

**2014**

# **ISAT**

## **Science Sample Book**



**Illinois  
Standards  
Achievement  
Test**

**GRADE**

**4**

**Sample Items for Science**

**ILLINOIS STATE BOARD OF EDUCATION**

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## Introduction

This sample book contains sample ISAT science items classified with an assessment objective from the *Illinois Assessment Frameworks*. These 2014 samples are meant to give educators and students a general sense of how items are formatted for ISAT. All 2014 ISAT test booklets will be printed in color. This sample book does not cover the entire content of what may be assessed. Please refer to the *Illinois Assessment Frameworks* for complete descriptions of the content to be assessed at each grade level and subject area. The *Illinois Assessment Frameworks* are available online at [www.isbe.net/assessment/IAFindex.htm](http://www.isbe.net/assessment/IAFindex.htm). The Student Assessment Web site contains additional information about state testing ([www.isbe.net/assessment](http://www.isbe.net/assessment)).

# **Illinois Standards Achievement Test**

## **Science Samples**

## Structure of the Grade 4 Science ISAT

ISAT science testing in spring 2014 will consist of 82 criterion-referenced items written by Illinois educators.

### Item Format

All 82 items will be in multiple-choice format. All items are aligned to the *Illinois Science Assessment Framework*, which defines the elements of the Illinois Learning Standards that are suitable for state testing.

### Science Sessions

All standard time administration test sessions are a minimum of 45 minutes in length. Any student who is still actively engaged in testing when the 45 minutes have elapsed will be allowed up to an additional 10 minutes to complete that test session. More details about how to administer this extra time will appear in the *ISAT Test Administration Manual*. This policy does not affect students who already receive extended time as determined by their IEP.

Science ISAT Grade 4	
<b>Session 1 45 minutes</b>	41 multiple-choice items
<b>Session 2 45 minutes</b>	41 multiple-choice items (Some items will be pilot items.)

### Cumulative Knowledge

ISAT tests students on the knowledge and skills that they should have acquired by grade 4 and grade 7. Proper curriculum alignment can establish which assessment objectives are covered at each grade level so that by the spring of any given year, all objectives have been presented. It is not the sole responsibility of a 4th grade teacher or a 7th grade teacher to teach all of the assessment objectives contained within the framework.

The grade 4 ISAT will assess the grade 4 assessment objectives. The grade 7 ISAT will assess the grade 7 assessment objectives but may also include the assessment objectives from grade 4. The sample items within this booklet provide the reader with an opportunity to see the ISAT format and how the items align to the assessment framework.

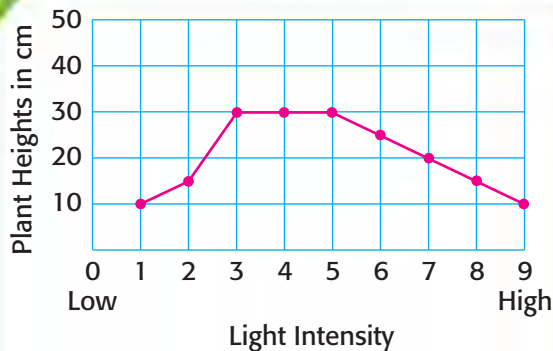


1

Scientific discoveries have led to many inventions. Which best describes the discoveries?

- A** Scientific discoveries improve society.
- B** Scientific discoveries have little effect on society.
- C** Scientific discoveries are not shared.
- D** Scientific discoveries are unimportant.

2



Nine bean plants were grown in varying amounts of light. What conclusion can be drawn from the graph?

- A** Bean plants grow best in low light.
- B** Bean plants grow best in high light.
- C** Bean plants grow best in moderate light.
- D** Bean plants grow the same in all light.

3

### How Temperature Affects Air in a Balloon

Conditions of Balloon	Length of Line Around Balloon (in centimeters)
Balloon after coming out of the freezer	12 cm
Balloon at room temperature	20 cm
Balloon after being warmed for 2 min	35 cm
Balloon after being warmed for 4 min	51 cm

A student conducted an experiment to find out how temperature affects air in a balloon. He drew a line around the center of the balloon and measured the length of the line around the balloon. According to the chart, what conclusion can be made about how temperature affects air in a balloon?

