



A L T E R N A T E

***Alabama Comprehensive Assessment
Program (ACAP) Alternate***

Item Specifications

Science

Grade 8

***Alabama Comprehensive Assessment Program
(ACAP) Alternate***

Item Specifications

Science

The *Alabama Comprehensive Assessment Program (ACAP) Alternate* item specifications are based on the development of alternate assessments that measure the 2018 *Alabama Alternate Achievement Standards: Science*. The item specifications define the purpose of the *ACAP Alternate* and provide important information regarding the content to be measured. The item specifications also serve as a road map to guide Alabama educators in the development and subsequent review of items that best measure the 2018 *Alabama Alternate Achievement Standards: Science* for a given grade and subject area. Each item specification is aligned to the given Alabama content area, domain, and standard and includes the following key information:

- Course of Study Standard
- Alternate Achievement Standard
- Content limits/constraints
- Recommended depth of knowledge (DOK) or cognitive levels
- Sample item stem information

The appendix to this document includes sample test items, along with information about each item, including item type, page reference, alignment, depth of knowledge, and answer key. These sample items are provided to be an additional resource for educators to help guide instruction and assessment-building in the classroom. Teachers can use the sample items as models when leading classroom discussion and when creating items for classroom tests or quizzes. In each sample item, the level of rigor needed in the item to align with the content standard is evident.

Definitions

Course of Study Standards: The Course of Study Standards are a set of content curriculum statements that define what general education students should know and be able to do at a given grade level.

Alternate Achievement Standards: The 2018 *Alabama Alternate Achievement Standards: Science* are directly aligned to the Alabama Course of Study Standards. The 2018 *Alabama Alternate Achievement Standards: Science* define what students with the most significant support needs should understand (know) and be able to do at the conclusion of a course or grade.

Alabama Content Areas: Alabama content areas are large groups of related clusters and content standards. Because science is a connected subject, standards from different Alabama content areas may sometimes be closely related.

Standards: Standards define what students should understand (know) and be able to do at the conclusion of a course or grade.

Assessment Limits/Content Constraints: Assessment limits and/or content constraints define the range of content knowledge and the degree of difficulty allowable when items are written to measure a given standard.

Depth of Knowledge (DOK): Depth of knowledge involves the cognitive complexity or the nature of thinking required for a given item. Depth of knowledge levels are used in the development of items for cognitive demand. Therefore, when developing items for depth of knowledge, each item should be as demanding cognitively as what the actual standard expects. The depth of knowledge includes three levels, from the lowest (basic recall) to the highest (strategic thinking).

The *ACAP Alternate* assessment items are written to one of three levels of cognitive complexity:

- Level 1: Recall
- Level 2: Application of a Skill/Concept
- Level 3: Strategic Thinking

Item Types: The *ACAP Alternate* assessments are composed of various item types. These item types are described in the following section.

Context: Context provides information regarding the types of stimulus materials that can be used in items. If context is allowable, it means that the item may have context. If context is required, then the item measuring the given standard must have context. If no context is noted, then the item measuring the given standard should not have context.

Sample Stem Information: This statement explains what students are expected to do when they respond to a given item.

Item Types

The *Alabama Comprehensive Assessment Program (ACAP) Alternate* assessments are composed of various item types. These item types are described below.

Multiple-Choice (MC) Items: MC items have three answer choices, including two distractors and one correct answer. Distractors for science represent common misconceptions, incorrect logic, incorrect application of an algorithm, computational errors, etc. A correct response to an MC item is worth one score point in the science *ACAP Alternate*.

Performance Task Items:

Multiple-Select (MS) Items: MS items are similar in structure to MC items. However, unlike an MC item, an MS item has four options and more than one correct answer. In other words, multiple responses are required for a given item. A correct response to an MS item is worth two score points in the science *ACAP Alternate*.

Two-Part Multiple-Choice Items: Two-part multiple-choice items have two questions. The questions may require students to identify parts of the water cycle, parts of the solar system, interpret information from a graph or chart, etc. A correct response to a two-part MC item is worth two score points in the science *ACAP Alternate* when both parts are correct.

