why was it important that identical twins be involved?

   A. Identical twins have the exact same age.

   B. Identical twins had the same development and education during their life.

   C. Identical twins have similar physical characteristics for scientists to provide a control.

   D. Identical twins had the same nutrition as children.

Name _____ Date_____

❷ Based on the data collected, which would be the best application of new knowledge provided by the results of this experiment?

F. to help understand why humans are only able to work as astronauts for five years before they retire

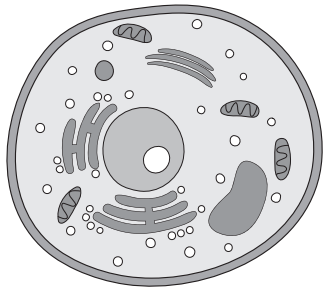
G. to help predict what would happen to astronauts who spent years traveling to, colonizing, and returning from Mars

H. to help explain how traveling at faster speeds through space will affect future astronauts physically and mentally

I. to help challenge existing theories about whether siblings of astronauts are more likely to be better suited to space travel

Use the image below for items 3 and 4.

The image below shows a model of a cell.



❸ Which discovery of a new organism would be **most likely** to change or modify our current understanding of cell theory?

A. an organism that has different types of cells

B. an organism that has cells that can survive outside of its body

C. an organism that has cells that have vacuoles

D. an organism that is not made up of cells

❹ A cell's ability to keep an internal balance in order to remain stable is a natural phenomenon known as homeostasis.

Which of these is one way in which the structure represented by the gray ring around the cell helps maintain homeostasis?

F. It loses layers as the cell increases in size.

G. It regulates the flow of materials into and out of the cell.

H. It prevents any materials from entering or leaving the cell.

I. It gains layers when the cell needs greater protection from the environment.

Name _____ Date_____

5 Engineers are working on a Mars Ascent Vehicle (MAV) for astronauts to launch from Mars's surface. As they test the models, they must use less fuel to get into orbit from Mars than from Earth. Which is the best explanation for this?

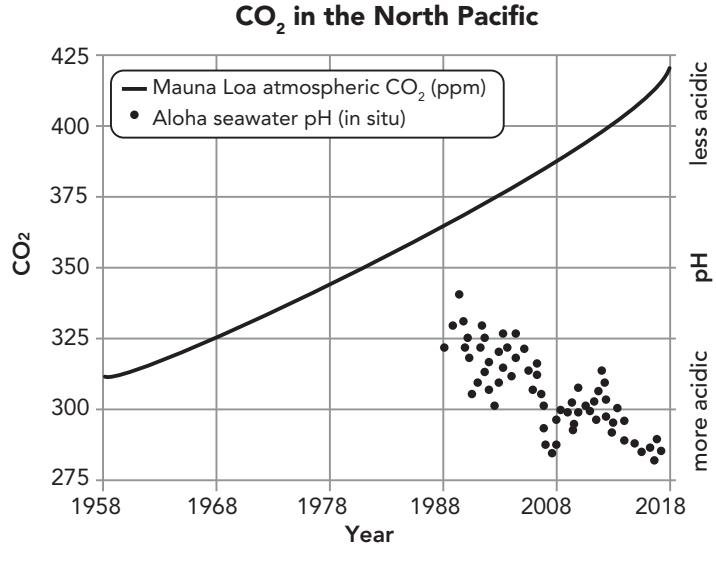
A. Mars is closer to the Sun than Earth.

B. Mars has less gravity than Earth.

C. Mars rotates faster on its axis than Earth.

D. Mars has a smaller diameter than Earth.

A group of scientists is researching the effects of increasing carbon dioxide dissolved in the ocean. They do this by measuring and recording concentrations of different solvents in the ocean several times during the year. They compare these measurements over time.



6 Which statement **best** describes a hypothesis that can be made based on these two graphs?

F. An increase in the CO_2 concentrations of ocean water causes less acidity of ocean water.

G. An increase in the CO_2 concentrations of ocean water causes more acidity of ocean water.

H. Less acidity of the ocean water causes an increase in the CO_2 concentrations of ocean water.

I. More acidity of the ocean water causes a decrease in the CO_2 concentrations of ocean water.

Name _____ Date_____

7 A science class is investigating parasites and fungi. The class is split into two groups of students, and each group is given a set of slides to examine. Some of the slides in each set contain cells that belong to either parasitic or fungal organisms. The students recorded their findings in the table below.

	Group 1	Group 2
Number of students in group	12	11
Time of day slides observed	morning	morning
Number of slides with parasites	15	5
Number of slides with fungi	85	5
Total number of slides observed	100	10

The groups recorded very different results. What change could the students make to their experiment that would **most likely** help them form a better conclusion?

A. The number of students in each group could be changed.

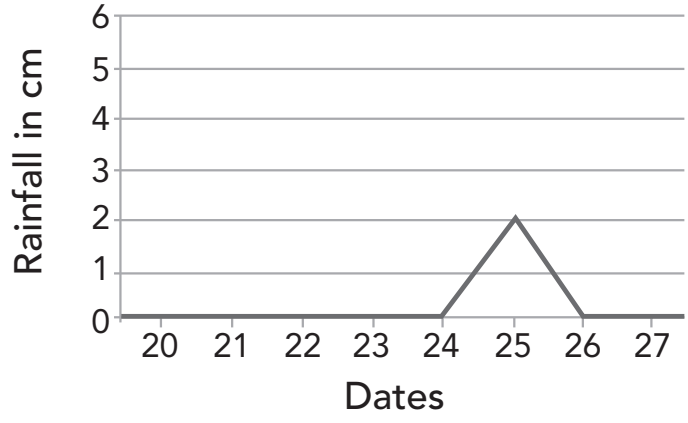
B. The slides could be observed later in the day.

C. Group 1 could reduce the number of slides it observes.

D. Each group could observe the same number of slides.

Name _____ Date_____

8 The Atacama Desert is one of the driest places on Earth. There are some places in the desert that did not record any rainfall for over 20 years.



Based on the graph provided, what **best** describes the data gathered during a week in March of 2015?

F. The weather changed, because it rained on one day.

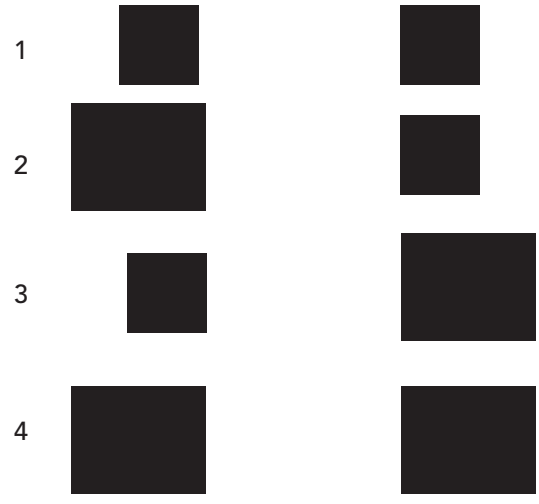
G. The temperature changed, because it caused precipitation.