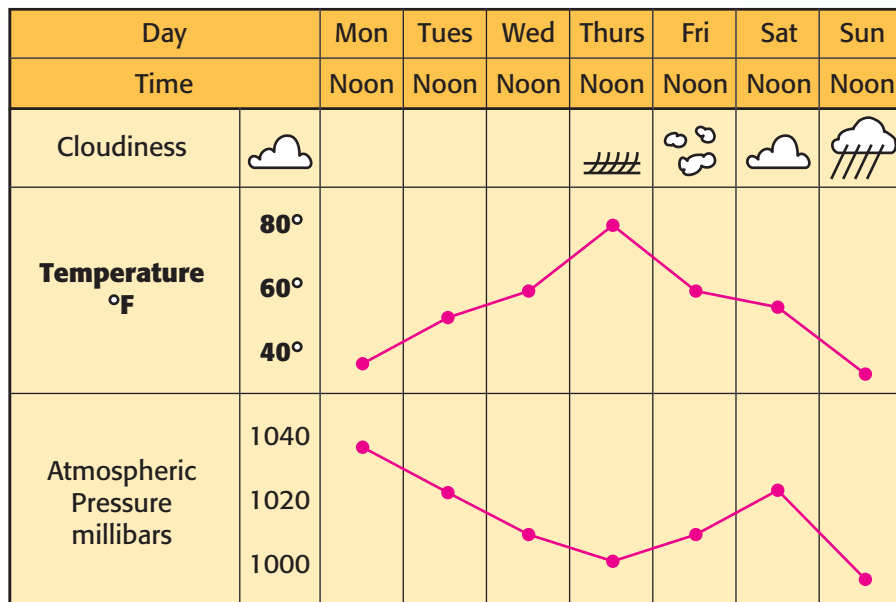
- A** The warmer the balloon gets, the more it expands.
- B** The balloon bursts after being warmed for 4 minutes.
- C** The colder the balloon gets, the faster the gas moves.
- D** The balloon is unaffected by changes in temperature.





4

Weather Data for Sun City



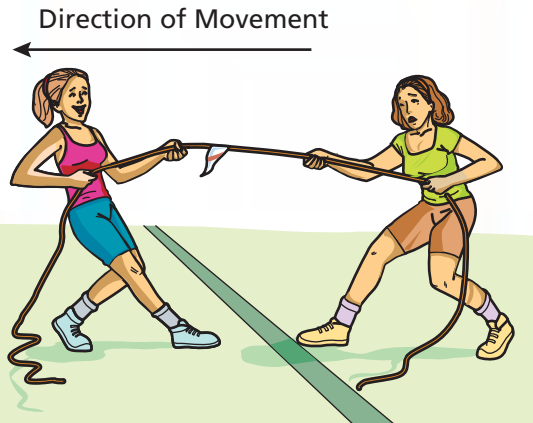
Look at the diagram for the days Monday through Thursday. Which best describes the relationship between temperature and pressure for those days?

- A** As the temperature rose, the pressure remained the same.
- B** As the pressure rose, the temperature remained the same.
- C** As the pressure rose, the temperature dropped.
- D** As the temperature rose, the pressure dropped.



5

Two students are holding a rope. They are trying to move each other over a line.



Which describes the forces caused by the students?

- A** The students are pushing with unequal forces.
- B** The students are pushing with equal forces.
- C** The students are pulling with unequal forces.
- D** The students are pulling with equal forces.

6

The fish, dog, and bird are alike in many ways. One way is that they all have —

- A** legs
- B** hair
- C** lungs
- D** backbones

7

All of the following are needed for a fish to live in an aquarium except —

- A** food
- B** sand
- C** water
- D** oxygen

8

A girl found the skull of an animal. She did not know what the animal was, but she was sure that it preyed on other animals for its food. Which clue led to her conclusion?

- A** The eye sockets faced sideways.
- B** The skull was much longer than it was wide.
- C** There was a projecting ridge on the front of the skull.
- D** Four of the teeth were long and pointed.



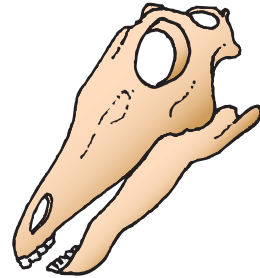
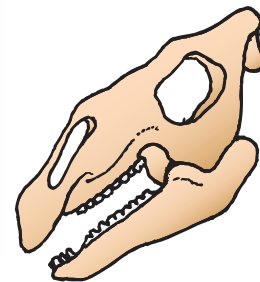
9

Decomposers are helpful to the food chain because they —

- A** provide nutrients for the soil
- B** prey on carnivores
- C** use photosynthesis to make food
- D** are food for carnivores

10

Which of these skulls is from a dinosaur that was probably a carnivore?

**A****B****C****D**



11



A



B



C



D

Which bird beak would be most helpful for a bird that eats insects in the bark of trees?

- A** A
- B** B
- C** C
- D** D

12

Students have each built boats from equal amounts of clay. The boats will be placed in a pan of water to see which one can hold the most pennies before sinking. Manuel's boat sinks with only one penny. What should Manuel do next?

- A** He should change the water.
- B** He should design a new boat.
- C** He should ask for more pennies.
- D** He should use dimes instead of pennies.

13

A town passes a law that makes it illegal to hunt deer. Which will *most* likely happen during the following year in the town's forests?

- A** Trees will increase.
- B** Deer will decrease.
- C** Insects will increase.
- D** Small plants will decrease.



14

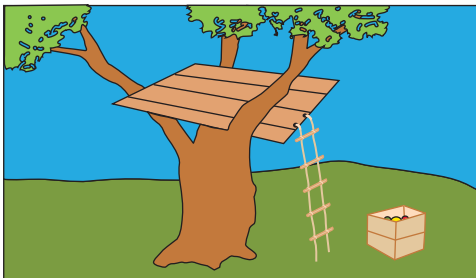
Solid	Liquid	Gas
brick	milk	steam
pencil	ice cube	oxygen
eraser	orange juice	water vapor

Which word is under the wrong heading?