Item Specifications

Item specifications are one of the key requirements for a high-quality, legally defensible, standards-based assessment. Item specifications help define important characteristics of the items (i.e., test questions) developed for each Alternate Achievement Standard. These item specifications provide guidelines to help clarify the focus of what is to be assessed, what items may include, and what items may not include (i.e., assessment limits). Item specifications are used by item writers, item editors, and item reviewers as a common reference throughout the item-development process, from initial writing to final approval. These science item specifications are based on the 2018 *Alabama Alternate Achievement Standards: Science*.

Grade	8
Content Area	Science
Strand	MATTER AND ITS INTERACTIONS
Standard	SCI.8.1- Analyze patterns within the periodic table to construct models (e.g., molecular-level models, including drawings; computer representations) that illustrate the structure, composition, and characteristics of atoms and molecules.
Alternate Achievement Standard	SCI.AAS.8.1- Identify parts of an atom (i.e. protons, neutrons, electrons); recognize that the periodic table is organized to show patterns of common traits of elements; locate metals and nonmetals on the periodic table.
Assessment Limits/Content Constraints	<p>Use visual representation for atoms.</p> <p>Limit parts of an atom to proton, neutron, and electron.</p> <p>Use a visual representation of the periodic table or portion of the periodic table if needed to match element symbols.</p>
DOK(s)	1 or 2
Sample Item Stem(s)	Here is part of the periodic table that shows symbols for some of the pure metal elements. What is the symbol for gold?

Grade	8
Content Area	Science
Strand	MATTER AND ITS INTERACTIONS
Standard	SCI.8.2- Plan and carry out investigations to generate evidence supporting the claim that one pure substance can be distinguished from another based on characteristic properties.
Alternate Achievement Standard	SCI.AAS.8.2- Identify characteristics that distinguish one pure substance from another (e.g., color, hardness, flammability).
Assessment Limits/Content Constraints	Use visual representation if needed. Limit to color, hardness, and flammability. Limit to common pure substances.
DOK(s)	1 or 2
Sample Item Stem(s)	Gold and lead are both pure substances. Which characteristic can be used to identify gold and lead as different substances?

Grade	8
Content Area	Science
Strand	MATTER AND ITS INTERACTIONS
Standard	<p>SCI.8.3- Construct explanations based on evidence from investigations to differentiate among compounds, mixtures, and solutions.</p> <p>a. Collect and analyze information to illustrate how synthetic materials (e.g., medicine, food additives, alternative fuels, plastics) are derived from natural resources and how they impact society.</p>
Alternate Achievement Standard	<p>SCI.AAS.8.3- Differentiate between compounds and mixtures.</p> <p>SCI.AAS.8.3a- Recognize that synthetic materials are made from natural resources; identify a synthetic material and the natural resource from which it is derived.</p>
Assessment Limits/Content Constraints	<p>Use visual representation if needed.</p> <p>Limit synthetic materials to medicine, food additives, alternative fuels, and plastics.</p> <p>Limit to simple compounds and mixtures.</p> <p>Limit vocabulary to sixth grade level.</p>
DOK(s)	1 or 2
Sample Item Stem(s)	Most T-shirts are made from a natural resource. What is a natural resource that T-shirts contain?

Grade	8
Content Area	Science
Strand	MATTER AND ITS INTERACTIONS
Standard	SCI.8.4- Design and conduct an experiment to determine changes in particle motion, temperature, and state of a pure substance when thermal energy is added to or removed from a system.
Alternate Achievement Standard	SCI.AAS.8.4- Recognize that changes in temperature can cause changes in the state of matter of a substance; recognize that these changes are a result of changes in particle motion.
Assessment Limits/Content Constraints	Use visual representation as needed. Limit states of matter to solid, liquid, and gas. May use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is a chart with illustrations that show the particles in water as a liquid and as a solid (ice). One illustration is missing. Which illustration correctly completes the chart? In art class, students mold pots from soft, moist clay. Their teacher puts the finished clay pots in a kiln to bake the clay. How does heat affect the clay pots?