H. The climate changed, because it differs from past decades.

I. The humidity changed, because it caused water to condense.

Name _____ Date_____

9 Examine the four sets of objects shown in the diagram. Each of the objects is made of the same material. The mass of the large objects is twice the mass of the small objects.



Which set of objects has the **greatest** gravitational force between them?

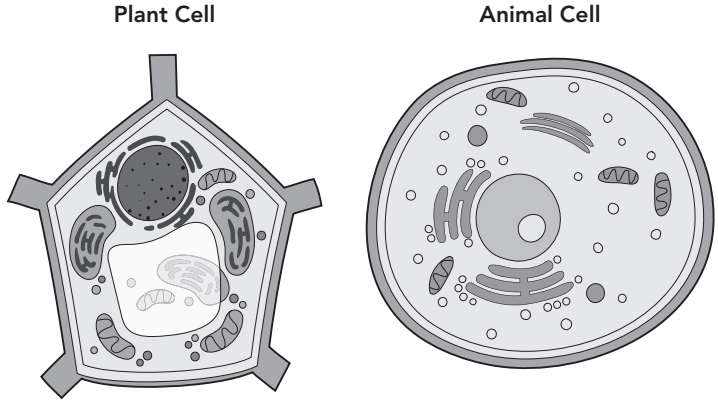
A. 1

B. 2

C. 3

D. 4

10 The image below shows a model of a plant cell and an animal cell.



Which statement does **not** accurately compare the structures of the cells shown in the images?

F. Plant cells have chloroplasts, but animal cells do not.

G. Animal cells have a cell membrane, but plant cells do not.

H. Plant cells have cell walls, but animal cells do not.

I. Animal cells and plant cells both have mitochondria.

Name _____ Date_____

11 Two tables are created to record data related to frogs and trees.

Table A

Distance from Factory Releasing Waste (Meters)	Density of Plant Cover (Number Stems/Square Meter)	Number of Frogs Collected
100	10	0
200	35	2
300	122	9
400	181	15

Table B

Tree Species Identified	Number of Trees Observed
Longleaf pine	5
Cypress	2
Live oak	7
Pecan	16
Florida maple	1

Which table(s) shows the results of an experiment rather than a simple investigation?

A. Table A

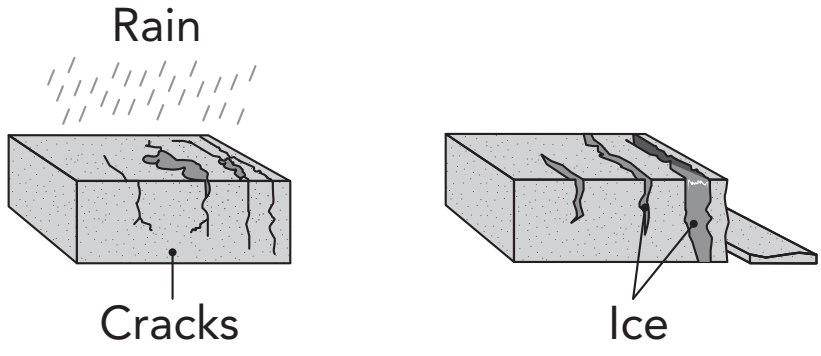
B. Table B

C. Tables A and B

D. neither table

Name _____ Date_____

12 Frost wedging occurs when water seeps into the cracks in a rock and then freezes. The water expands when it freezes. This causes the cracks in the rock to get bigger or even break the rock.



Based on the image, what **best** describes frost wedging?

F. erosion, because it causes the rocks to lose their shape

G. physical weathering, because it is a physical change in the rocks

H. chemical weathering, because ice forms in the rock by a chemical reaction

I. deposition, because the water is deposited inside the rock

13 Students gather data about the mass of three objects. They place these three objects an equal distance from a fourth object, Object D.

Object	Mass (g)
A	350
B	160
C	125

What can the students infer about the gravitational forces between these objects and Object D?

A. They will all be equal, because all of these objects are on Earth's surface.

B. Object A will exert the most gravitational force on Object D.

C. No inferences can be made without knowing the volume of these objects.

D. Object B will exert the least gravitational force on Object D.

Name _____ Date_____

14 Force applied by air resistance on flying objects is called drag. It is applied against the direction of the object's motion. Drag is sometimes useful to flying objects. In which situation would drag be a useful force?

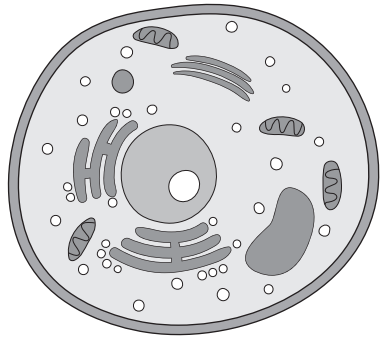
F. when walking in a high wind

G. when using a parachute

H. when using an umbrella

I. when walking with a balloon

15 Sponges live their lives attached to the sea floor or to rocks that are under water. They have no organs, so they feed by allowing nutrient-rich water to flow through them.



Based on the diagram of a cell that could be found in a sponge, which of the following **best** explains whether sponges are animals or plants?

A. Their cells do not have chloroplasts, so they must be animals.

B. Their cells do have cell walls, so they must be plants.

C. Their cells do not have mitochondria, so they must be plants.

D. Their cells do have vacuoles, so they must be animals.

Name _____ Date_____

16 A student says that the image below shows chemical weathering.

What is the **most accurate** response to her claim?

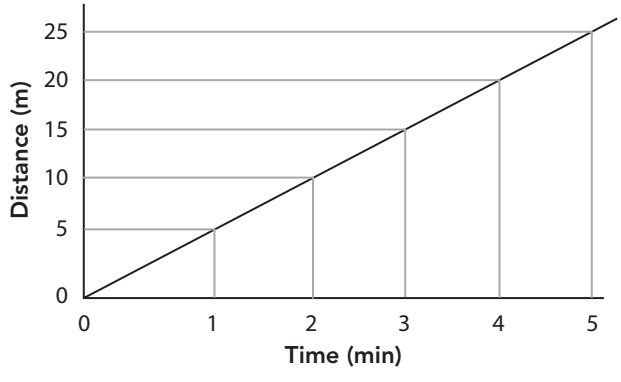
F. no, because the change in the surface of the stone is caused by erosion

G. yes, because acid rain caused a chemical reaction on the stone's surface

H. no, because a physical change has occurred to the surface of the stone

I. yes, because fragments of the stone's surface have deposited elsewhere

17 Students make a graph to show the motion of an object.



How does the speed of the object during the first second compare to the speed of the object in the last second of movement?