- A** Steam
- B** Pencil
- C** Milk
- D** Ice cube

15

Janie has a large box of supplies that she wants to take up into her tree house. The box is too big and heavy to carry up the rope ladder.



Which simple machine would work best to help take the box up into the tree house?

- A** Lever
- B** Screw
- C** Wheel and axle
- D** Pulley and rope

16

Which will be attracted to a magnet?

- A** Plastic ruler
- B** Aluminum foil
- C** Copper penny
- D** Iron nail

17

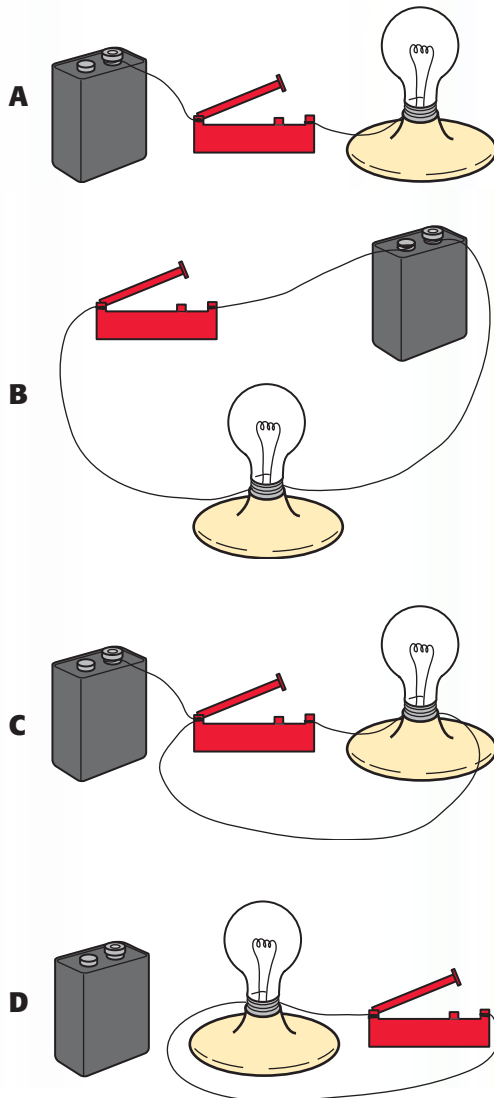
What happens when two negatively charged particles are next to each other?

- A** The particles attract each other.
- B** The particles repel each other.
- C** One particle becomes uncharged.
- D** One particle becomes positively charged.



18

Each picture shows a battery, a bulb, and a switch. Which bulb will light when the switch is closed?



19

John has a red apple in his lunch. Why does the apple look red to him?

- A** Only red light waves are absorbed by the apple.
- B** John's eyes are only able to sense red light waves.
- C** Only red light waves are reflected by the apple.
- D** Red light waves travel faster so they reach John's eyes first.

20

A student places four T-shirts outside on a sunny day. Which color shirt will reflect the *most* light?

- A** Red
- B** Black
- C** Green
- D** White



21

A force that slows down or stops the motion of a bicycle is —

- A** sound
- B** heat
- C** friction
- D** electricity

22

Pat found a wooden box in his grandparents' garage. The top was nailed shut. He used a crowbar to pry off the top. What type of simple machine did Pat use?

- A** Pulley
- B** Lever
- C** Inclined plane
- D** Wheel and axle

23

Which of these is a renewable resource?

- A** Wood, because trees grow again
- B** Coal, because more can be made in about 100 years
- C** Petroleum, because it can be refined into gasoline
- D** Gold, because more can be made very easily

24

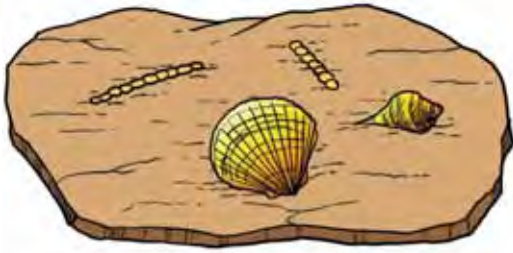


In this student's lunch bag, which item would decompose the quickest?

- A** Fruit can
- B** Apple core
- C** Plastic bag
- D** Wooden spoon



25



This rock was brought to school. The class found fossils of water plants and shells in the rock. What does this tell us about the rock?

- A** The rock needs to be washed off.
- B** The rock was once at the bottom of the sea.
- C** The rock is heavier than most rocks.
- D** The rock is gray and brown.

27

Since stars give off their own light, they are like the —

- A** moon
- B** Earth
- C** planets
- D** sun

28

If all the planets started at the same time and circled the sun, which one would finish the trip last?

- A** Mercury
- B** Jupiter
- C** Uranus
- D** Saturn

26

How does freezing water cause the weathering of rocks?