Grade	8
Content Area	Science
Strand	MATTER AND ITS INTERACTIONS
Standard	SCI.8.5- Observe and analyze characteristic properties of substances (e.g., odor, density, solubility, flammability, melting point, boiling point) before and after the substances combine to determine if a chemical reaction has occurred.
Alternate Achievement Standard	SCI.AAS.8.5- Compare the properties of substances (color, texture, odor, state of matter) before and after chemical changes have occurred (e.g. burning sugar, burning steel wool, rust, effervescent tablets).
Assessment Limits/Content Constraints	Use visual representation as needed. Limit change to state of matter, color, temperature, and odor. May use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	When vinegar is added to baking soda, a chemical reaction occurs. The mixture bubbles and fizzes. Which observation <u>best</u> indicates that a change has taken place during the chemical reaction?

Grade	8
Content Area	Science
Strand	MATTER AND ITS INTERACTIONS
Standard	SCI.8.7- Design, construct, and test a device (e.g., glow stick, hand warmer, hot or cold pack, thermal wrap) that either releases or absorbs thermal energy by chemical reactions (e.g., dissolving ammonium chloride or calcium chloride in water) and modify the device as needed based on criteria (e.g., amount/concentration, time, temperature). *
Alternate Achievement Standard	SCI.AAS.8.7- Critique objects or materials used to minimize or maximize thermal energy transfer (e.g., gloves, insulated hot pad, foam cup).
Assessment Limits/Content Constraints	Use visual representation. Limit to thermal energy transfer. Use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	Levi needs to move a hot pan from a stove. What is one way that Levi could protect his hands from the heat of the pan?

Grade	8
Content Area	Science
Strand	MOTION AND STABILITY: FORCES AND INTERACTIONS
Standard	SCI.8.8- Use Newton’s first law to demonstrate and explain that an object is either at rest or moves at a constant velocity unless acted upon by an external force (e.g., model car on a table remaining at rest until pushed).
Alternate Achievement Standard	SCI.AAS.8.8- Compare an object at rest and an object in motion; recognize that an object at rest remains at rest if not acted on by an outside force; demonstrate a method to change an object’s motion; identify forces that cause an object in motion to slow down or stop moving.
Assessment Limits/Content Constraints	Use visual representation as needed. Limit to common objects. May use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is an illustration of two balls on a table. No force is applied to ball one. A force in the form of a push is applied to ball two. Which statement describes the difference in the movements of ball one and ball two?

Grade	8
Content Area	Science
Strand	MOTION AND STABILITY: FORCES AND INTERACTIONS
Standard	SCI.8.9- Use Newton’s second law to demonstrate and explain how changes in an object’s motion depend on the sum of the external forces on the object and the mass of the object (e.g., billiard balls moving when hit with a cue stick).
Alternate Achievement Standard	SCI.AAS.8.9- Investigate and identify ways to change the motion of an object (e.g., change an incline’s slope, change the mass of the object).
Assessment Limits/Content Constraints	Use visual representation as needed. Limit to speed up, slow down, and stop. May use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	Hiram is riding his bicycle and sees a stop sign ahead. What is one way that Hiram can slow down and stop his bicycle at the stop sign?

Grade	8
Content Area	Science
Strand	MOTION AND STABILITY: FORCES AND INTERACTIONS
Standard	SCI.8.10- Use Newton’s third law to design a model to demonstrate and explain the resulting motion of two colliding objects (e.g., two cars bumping into each other, a hammer hitting a nail). *
Alternate Achievement Standard	SCI.AAS.8.10- Describe the motion of two colliding objects before and after the collision.
Assessment Limits/Content Constraints	Use visual representation. May use real-world scenarios. Avoid scenarios that involve crashes, injury, or other negative results.
DOK(s)	1 or 2
Sample Item Stem(s)	At a softball game, the pitcher throws a ball, and Maddi hits the ball with a bat. Which illustration shows what happens to the ball when Maddi hits it with the bat?