A. The speed in the first second and in the last second were the same.

B. The speed in the first second was greater than the speed in the last second.

C. The speed in the last second was greater than the speed in the first second.

D. There is not enough information to compare the speed during these times.

Name _____ Date_____

18 The chart below compares features of different organisms.

	Size (mm)	Type of Cells	Cell Wall Present	Mitochondria Present
Angustopila dominikae	0.86	eukaryote	no	yes
Epulopiscium fishelsoni	0.50	prokaryote	yes	no
Thiomargarita namibiensis	0.30	prokaryote	yes	no
Wolffia globosa	0.65	eukaryote	yes	yes

Based on the chart provided, which of the organisms is a snail?

F. *Angustopila dominikae*, because it is a eukaryote without a cell wall

G. *Epulopiscium fishelsoni*, because it is a prokaryote with a cell wall

H. *Thiomargarita namibiensis*, because it is a prokaryote and the smallest

I. *Wolffia globosa*, because it is a eukaryote with mitochondria

19 Scientists take water samples at certain locations along the shore of a Florida lake. Parts of the lake are heavily used and other parts are not. The scientists determined the density of homes (number of homes per kilometer of shoreline) at four different sampling locations and recorded those values in the table.

Water Sample Location	Number of Homes/Kilometer of Shoreline
A	2
B	12
C	6
D	25

The scientists then determined the percentage of cells containing chloroplasts that were found in their water samples from each location. Which hypothesis **best** supports what the scientists are testing?

A. The amount of pollution in the lake determines where people build their homes.

B. Water samples are harder to obtain in crowded areas of the lake than in less crowded areas.

C. The abundance of microscopic plants in the lake is affected by how heavily the lake is used.

D. Microscopic animals are more likely to be present in water with abundant microscopic plants.

Name _____ Date_____

20 Students in a science class worked together to assemble three identical terrariums. They placed the terrariums under three identical lamps. Each terrarium contained soil and a single plant. The students recorded their methods in the table below.

Terrarium Number	Amount of Light Received (Hours/Day)	Amount of Water Given on Day 1 (Milliliters)	Numbers of Days Observed
1	10	60	14
2	10	120	14
3	10	180	14

Why are the three terrariums **identical** in this investigation?

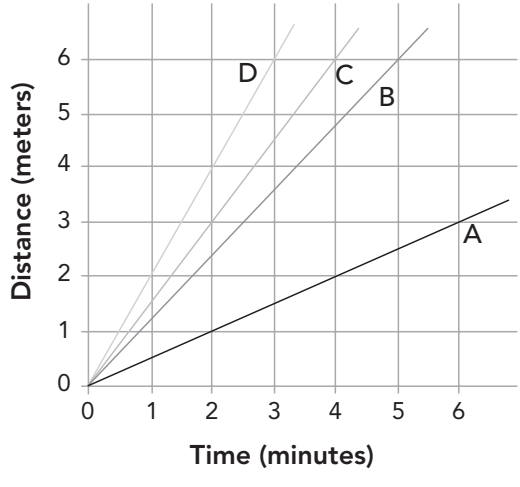
F. The students want to make sure the outcome will be the same in each terrarium.

G. The students want to be able to assemble the terrariums more quickly.

H. The students want to recognize the law of conservation of mass by measuring each terrarium.

I. The students want to be able to link differences in results to the one factor that varied.

21 Students make a graph showing the motion of four objects.



Which of the following is a conclusion supported by the data in this graph?

A. These objects have the same average speed.

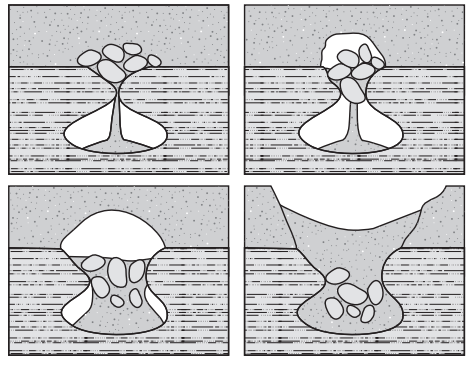
B. None of these objects moved at a constant speed.

C. Object A had the greatest average speed.

D. Object C's speed was greater than Object B's speed.

Name _____ Date_____

22 Sinkholes can cause major problems in Florida housing developments. Because the bedrock of Florida is mostly composed of limestone, large caverns can form due to chemical weathering of the bedrock. If the underground caverns grow close to the surface of Earth, buildings above them collapse into the newly formed spaces.



Which event is **most likely** to precede the formation of a new sinkhole?

F. heat lightning

G. a water spout

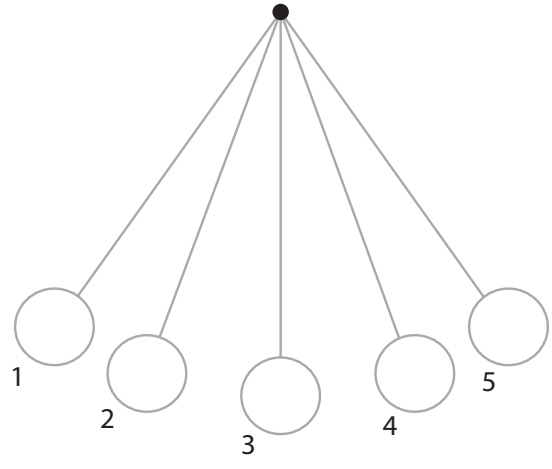
H. an unexpected frost

I. heavy rainfall

Name _____ Date_____

Use the information to answer questions 23 through 24.

Pierre's science class is studying pendulums as an example of cyclic motion. All the teams in the class have identical weights that hang from strings of the same length. The teams have measured the time for one back-and-forth cycle and found that the time is the same whether the pendulum swings through a small arc or a large one. The teacher points out that the constant cycle time of pendulums is why they have been used in clocks for hundreds of years.



23 When you pull a pendulum weight back and let it swing, _____ is the force that pulls it downward.

A. magnetism

B. electricity

C. gravity

D. pulling

24 Which statement **best** summarizes the amount of energy in the pendulum at position 3?

F. all kinetic energy

G. one-half potential energy and one-half kinetic energy

H. all potential energy

I. no kinetic energy and no potential energy

Name _____ Date_____

25 Why does the pendulum move from position 1 toward position 3 when released?

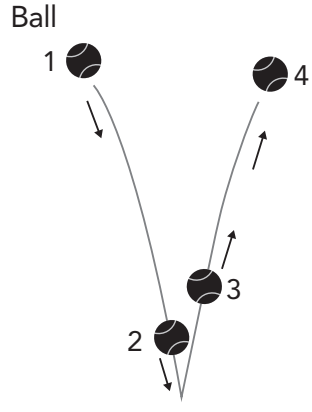
A. Earth has more mass than the pendulum, so the gravitational force between the two pulls the pendulum down toward Earth.