- A** It holds them in place.
- B** It makes them longer.
- C** It cracks them.
- D** It makes them thicker.

29

Each year Earth moves once around —

- A** Mars
- B** Venus
- C** the sun
- D** the moon





30

**Common Lab Equipment**

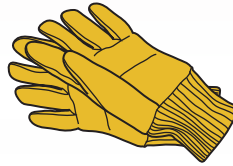
1. Hand Lens



2. Dry Cell



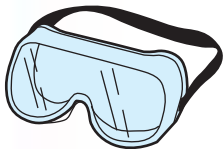
3. Gloves



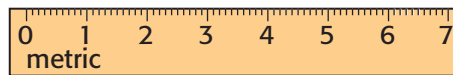
4. Magnet



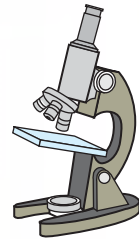
5. Goggles



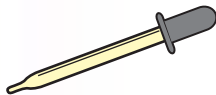
6. Metric Ruler



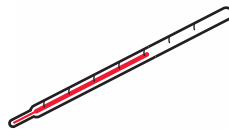
7. Microscope



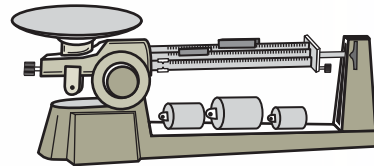
8. Eye Dropper



9. Thermometer



10. Balance



Which pieces of laboratory equipment are used for safety?

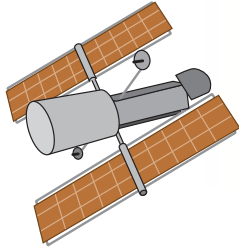
- A** 4 and 8
- B** 2 and 6
- C** 6 and 10
- D** 3 and 5



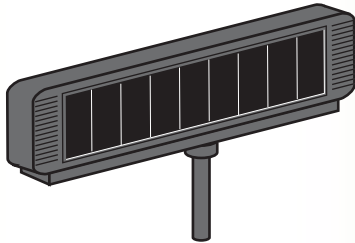
31

Robert Hooke was one of the first people to identify cells. Which invention did he use in order to see cells?

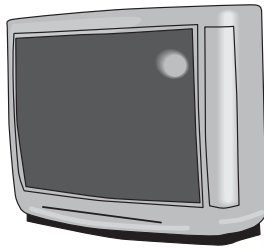
A



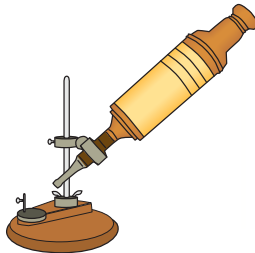
B



C



D



32

Which scientist invented the light bulb?

- A Benjamin Franklin
- B Isaac Newton
- C Albert Einstein
- D Thomas Edison

**33**

Which scientist discovered the laws of motion that describe how forces make objects move?

- A** Isaac Newton
- B** Sally Ride
- C** Thomas Edison
- D** Jane Goodall

**35**

What does the school nurse use to measure body temperature?

- A** Thermometer
- B** Ruler
- C** Stopwatch
- D** Balance

**34**

Students were assigned to measure the length of the hallway outside their classroom in feet. Some tiles in the hall were  $7\frac{1}{2}$  inches wide and others were 8 inches wide. Which technique for measuring the hall is the *most* accurate?

- A** Counting the classrooms
- B** Using the students' feet
- C** Estimating the length
- D** Using yardsticks

**36**

Which is a learned behavior?

- A** Being colorblind
- B** Riding a bicycle
- C** Having large hands
- D** Having brown hair



37

Why is it so important for medical doctors to be able to use a microscope?

- A** Microscopes help doctors measure patients' blood pressure.
- B** Microscopes help doctors see organisms that cause disease.
- C** Microscopes help doctors look at distant objects.
- D** Microscopes help doctors sort through patients' medications.

38

Brent noticed that when he held a piece of cork under water and then let it go, the cork rose to the surface. This occurred because the cork is less dense than water. Which of these is most similar to what happened to the cork?

- A** Model rocket taking off
- B** Airplane taking off
- C** Hot-air balloon rising in the air
- D** Sun rising in the morning

39

Which of these survives harsh winters by traveling to a warmer climate?

- A** Monarch butterfly
- B** Gray squirrel
- C** Crow
- D** Red-tailed fox

40

Erin wants to make a tool that can be dipped into a bubble solution and used to blow bubbles. Which item would work best?

- A** A yardstick
- B** A wooden spoon
- C** A toothbrush
- D** A wire clothes hanger



41

Which is most similar to the skin of a human?

- A** Beak of a bird
- B** Scales of a fish
- C** Gills of a tadpole
- D** Teeth of a crocodile

44

Which shows the first step to safely clean up a liquid spill after a science experiment?

- A** Hang up the lab coats.
- B** Sweep the powders off the floor.
- C** Put on disposable gloves.
- D** Help put the goggles away.