Grade	8
Content Area	Science
Strand	MOTION AND STABILITY: FORCES AND INTERACTIONS
Standard	SCI.8.11- Plan and carry out investigations to evaluate how various factors (e.g., electric force produced between two charged objects at various positions; magnetic force produced by an electromagnet with varying number of wire turns, varying number or size of dry cells, and varying size of iron core) affect the strength of electric and magnetic forces.
Alternate Achievement Standard	SCI.AAS.8.11- Investigate the effect of distance on the magnetic force of two magnets; use a simple electromagnet to pick up paper clips; investigate the effect of increasing the number of wire turns in the electromagnet on its strength.
Assessment Limits/Content Constraints	Use visual representation. Limit materials to paper, cloth, and wood. May use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	Eli is exploring how magnets work. He knows that magnets are attracted to metal objects. Eli wants to know whether magnets will attract metal objects if another material is put between the magnet and the metal. He experiments with three materials: a piece of paper, a piece of cloth, and a block of wood. One at a time he puts each material between the magnet and the metal object. Here is a chart of his results. Which sentence is a conclusion Eli can draw from his experiment?

Grade	8
Content Area	Science
Strand	ENERGY
Standard	SCI.8.13- Create and analyze graphical displays of data to illustrate the relationships of kinetic energy to the mass and speed of an object (e.g., riding a bicycle at different speeds, hitting a table tennis ball versus a golf ball, rolling similar toy cars with different masses down an incline).
Alternate Achievement Standard	SCI.AAS.8.13- Investigate how the mass of an object affects the speed at which it travels (e.g., toy car traveling down an incline).
Assessment Limits/Content Constraints	Use visual representation. Make differences in mass obvious. May use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is an illustration of two toy race cars ready to go down a ramp. Here is the mass of each car. The ramps are identical. Which sentence describes the <u>most likely</u> results of the race?

Grade	8
Content Area	Science
Strand	ENERGY
Standard	SCI.8.16- Apply the law of conservation of energy to develop arguments supporting the claim that when the kinetic energy of an object changes, energy is transferred to or from the object (e.g., bowling ball hitting pins, brakes being applied to a car).
Alternate Achievement Standard	SCI.AAS.8.16- Make observations about energy transfers in common everyday occurrences (e.g., bowling ball hitting pins, brakes being applied to a bicycle or car).
Assessment Limits/Content Constraints	Use visual representations as needed. Use real-world scenarios. Avoid scenarios that involve negative consequences.
DOK(s)	1 or 2
Sample Item Stem(s)	Sari is bowling with her friends. When her bowling ball hits the pins, the pins fall down. Which statement <u>best</u> describes the transfer of energy when the bowling ball hits the pins?

Grade	8
Content Area	Science
Strand	WAVES AND THEIR APPLICATIONS IN TECHNOLOGIES FOR INFORMATION TRANSFER
Standard	SCI.8.17- Create and manipulate a model of a simple wave to predict and describe the relationships between wave properties (e.g., frequency, amplitude, wavelength) and energy.
Alternate Achievement Standard	SCI.AAS.8.17- Use a model to investigate ways to change the properties of a simple wave (frequency, amplitude, wavelength).
Assessment Limits/Content Constraints	Use visual representation of waves. Limit wave properties to frequency, amplitude, wave length, and wave energy.
DOK(s)	1 or 2
Sample Item Stem(s)	Here is a model of a simple wave. (The wavelength, amplitude, and frequency are labeled). Which wave contains the most energy?

Grade	8
Content Area	Science
Strand	WAVES AND THEIR APPLICATIONS IN TECHNOLOGIES FOR INFORMATION TRANSFER
Standard	SCI.8.18- Use models to demonstrate how light and sound waves differ in how they are absorbed, reflected, and transmitted through different types of media.
Alternate Achievement Standard	SCI.AAS.8.18- Investigate and describe how light and sound waves travel through a variety of media.
Assessment Limits/Content Constraints	Use visual representation. Limit to reflection, absorption, or transmission. Limit to water, air, and solid. Use real-world scenarios.
DOK(s)	1 or 2
Sample Item Stem(s)	Which illustration shows light waves being reflected?