B. The students push the pendulum as they release it, so the force of their hands on the weight causes it to move downward.

C. The string pulls upward and to the right on the weight, causing it to move in the direction of the net force.

D. The magnetic field of the Earth exerts force on the pendulum, causing it to move downward from the fulcrum.

26 Students made a model of the motion of a tennis ball.



What can students conclude about the ball when it is at Position 2?

F. It has more kinetic energy than at any other labeled position.

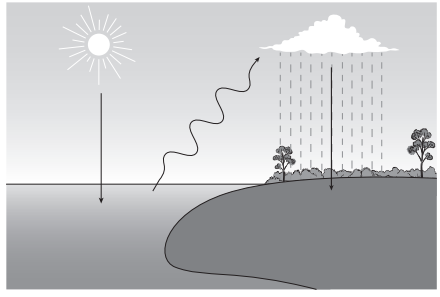
G. It has the slowest speed of any point on the diagram.

H. It contains only potential energy.

I. It has more potential energy than it does at Position 4.

Name _____ Date_____

27 Julie is interested in how energy from the Sun affects Earth's atmosphere. She creates the following model:



Which of the following explains the model Julie made?

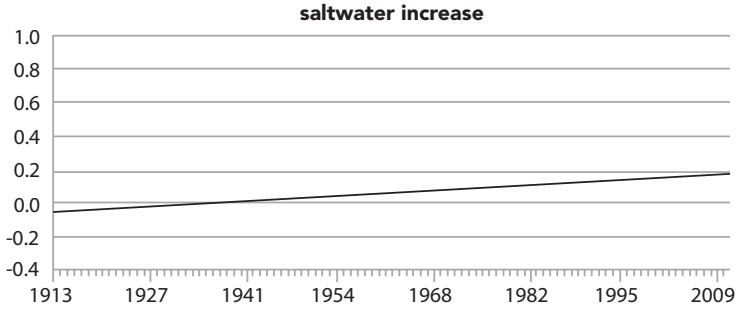
A. Light energy from the Sun bounces off the water and causes rain clouds to disperse.

B. Heat energy from the Sun causes water to heat up and evaporate. Some of the evaporated water will later form rain clouds.

C. Gravitational energy from the Sun pulls the water toward it and creates winds above the waters.

D. Mechanical energy from the Sun pushes down on the water, which cools the oceans and their islands down.

28 Many park rangers in Everglades National Park are worried about the increasing salt levels of the extensive wetlands.



Which is **most likely** the effect of increased salt levels on the environment of the Everglades National Park?

F. The hydrosphere would cause damage to the freshwater organisms of the biosphere.

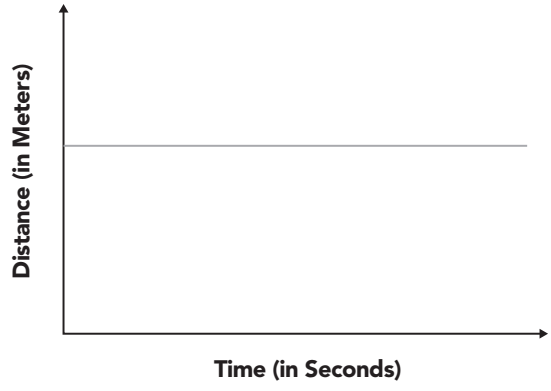
G. The geosphere would become more chemically weathered from the salt.

H. The atmosphere of the Everglades would have more salt in the air due to evaporation.

I. The cryosphere would have a hard time forming because of the salt in the hydrosphere.

Name _____ Date_____

29 Students graph the motion of an object.



A student claims that the line on the graph shows an object moving in one direction at a constant speed. Is this student's claim correct?

A. No, the distance traveled does not change, so the object is not moving.

B. Yes, on a distance-time graph a line with no slope shows constant speed.

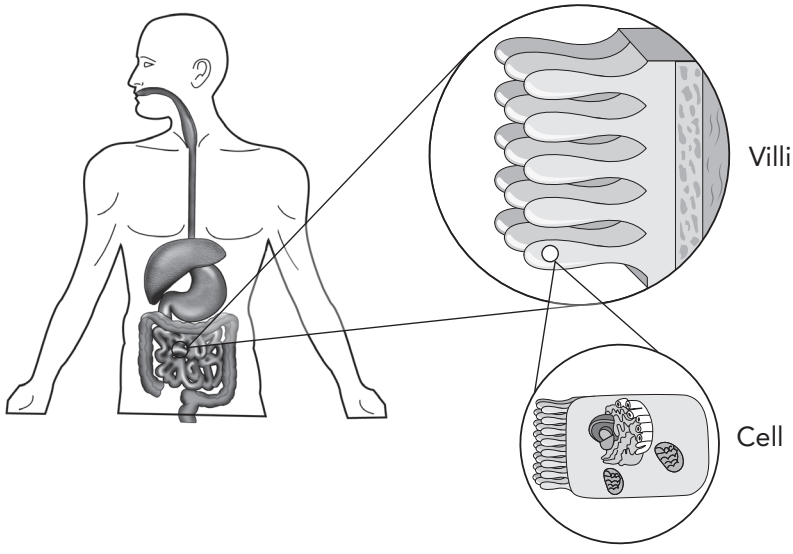
C. No, the flat line indicates that the object is changing direction.

D. Yes, a flat line indicates forward motion in one direction.

Name _____ Date_____

Use the information to answer questions 30 and 31.

The human digestive system is made up of a series of connected organs that process the food taken in through the mouth. The organs chemically and mechanically break down the food as it moves through the digestive tract. At the end of the digestive system, waste products from digestion are combined with waste products from the cells of the body and excreted from the body.



30 Based on the diagram, what is the best definition of a biological system in the body?

F. a collection of specialized cells that perform a single function

G. a group of tissues with similar functions

H. a group of organs that work together to perform one or more functions

I. a group of similar cells that make up part of an organ

31 Based on the diagram, which statement best demonstrates the interaction of the digestive tract with another system in the body?

A. The respiratory system provides oxygen for the burning of food in the small intestines.

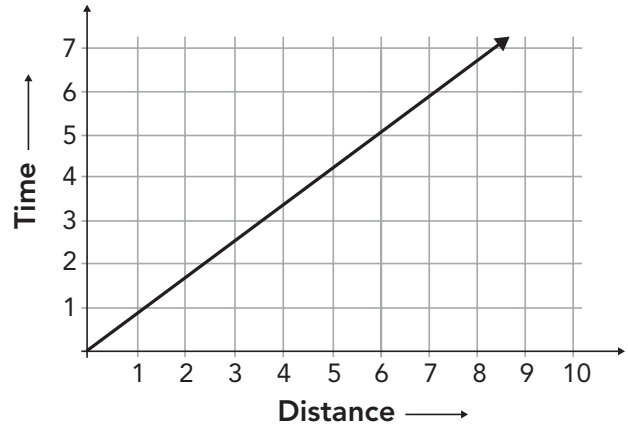
B. The circulatory system takes nutrients absorbed by the villi in the small intestine to the cells in the body for nourishment and energy.