42

Which would slow erosion?

- A** Building a hiking trail
- B** Putting up a wooden fence
- C** Cutting down older trees
- D** Planting grass along a hillside

45

Tonya's class is working on science fair projects. Which of these will all of the students' experiments share?

- A** They will include a photograph.
- B** They will follow the same procedure.
- C** They will use scientific methods.
- D** They will have the same hypothesis.

43

Earth is the third planet from the sun. Which two planets are closer to the sun than Earth is?

- A** Mercury and Mars
- B** Neptune and Mars
- C** Mercury and Venus
- D** Neptune and Venus



46

A student wrote down measurements that he collected from an experiment. What are these measurements called?

- A** Hypothesis
- B** Procedure
- C** Graph
- D** Data

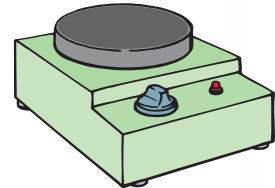
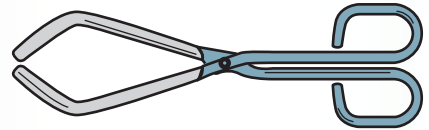
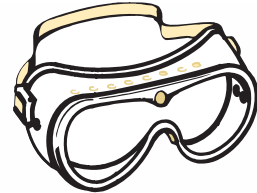
47

On a hot summer day, which best describes what the water molecules in a pool of water are doing?

- A** They are moving very slowly.
- B** They are forming ice crystals.
- C** They are evaporating into the air.
- D** They are sinking to the bottom of the pool.

48

A teacher is heating a beaker of liquid for an experiment. Which should be used to remove the beaker from the source of heat?

**A****B****C****D**



49

Pedro and Liz were partners on a science project. Their teacher gave them four different unlabeled liquids to identify. Which would be unsafe for Pedro and Liz to do when working on this experiment?

- A** Mix the liquids together in a bowl.
- B** Find the mass of each liquid.
- C** Place a drop of each liquid on limestone.
- D** Pour each liquid into different test tubes.

51

Why does it take longer for cars to stop on pavement that is covered with ice than on pavement that is dry?

- A** The ice makes the friction between the tires and the pavement greater.
- B** The ice makes the friction between the tires and the pavement less.
- C** The ice makes the temperature of the pavement higher.
- D** The ice makes the temperature of the air lower.

50

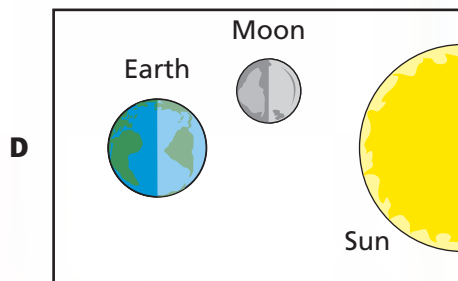
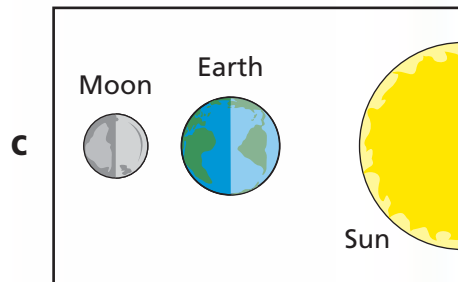
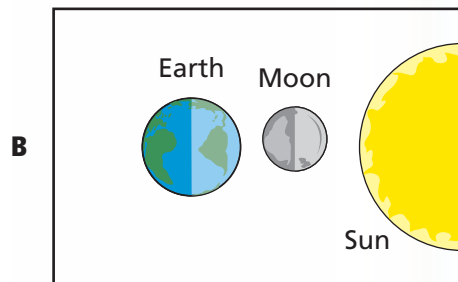
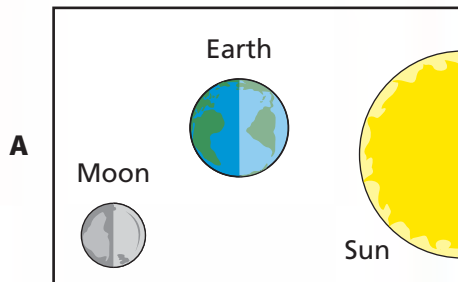
For the science fair, Leon tested the strength of paper towels. He tested 5 different brands of towels and repeated the experiment 10 times. Why did Leon repeat the experiment 10 times before he wrote his conclusion?

- A** The paper towels became soggy.
- B** The paper towels were destroyed.
- C** He wanted to collect more data.
- D** He wanted to change his hypothesis.



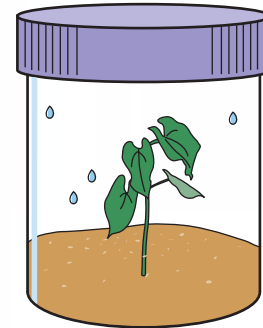
52

Which diagram shows a new moon?



53

A bean plant is placed in potting soil. Water is added. A lid is placed loosely on the jar.