Grade	8
Content Area	Science
Strand	WAVES AND THEIR APPLICATIONS IN TECHNOLOGIES FOR INFORMATION TRANSFER
Standard	SCI.8.19- Integrate qualitative information to explain that common communication devices (e.g., cellular telephones, radios, remote controls, Wi-Fi components, global positioning systems [GPS], wireless technology components) use electromagnetic waves to encode and transmit information.
Alternate Achievement Standard	SCI.AAS.8.19- Recognize that common communication devices use electromagnetic waves to transmit information, and that these electromagnetic waves are invisible to the human eye.
Assessment Limits/Content Constraints	Use visual representations as needed. Limit to cell phones and radios.
DOK(s)	1 or 2
Sample Item Stem(s)	Randy likes to listen to the radio before he goes to sleep at night. How is the music transmitted from the radio station to Randy's radio?

Appendix: Released Items: Grade 8

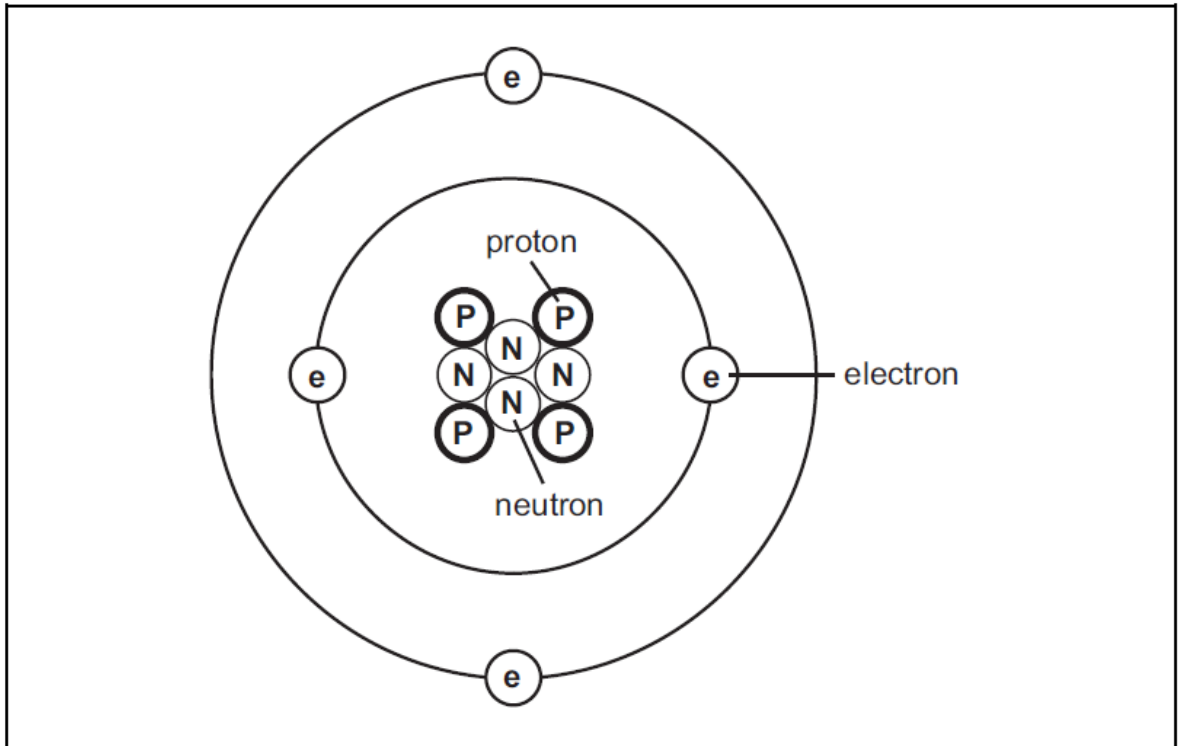
Released Items

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>All things are made of atoms. Here is a model of an atom. <i>Point to the model and read the labels. Which part of the atom has a positive electrical charge? Point to and read the answer choices.</i></p> <p>A. proton B. neutron C. electron D. no response</p>