C. The nervous system controls the rate at which food is consumed by the digestive system.

D. The musculoskeletal system provides the means of removing waste products from the digestive system.

Name _____ Date_____

32 Students analyze a graph showing a toy car's motion as it travels on a straight track.



A student claims that this object is being acted on by unbalanced forces. For the time period shown in the graph, is this claim correct?

F. No, this toy car is not changing speed or direction, so the forces on it are balanced.

G. Yes, all objects in motion are being acted on by unbalanced forces.

H. No, the car's constant speed means that no forces are acting on it.

I. Yes, unbalanced forces result in movement at a constant speed.

Name _____ Date_____

33 A scientist puts together the following chart with data on different types of cells.

The scientist compares the mass of each type of cell in a human having a mass of 45 kg (100 lbs).

Type of Cell	Mass (% of 45 kg total)	% of Total # of Cells (out of a total cell count of 30 trillion)
Erythrocytes (Red Blood Cells)	2.5 kg (5.5% of total mass)	84% (25.2 trillion cells)
Platelets	0.5 kg (1% of total mass)	4.9% (1.5 trillion cells)
Adipocytes (Fat Cells)	13 kg (28% of total mass)	0.2% (60 billion cells)
Muscle Cells	20 kg (43.5% of total mass)	0.001% (300 million cells)
Other (Remaining Cells)	10 kg (22% of total mass)	10.9% (3.2 trillion cells)

Based on the data in the table, which of the following questions is the scientist **most** likely studying?

A. How much of each type of cells makes up the average human body?

B. Does the amount of bone marrow cells affect the amount of erythrocytes?

C. Will decreasing the number of adipocytes lead to increased muscle cells?

D. Do people with increased muscle cells have lower body mass?

Name _____ Date_____

34 Every day after school, Zola watches her bird feeder. She keeps track of the birds she sees and the foods they eat in a chart like this one:

	Peanuts	Sunflower Seeds	Raisins
Blue Jays			
Finches			
Robins			

Could Zola's study be considered scientific evidence?

F. no, because advancements in science are based on the information learned through scientific experimentation

G. yes, because scientific explanations are based on collected observations of natural occurrences

H. no, because scientific achievements are based on years of research in a laboratory

I. yes, because scientific knowledge only comes from witnessing a single, isolated event that occurred in nature

Name _____ Date_____

35 Students investigate light energy and how it interacts with matter. They place two beakers of water on a very sunny windowsill. They wrap one beaker in black paper and label it A. They wrap the other beaker in white paper and label it B. They place a thermometer in each beaker. They gather data for one hour and record it in the data table.

Beaker	Temperature (˚C)			
	Start	20 min	40 min	60 min
A	19	22	25	28
B	19	20	22	23

What conclusion would be supported by the students' data?

A. A black sun shade would keep a car interior cooler than a white sun shade.

B. A white t-shirt would be cooler than a black t-shirt on a hot day.

C. A mug made of black plastic would keep water hotter than a mug made of white plastic.

D. White roof tiles would keep a house warmer than black roof tiles.

36 Gregor thinks that anthills are wider when the ground is muddy. He creates the following table:

	Ant Hill 1	Ant Hill 2	Ant Hill 3	Ant Hill 4
Width of Anthill (cm)	4	2	3	4
Muddiness of Ground	very muddy	dry	dry	muddy

Is Gregor's investigation a scientific experiment?

F. His investigation is scientific but it is not an experiment because he does not manipulate variables.

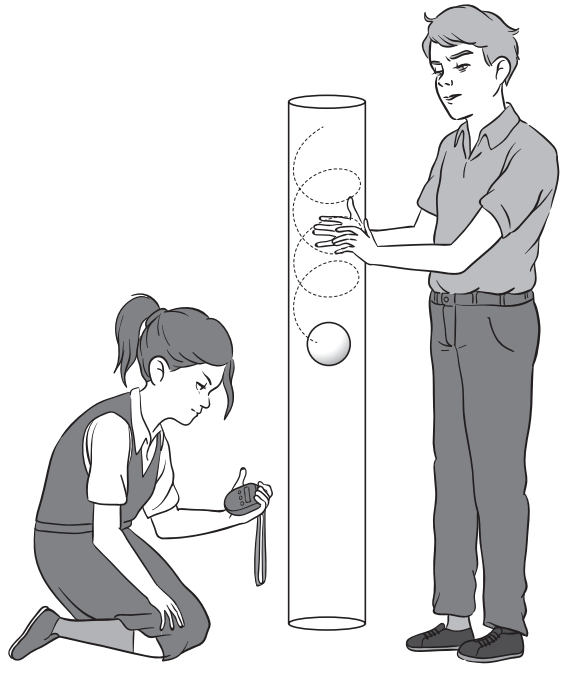
G. His investigation is scientific and it is an experiment because he is taking measurements to confirm a hypothesis.

H. His investigation is not scientific but it is an experiment because he is comparing evidence of multiple observations.

I. His investigation is not scientific and it is not an experiment because he is just making observations.

Name _____ Date_____

37 Science students are comparing the movement of balls as they are dropped into a transparent tube. There are eight balls in the experiment. Four have a diameter of 10 cm, and the other four have a diameter of 20 cm. The balls are made of four different materials. Each ball is dropped from the same height into the same tube. The tube shields each ball from outside effects on its speed. The students then measure and record the amount of time each ball takes to hit the floor.



Which variables or properties in the experiment are being tested to determine their effect on the outcome?