What else does the plant need to make sure that it will grow?

- A** Salt
- B** Rocks
- C** Sunlight
- D** Sticks

54

Earth is located in the Milky Way. Which is the best reason for calling it the Milky Way?

- A** Stars in the galaxy seem to create a white path.
- B** Flying meteors create dazzling explosions.
- C** Crashing asteroids create bursting flames.
- D** Streams of moonlight appear to create bright lights.





55

Four groups of students were trying to find out how to make a car roll the farthest distance after going down a ramp. The table below contains the results of each group's experiment.

**Distance Car Traveled (in meters)**

	Trial 1	Trial 2	Trial 3
Plain Wheels	3m	4m	3m
Oiled Wheels	6m	7m	7m
Wheels Wrapped In Sandpaper	2m	2m	1m
Ramp Raised 30 cm	5m	7m	6m

Based upon this information, which would be the best for a new group to do to make a car roll the farthest?

- A** Raise the ramp and wrap sandpaper around the wheels.
- B** Oil the wheels and wrap sandpaper around the wheels.
- C** Lower the ramp and oil the wheels.
- D** Raise the ramp and oil the wheels.

56

Jess and Chandra asked students to taste four different juice drinks to find the one they liked the best. Their results are in the table below.

**Juice Drinks Fourth-Grade  
Students Liked**

Juice Drink	Number of students
W	2
X	6
Y	1
Z	2

Which statement best describes how the students can improve on their experimental methods?

- A** They should have tested more students.
- B** They should have tested fewer students.
- C** They should have tested fewer juice drinks.
- D** They should have tested more boys than girls.



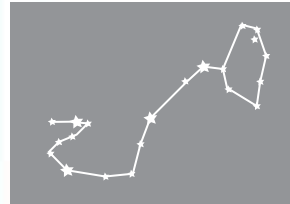
57

Carlos and Rowanda were writing a report on rabbits. They learned that rabbits blend in with their environment, are fast runners, and reproduce quickly. Which best describes the students' discoveries?

- A** Rabbits adapt to their surroundings for survival.
- B** Rabbits are more intelligent than their predators.
- C** Rabbits do things to make it easier for people to hunt them.
- D** Rabbits are less interesting than their predators.

58

Sara drew groups of stars she saw during different times of the year. Her drawings are shown below.

**Summer****Winter**

Which best explains why Sara saw different groups of stars in the two seasons?

- A** Earth rotates on its axis.
- B** Earth revolves around the sun.
- C** The constellations spin around Earth.
- D** The constellations orbit around the sun.



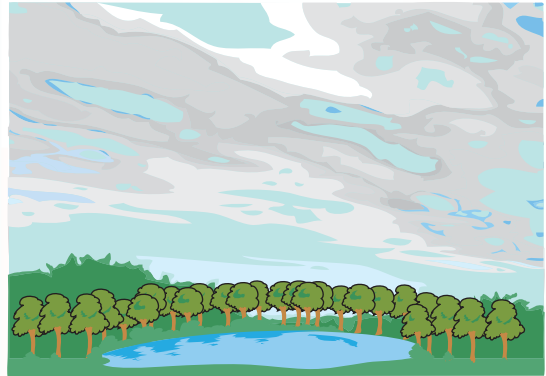
59

Joyce and Bill want to find out if tomato plants grow better in sunlight or in the shade. Which should they change in their experiment?

- A** The type of soil
- B** The type of plant
- C** The amount of water
- D** The location of the plant

60

The clouds shown in the picture below look like gray sheets that spread across the sky. They form at 1500 meters and may bring heavy mist, snow, or drizzle.



What type of clouds are these?

- A** Cirrus
- B** Cumulus
- C** Cumulonimbus
- D** Stratus

## Answer Key with Assessment Objectives Identified

Item Number	Correct Answer	Assessment Objective
1	A	<b>13.4.09</b> Understand the impact of different scientific discoveries on society.
2	C	<b>11.4.02</b> Distinguish among and answer questions about performing the following: observing, drawing a conclusion based on observation, forming a hypothesis, conducting an experiment, organizing data, constructing and reading charts and graphs, and comparing data.
3	A	<b>11.4.02</b> Distinguish among and answer questions about performing the following: observing, drawing a conclusion based on observation, forming a hypothesis, conducting an experiment, organizing data, constructing and reading charts and graphs, and comparing data.
4	D	<b>11.4.02</b> Distinguish among and answer questions about performing the following: observing, drawing a conclusion based on observation, forming a hypothesis, conducting an experiment, organizing data, constructing and reading charts and graphs, and comparing data.
5	C	<b>12.4.25</b> Define a force as a push or a pull that tends to move an object. Understand that forces may be balanced or unbalanced. Know that when the forces applied to an object are balanced, the motion or rest of that object does not change.
6	D	<b>12.4.02</b> Identify the basic divisions of animals and their common characteristics (e.g., define mammal, fish, bird, reptile, amphibian, insect, arachnid; give examples of each).
7	B	<b>12.4.04</b> Identify the basic needs of living things: animals need air, water, food, and shelter; plants need air, water, nutrients, and light.
8	D	<b>12.4.05</b> Understand the functions of component parts of living things.
9	A	<b>12.4.07</b> Understand the concept of food chains and food webs and the related classifications of plants or animals (e.g., producers, decomposers, consumers, herbivores, carnivores).
10	B	<b>12.4.09</b> Understand that each plant or animal has different structures that serve different functions in its growth, survival, and reproduction. Understand the concept of animal camouflage and how it relates to the survival of living things.
11	B	<b>12.4.09</b> Understand that each plant or animal has different structures that serve different functions in its growth, survival, and reproduction. Understand the concept of animal camouflage and how it relates to the survival of living things.
12	B	<b>11.4.05</b> Identify a design problem and identify possible solutions. Assess designs or plans to build a prototype.