Item Information	
Item Type	MC
Page Reference	6
Alignment	SCI.AAS.8.1
Point Value	1
Depth of Knowledge	1
Answer Key	A

Appendix: Released Items: Grade 8



proton

neutron

electron

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Ocean water contains both water and salt. It is classified as a mixture. Which sentence best describes why ocean water is a mixture? <i>Point to and read the answer choices.</i></p> <p>A. The water and salt are both liquids. B. The water and salt can be separated. C. The water and salt are chemically bonded together. D. no response</p>

Item Information	
Item Type	MC
Page Reference	8
Alignment	SCI.AAS.8.3
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 8

The water and salt are both liquids.

The water and salt can be separated.

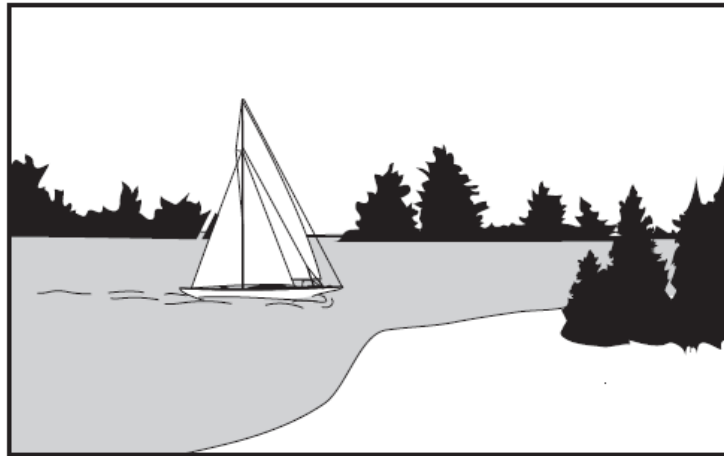
The water and salt are chemically bonded together.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Jaylon and his cousin are out on the lake on a sailboat. They are sailing straight out to a small island in the middle of the lake. What is one way the motion of the sailboat could be changed? <i>Point to and read the answer choices.</i></p> <p>A. A gust of wind in the same direction it is going could increase its speed. B. Wave motion in the opposite direction could increase its speed. C. Cloudy conditions could change the direction it is sailing in. D. no response</p>

Item Information	
Item Type	MC
Page Reference	13
Alignment	SCI.AAS.8.9
Point Value	1
Depth of Knowledge	2
Answer Key	A

Appendix: Released Items: Grade 8



A gust of wind in the same direction it is going could increase its speed.

Wave motion in the opposite direction could increase its speed.