A. height of the tube and speed of the balls

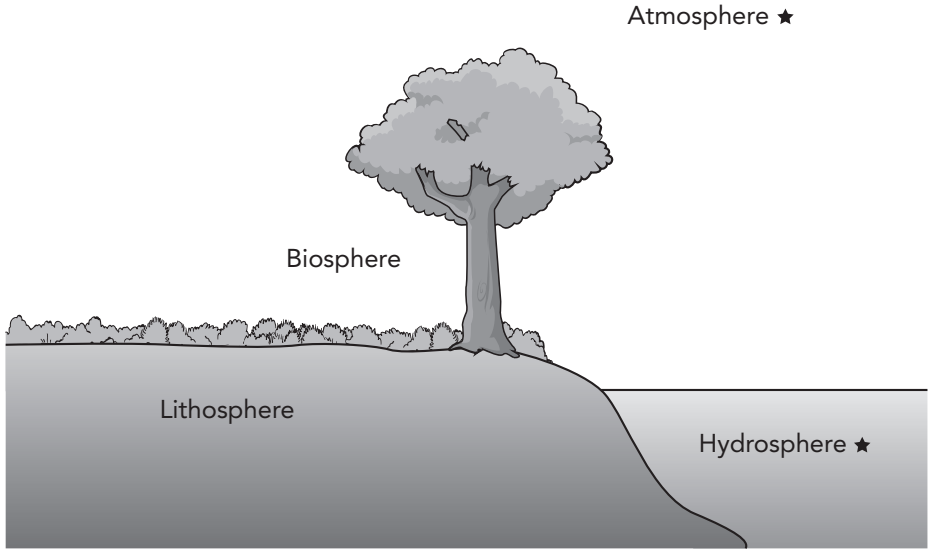
B. rate at which each ball is dropped and material making up the tube

C. handling of the timer and height of the student dropping the balls

D. material and diameter of the balls

Name _____ Date_____

38 Shane wants to explain how Earth's spheres interact to his little sister. He draws the following diagram for her.



How does the interaction of the two spheres Shane indicated on his diagram affect weather patterns on Earth?

F. Some water in the hydrosphere evaporates into the atmosphere, where it can later form rain clouds.

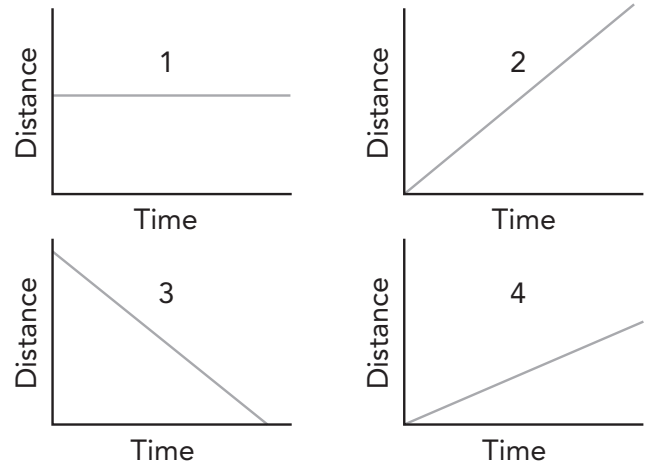
G. Earthquakes in the lithosphere are damaging to the biosphere.

H. Water is used up by plants in the biosphere, causing heating of the lithosphere.

I. Some water in the atmosphere causes tornadoes that transport water to the hydrosphere.

Name _____ Date_____

39 The four graphs below show the motion of four different objects on a straight path during a 20-second time period. All of the graphs use the same scale for distance.



The students have been asked to summarize the motion of the four objects in a single sentence.

Student	Summary
Felicia	The objects all move at the same speed, but not the same direction.
Jose	All of the objects are moving, but at different speeds.
Marc	Two of the objects are moving forward and two are moving backwards.
Emma	Some of the objects are moving, and their speed and direction vary.

Which student has most accurately summarized this data in the graphs?

A. Felicia

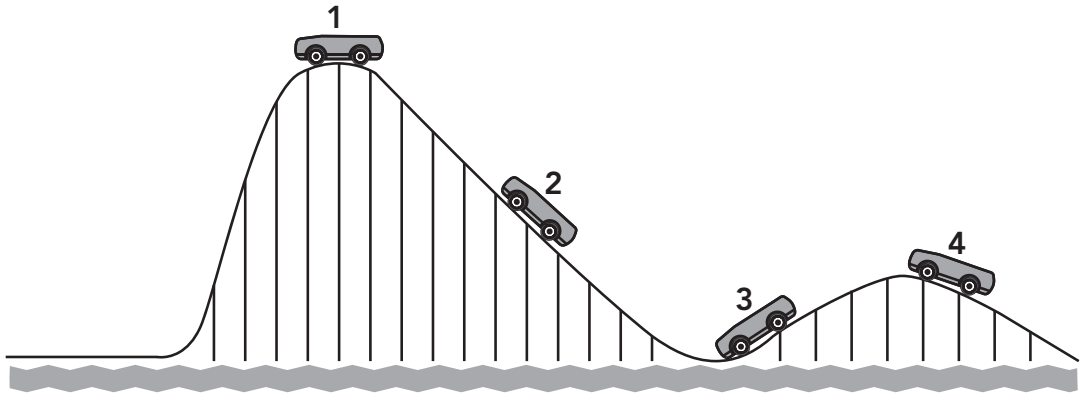
B. Jose

C. Marc

D. Emma

Name _____ Date_____

40 The diagram below shows the motion of a car that is part of an amusement park ride. The same car is shown at four different points during the ride.



When is kinetic energy being converted to potential energy?

F. from Point 1 to Point 2 only

G. from Point 1 to Point 2 and Point 2 to Point 3

H. from Point 2 to Point 3 only

I. from Point 3 to Point 4 only

41 A child rides a sled down a snow-covered hill.

What happens to the kinetic energy of the child and sled as they travel down the hill and eventually slow down?

A. It is transformed into thermal energy and sound energy due to friction with the ground and air.

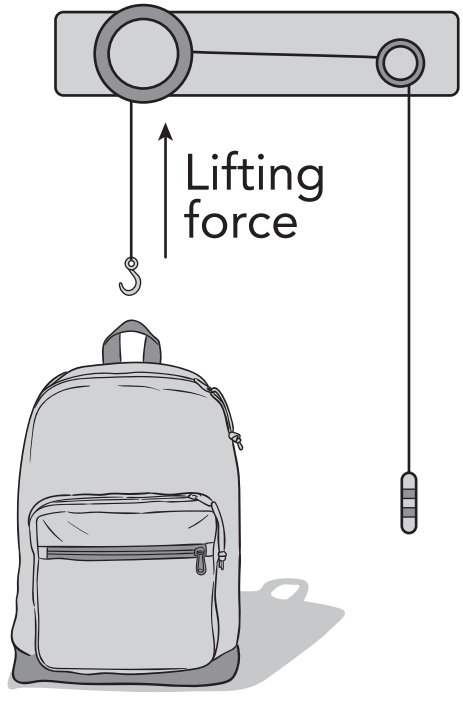
B. It is converted back to potential energy.

C. It is lost to the environment as a whooshing sound.

D. It increases and remains as kinetic energy until the sled and rider encounter a force in the opposite direction.

Name _____ Date_____

42 In Gerry's classroom, backpacks are stored on the floor. Gerry has noticed that bending and lifting heavy backpacks is difficult for some students. He decides to design a device that will lift heavy backpacks from the floor and allow students to put the backpacks on their backs without bending or lifting. He has made a sketch of his device.



How could Gerry be sure his device can exert enough force to lift the students' backpacks?