Item Number	Correct Answer	Assessment Objective
13	D	<b>12.4.13</b> Understand that human activities can change the number of species in an area, whether by increasing it or decreasing it.
14	D	<b>12.4.14</b> Understand that matter is usually found in 3 states: liquid, solid, and gas and be able to identify the properties of each. Understand that water can be found in all three forms.
15	D	<b>12.4.27</b> Identify simple machines (lever, inclined plane, pulley, screw, and wheel and axle) and understand how they function. Understand how they apply forces with advantage, and identify which machine is suited for accomplishing a simple task.
16	D	<b>12.4.17</b> Understand that a magnet attracts iron, but not plastic, paper, and other nonmetals; nor does it attract all metals (since it does not attract copper or aluminum). Identify conductors and insulators.
17	B	<b>12.4.19</b> Understand that objects of like charge repel each other and objects of opposite charge attract each other.
18	B	<b>12.4.21</b> Understand that besides static electricity, there is also such a thing as current electricity. For example, given a battery, bulb, and wire, students will understand the proper configuration to make the bulb light.
19	C	<b>12.4.22</b> Understand that lighter colors reflect more light, darker absorb more, and that the color one sees depends on what kind of light is reflected (rather than absorbed) by the object seen.
20	D	<b>12.4.22</b> Understand that lighter colors reflect more light, darker absorb more, and that the color one sees depends on what kind of light is reflected (rather than absorbed) by the object seen.
21	C	<b>12.4.26</b> Identify the basic forces, such as friction, magnetism, and gravity. Identify which force is operative in a simple scenario.
22	B	<b>12.4.27</b> Identify simple machines (lever, inclined plane, pulley, screw, and wheel and axle) and understand how they function. Understand how they apply forces with advantage, and identify which machine is suited for accomplishing a simple task.
23	A	<b>12.4.30</b> Understand that a natural resource is any material found on Earth that is used by people. Understand the difference between renewable and nonrenewable resources. Know that fossil fuels come from animals and plants, and that oil, coal, and natural gas are examples of fossil fuels.
24	B	<b>12.4.31</b> Identify which everyday materials decompose most slowly (e.g., plastics, glass and ceramics decompose slower than metals, wood, or food substances).
25	B	<b>12.4.33</b> Understand that some rocks contain plant and animal fossils. Know how they were formed.

Item Number	Correct Answer	Assessment Objective
26	C	<b>12.4.37</b> Understand that land formations (mountains, valleys, shorelines, and caves) change slowly over time, and identify the major natural causes of such changes: (a) Slow causes: erosion, caused by wind, rain, glaciers, water freezing inside cracks of rocks (which expands and splits the rocks), the growth of tree roots; (b) Sudden causes: rare catastrophes (e.g., earthquakes, volcanic activity, asteroid impacts, floods).
27	D	<b>12.4.45</b> Understand that moons and planets do not produce their own light—the light we see when we look at them is the sunlight which they reflect.
28	C	<b>12.4.47</b> Identify the order of planets from the sun, and know that the further planets take longer to go around the sun. Understand that all planets in our solar system revolve around the sun. Because Earth revolves around the sun, objects (e.g., stars, planets, constellations) in the sky appear to change positions throughout the year. Know that it takes Earth 365 $\frac{1}{4}$ days to revolve around the sun.
29	C	<b>12.4.47</b> Identify the order of planets from the sun, and know that the further planets take longer to go around the sun. Understand that all planets in our solar system revolve around the sun. Because Earth revolves around the sun, objects (e.g., stars, planets, constellations) in the sky appear to change positions throughout the year. Know that it takes Earth 365 $\frac{1}{4}$ days to revolve around the sun.
30	D	<b>13.4.01</b> Identify the basic safety equipment used in science, (e.g., gloves, goggles, lab coats, tongs).
31	D	<b>13.4.08</b> Identify important contributions men and women have made to science and technology.
32	D	<b>13.4.08</b> Identify important contributions men and women have made to science and technology.
33	A	<b>13.4.08</b> Identify important contributions men and women have made to science and technology.
34	D	<b>13.4.14</b> Know that using measuring tools results in greater accuracy than making estimates.
35	A	<b>13.4.15</b> Identify basic scientific instruments and their functions (e.g., ruler, balance, graduated cylinder, clock, stopwatch, thermometer, microscope, telescope).
36	B	<b>12.4.06</b> Understand that some characteristics of living things are inherited from parents, such as the color of a flower in a plant, or the number of limbs on an animal. Understand that other features, however, are acquired by an organism through interactions with its environment (or learned) and cannot be passed down to the next generation merely through reproduction.
37	B	<b>13.4.15</b> Identify basic scientific instruments and their functions (e.g., ruler, balance, graduated cylinder, clock, stopwatch, thermometer, microscope, telescope).