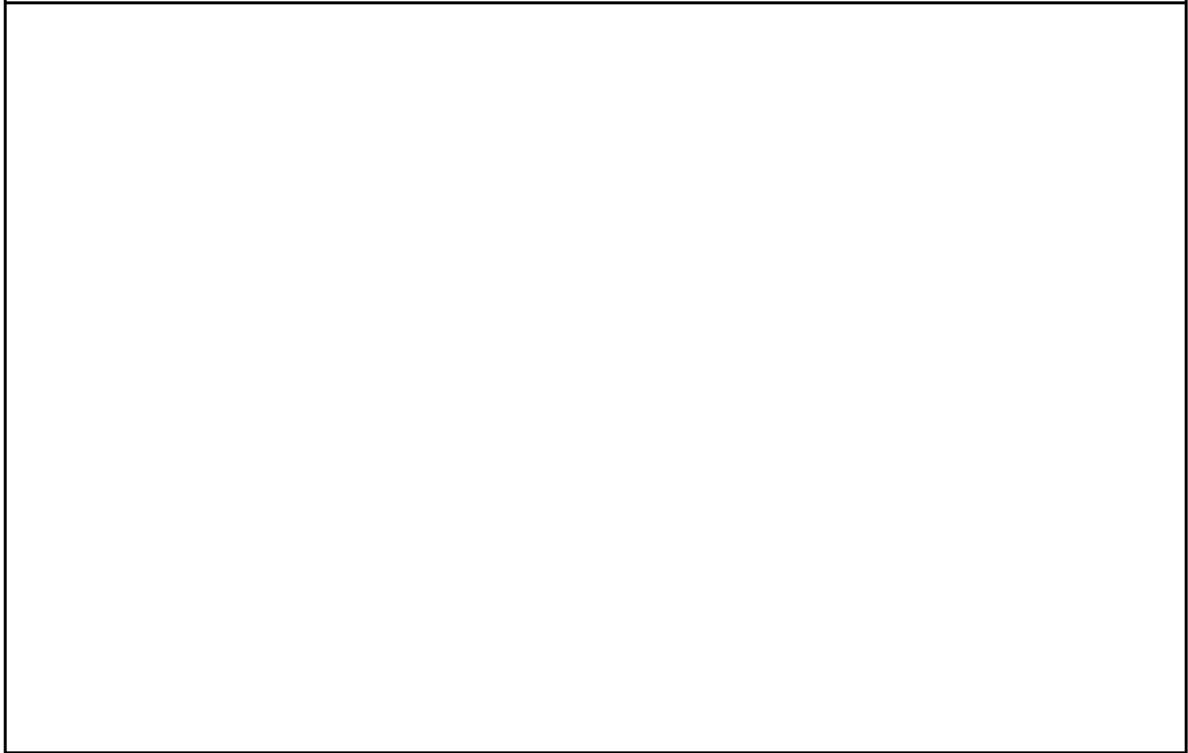
Cloudy conditions could change the direction it is sailing in.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>People use objects made from plastic every day. What natural resource is used to produce plastic? Point to and read the answer choices.</p> <p>A. toad B. oil C. money D. no response</p>

Item Information	
Item Type	MC
Page Reference	8
Alignment	SCI.AAS.8.3a
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 8



toad

oil

money

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Here is part of the periodic table of the elements. <i>Point to the diagram and read the title. Elements that have common traits are placed close together. This column shows the noble gases. Point to the darker shaded area. Which sentence best describes characteristics of noble gases? Point to and read the answer choices.</i></p> <p>A. They exist as only one atom and do not react well with other atoms. B. They exist as two atoms and have very bright, distinct colors naturally. C. They each have distinct, strong odors and react quickly with other atoms. D. no response</p>

Item Information	
Item Type	MC
Page Reference	6
Alignment	SCI.AAS.8.1
Point Value	1
Depth of Knowledge	3
Answer Key	A

Appendix: Released Items: Grade 8

Periodic Table of Elements

				He
C	N	O	F	Ne
	P	S	Cl	Ar
		Se	Br	Kr
			I	Xe
			At	Rn

They exist as only one atom and do not react well with other atoms.

They exist as two atoms and have very bright, distinct colors naturally.

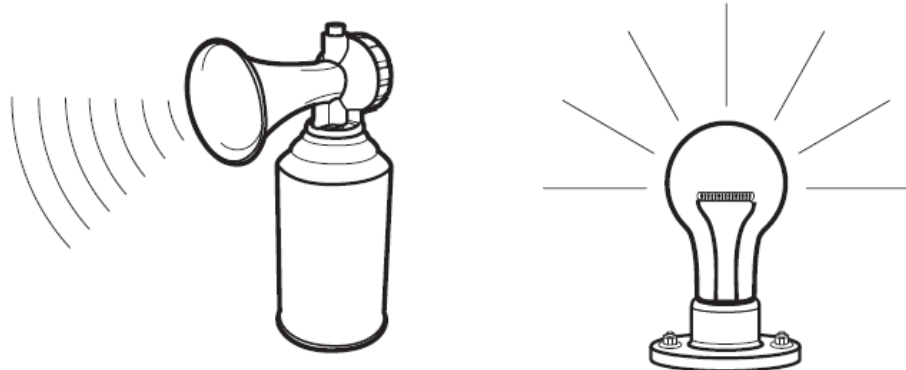
They each have distinct, strong odors and react quickly with other atoms.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Sound waves and light waves are very different. <i>Point to the pictures. Which sentence best describes a way they are different? Point to and read the answer choices.</i></p> <p>A. Sound waves travel through a medium, and light waves do not. B. Sound waves can travel through liquids, and light waves cannot. C. Sound waves travel through space, and light waves do not. D. no response</p>