F. He should make sure the device exerts enough force to overcome friction between the backpack and the floor.

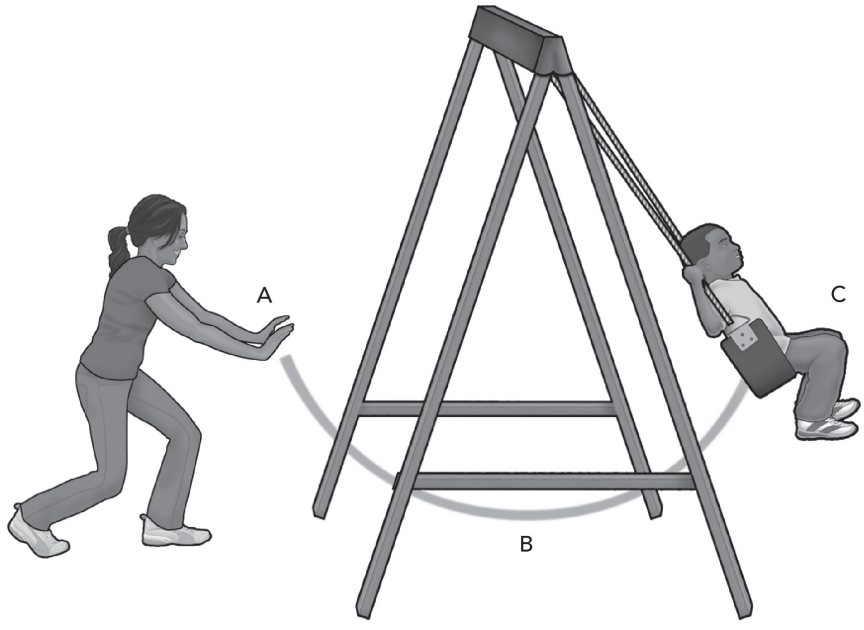
G. He should be sure the lifting force that the device can exert is greater than the weight of the heaviest backpack.

H. He should make sure that there is no net force when the device is acting on the backpacks.

I. He should make sure the device converts kinetic energy to potential energy in the backpacks.

Name _____ Date_____

43 Maria pushes her brother Gabe on a swing. The push occurs at Point A. Keep in mind that energy is transferred and transformed in this system, which is why Maria must keep pushing Gabe if he's going to keep swinging.



After Maria's first push at Point A, Gabe's potential energy is greater at Point C than when he swings back to Point A because

A. some of the kinetic energy Gabe has between Point C and Point A is lost as heat and sound due to friction.

B. Maria provided energy in the form of a push at Point A, but that energy is lost at the opposite end of the swing (Point C).

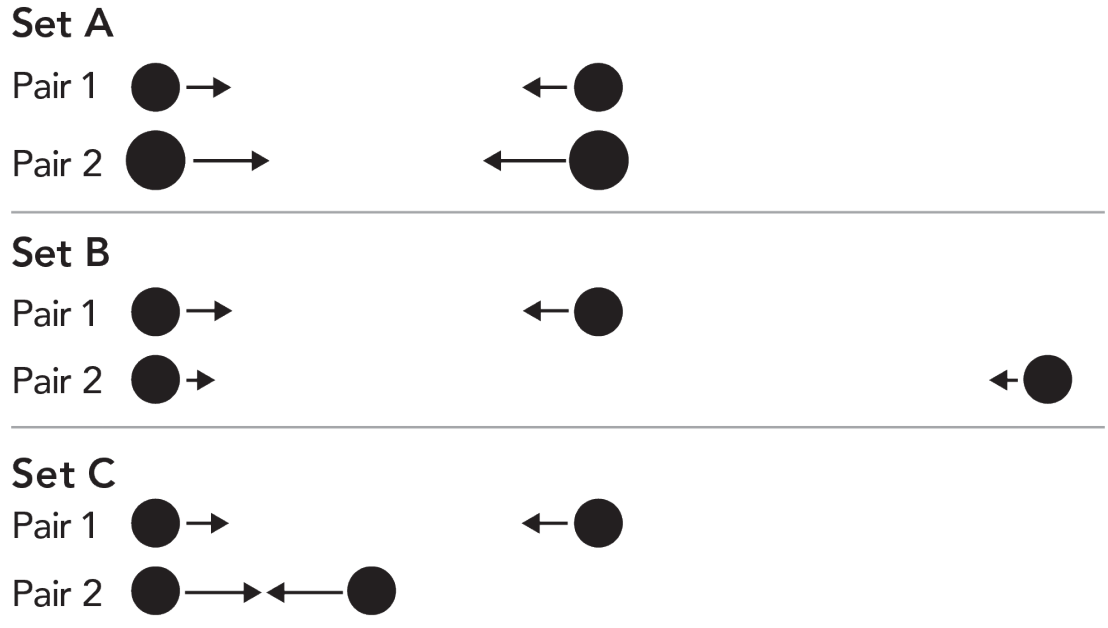
C. gravity is stronger as it pulls Gabe through Point B the first time than it is when it pulls him through the same point on the way back toward Maria.

D. Gabe's momentum at Point C produces a pull force against the swing that takes away from his potential energy after that point.

Name _____ Date_____

Use the information to answer questions 44 through 45.

A careful experiment was carried out to measure the gravitational attraction between metal spheres. The results of the experiment are shown in the picture. For each pair of spheres, the distance between their centers indicates the actual distance between them in the experiment, and the size of each sphere indicates its mass. The length of the arrow on each sphere shows the strength of the force exerted on it by the other sphere.



44 If you needed to measure only the effect of distance on gravitational force and you were designing an experiment to do this, which set(s) of measurements would NOT be necessary to get the results you need?

F. Set A

G. Set B

H. Set C

I. Sets B and C

45 Based on the picture, which statement provides the **best** evidence that gravitational forces are attractive?

A. The arrow on each sphere points toward the other sphere in that pair.

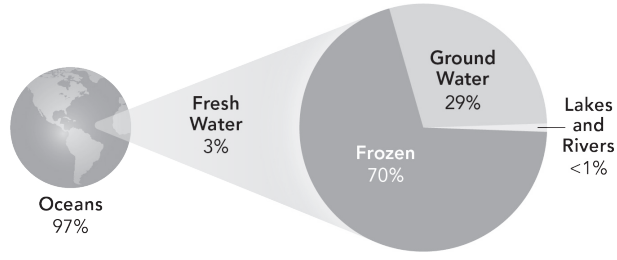
B. In each pair of spheres, one arrow points left and the other points right.