Item Number	Correct Answer	Assessment Objective
38	C	<b>12.4.16</b> Understand that some substances will dissolve in water and some will not. Understand the property of density.
39	A	<b>12.4.12</b> Understand that some animals survive winter by being fitted for an active life during winter (e.g., penguins), others by hibernation (e.g., certain bears), and others by migration (e.g., monarch butterflies).
40	D	<b>11.4.05</b> Identify a design problem and identify possible solutions. Assess designs or plans to build a prototype.
41	B	<b>12.4.09</b> Understand that each plant or animal has different structures that serve different functions in its growth, survival, and reproduction. Understand the concept of animal camouflage and how it relates to the survival of living things.
42	D	<b>12.4.32</b> Understand that the surface of the earth changes. Know that some changes are due to slow processes (e.g., erosion, weathering), whereas others are due to sudden events (e.g., landslides, volcanic eruptions, earthquakes, asteroid impacts).
43	C	<b>12.4.47</b> Identify the order of planets from the sun, and know that the further planets take longer to go around the sun. Understand that all planets in our solar system revolve around the sun. Because Earth revolves around the sun, objects (e.g., stars, planets, constellations) in the sky appear to change positions throughout the year. Know that it takes Earth 365 $\frac{1}{4}$ days to revolve around the sun.
44	C	<b>13.4.02</b> Identify the basic safety procedures (e.g., "Keep your clothes and hair away from open flames," "Don't taste substances without permission.") when conducting science activities.
45	C	<b>13.4.04</b> Know that scientific results must be reproducible. Know that different scientists study different subjects but work in similar ways.
46	D	<b>11.4.04</b> Distinguish among the following: recording the data from an experiment, organizing the data into a more useful form, analyzing it to identify relevant patterns, and reporting and displaying results.
47	C	<b>12.4.43</b> Understand the stages of the water cycle: evaporation, condensation, and precipitation.
48	B	<b>13.4.01</b> Identify the basic safety equipment used in science, (e.g., gloves, goggles, lab coats, tongs).
49	A	<b>13.4.02</b> Identify the basic safety procedures (e.g., "Keep your clothes and hair away from open flames," "Don't taste substances without permission.") when conducting science activities.
50	C	<b>13.4.04</b> Know that scientific results must be reproducible. Know that different scientists study different subjects but work in similar ways.

Item Number	Correct Answer	Assessment Objective
51	B	<b>12.4.26</b> Identify the basic forces, such as friction, magnetism, and gravity. Identify which force is operative in a simple scenario.
52	B	<b>12.4.46</b> Identify the relative positions of the earth, moon, and sun during a solar eclipse, a lunar eclipse, a full moon, a half moon, and a new moon. Given a diagram of the earth, moon, and sun, identify which of these is depicted.
53	C	<b>12.4.04</b> Identify the basic needs of living things: animals need air, water, food, and shelter; plants need air, water, nutrients, and light.
54	A	<b>12.4.50</b> Understand that the Milky Way is our galaxy, so-called because there appears to be a milky-white path or road in the sky.
55	D	<b>11.4.06</b> Assess given test results on a prototype (i.e., draw conclusions about the effectiveness of the design using given criteria). Analyze data and rebuild and retest prototype as necessary.
56	A	<b>13.4.07</b> Understand that when an experiment is performed a few times and yields conflicting results, one must repeat it many times. Understand that one should also try to find an explanation for the conflicting results.
57	A	<b>12.4.09</b> Understand that each plant or animal has different structures that serve different functions in its growth, survival, and reproduction. Understand the concept of animal camouflage and how it relates to the survival of living things.
58	B	<b>12.4.47</b> Identify the order of the planets from the sun, and know that the further planets take longer to go around the sun. Understand that all planets in our solar system revolve around the sun. Because Earth revolves around the sun, objects (e.g., stars, planets, constellations) in the sky appear to change positions throughout the year. Know that it takes Earth 365 $\frac{1}{4}$ days to revolve around the sun.
59	D	<b>11.4.01</b> Understand how to design and perform simple experiments.
60	D	<b>12.4.38</b> Name and distinguish the different kinds of clouds based on their appearance and place in the atmosphere: cirrus, cumulus, and stratus.

To view all the science assessment objectives, download the *Illinois Science Assessment Framework* for Grades 4 and 7 online at [www.isbe.net/assessment/IAFindex.htm](http://www.isbe.net/assessment/IAFindex.htm).