C. The force on each sphere cancels out the force on the other sphere in that pair.

D. In each pair of spheres, the forces have the same strength.

Name _____ Date_____

46 The diagram below summarizes how the hydrosphere is allocated across Earth's surface.



The cycling of water from bodies of liquid water and solid ice through the atmosphere, geosphere, and biosphere is driven mainly by energy from

F. Earth's core.

G. the Sun.

H. wind and tides.

I. human activities that emit greenhouse gases.

47 Almost 2% of Earth's water is located in the polar ice caps. The polar ice caps are the home to many animals, including seals, polar bears, and penguins. Seals warm themselves by lying on the ice in the sunlight. Penguins and polar bears raise their young on the ice and walk on it while hunting for food.

How could these changes in the cryosphere directly affect the biosphere of that region?

A. Loss of ice means fewer hunting grounds for wildlife.

B. Rising sea level will mean more places for animals to swim.

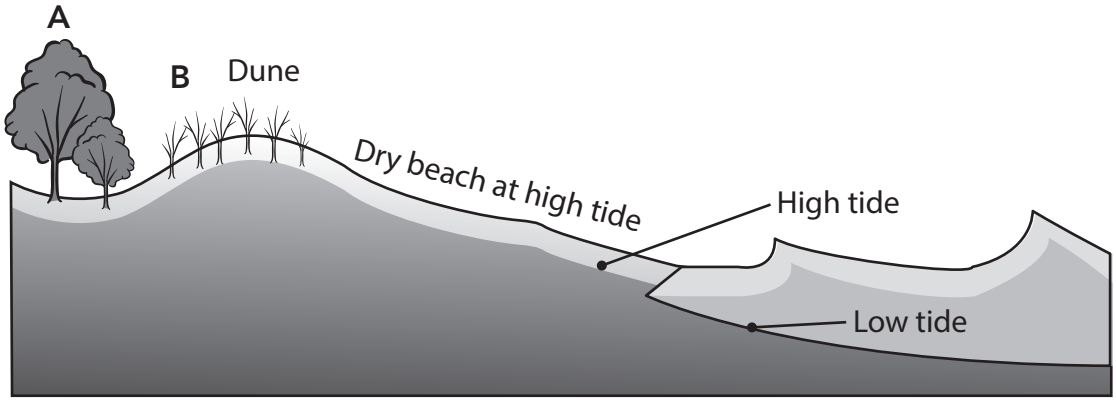
C. More ice means more places for the plants to grow.

D. Lower sea levels will mean more land will be available.

Name _____ Date_____

Use the information to answer questions 48 through 49.

Sandpipers are small birds that frequently nest near the ocean. These birds are part of a group of birds known as "waders" because they walk in the water, where they find most of their food.



48 The beach where the sandpipers live has recently become popular for people to visit in order to swim and picnic. The people walk across the dunes at three points to get to the beach, trampling down some of the dune grasses as they do so. Which statement below **best** describes the likely outcome of the paths worn in the dune?

F. The sand of the path becomes sedimentary rock because people compact the sand as they walk.

G. The dune becomes eroded at the footpaths because of the dune grasses being removed from the footpaths.

H. The dune becomes taller because the ocean deposits more sand in the wider space between the dune grasses.

I. The sand of the path turns into igneous rock because the heat from the Sun melts the particles into a solid mass.

49 How would a change in the hydrosphere **most likely** affect the biosphere where the sandpipers live?

A. Excess rains would wash away the dunes and the plants that live there.

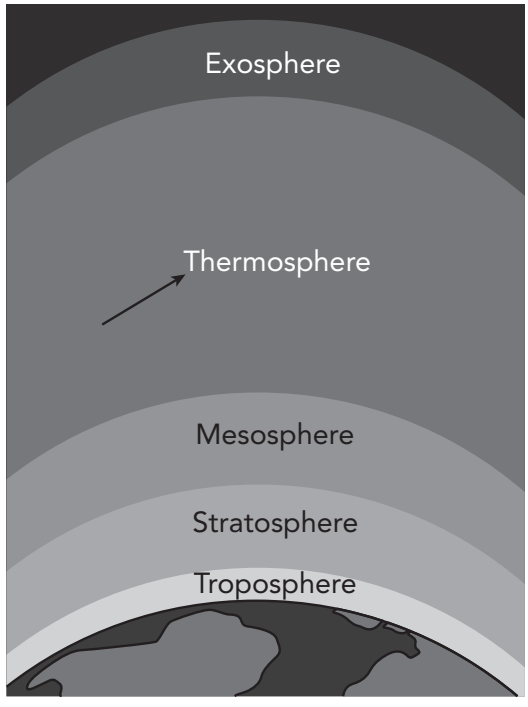
B. Higher temperatures would dry out the plants, causing the sands to shift.

C. Cooler winds would blow away the sands, leaving the plant roots exposed.

D. Rising sea levels would submerge the plants, poisoning them with salt.

Name _____ Date_____

50 Devereaux is interested in becoming a meteorologist, and therefore makes this model of the atmosphere.



How does the layer of the atmosphere indicated in the diagram help protect life on Earth?

F. It helps maintain the moderate temperature Earth's species require.

G. It produces the rain that the species on Earth need to live.

H. It is the boundary between Earth's atmosphere and space.

I. It forms ozone that prevents the Sun's harmful rays from reaching Earth.

51 Jonna is making a graph of a train's motion, with "Time" on the *x*-axis and "Distance traveled" on the *y*-axis. How would she represent the train moving at a constant speed on this graph?

A. By drawing a diagonal line that slopes upward from left to right

B. By drawing a shape like an upside-down letter "U"

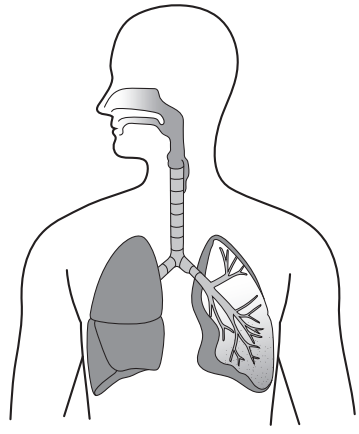
C. By drawing a vertical line through a portion of the graph

D. By drawing a horizontal line through a portion of the graph

Name _____ Date_____

Use the information to answer questions 52 through 53.

The human body is comprised of many different systems. While each system has its own special functions, many work together to maintain homeostasis in the body.



52 Which of these best describes how the human body system shown works with another human body system to maintain homeostasis?

F. Pathogens can enter this system or the digestive system from the external environment.

G. It supports the circulatory system in detecting and combating infectious agents.

H. It works alongside the circulatory system to maintain healthy levels of gases in the blood.

I. It provides the energy the digestive system needs to provide a steady supply of energy to the body.

53 How does the body system seen in the illustration work to maintain homeostasis in the body?

A. It transports oxygen to the cells so they can make energy.

B. It brings in oxygen and removes carbon dioxide from the body.

C. It helps transmit danger signals that keep the body from harm.

D. It breaks down food to release the nutrients the body needs for growth.

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