Item Information	
Item Type	MC
Page Reference	19
Alignment	SCI.AAS.8.18
Point Value	1
Depth of Knowledge	1
Answer Key	A

Appendix: Released Items: Grade 8



Sound waves travel through a medium, and light waves do not.

Sound waves can travel through liquids, and light waves cannot.

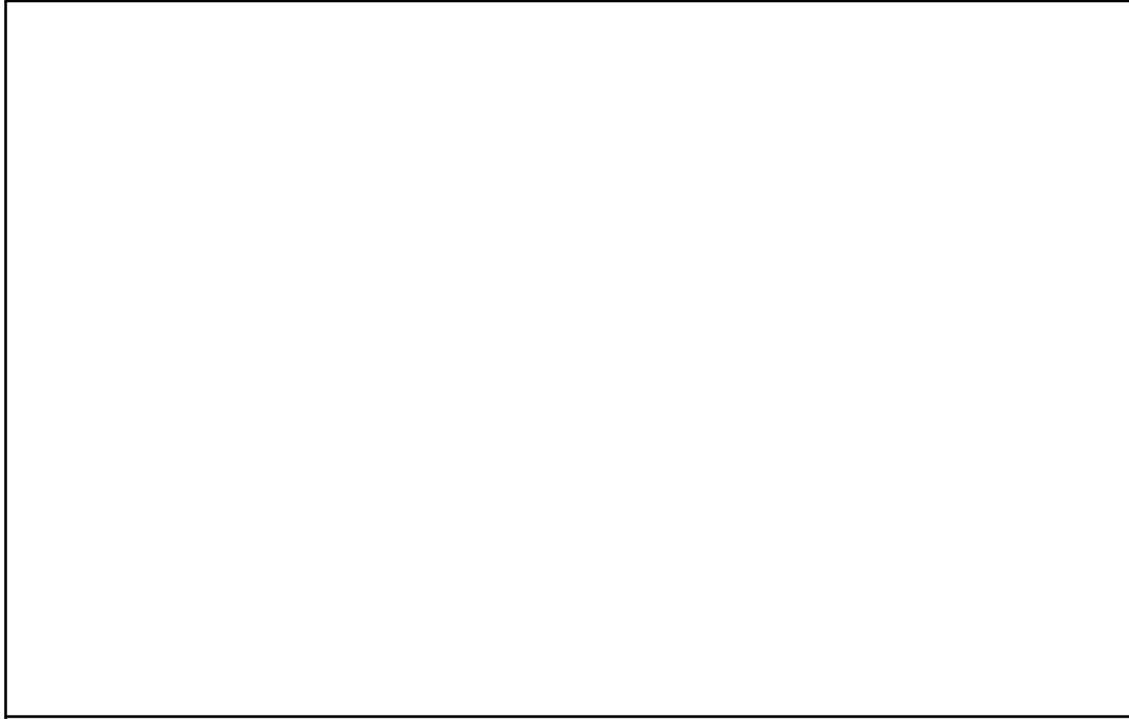
Sound waves travel through space, and light waves do not.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Kendra is making herself a hard-boiled egg for breakfast. Cooking the egg involves a chemical change. Which sentence describes a chemical change that happens when an egg is boiled? <i>Point to and read the answer choices.</i></p> <p>A. The egg yolk breaks. B. The egg white becomes solid. C. The egg changes shape. D. no response</p>

Item Information	
Item Type	MC
Page Reference	10
Alignment	SCI.AAS.8.5
Point Value	1
Depth of Knowledge	1
Answer Key	B

Appendix: Released Items: Grade 8



The egg yolk breaks.

The egg white becomes solid.

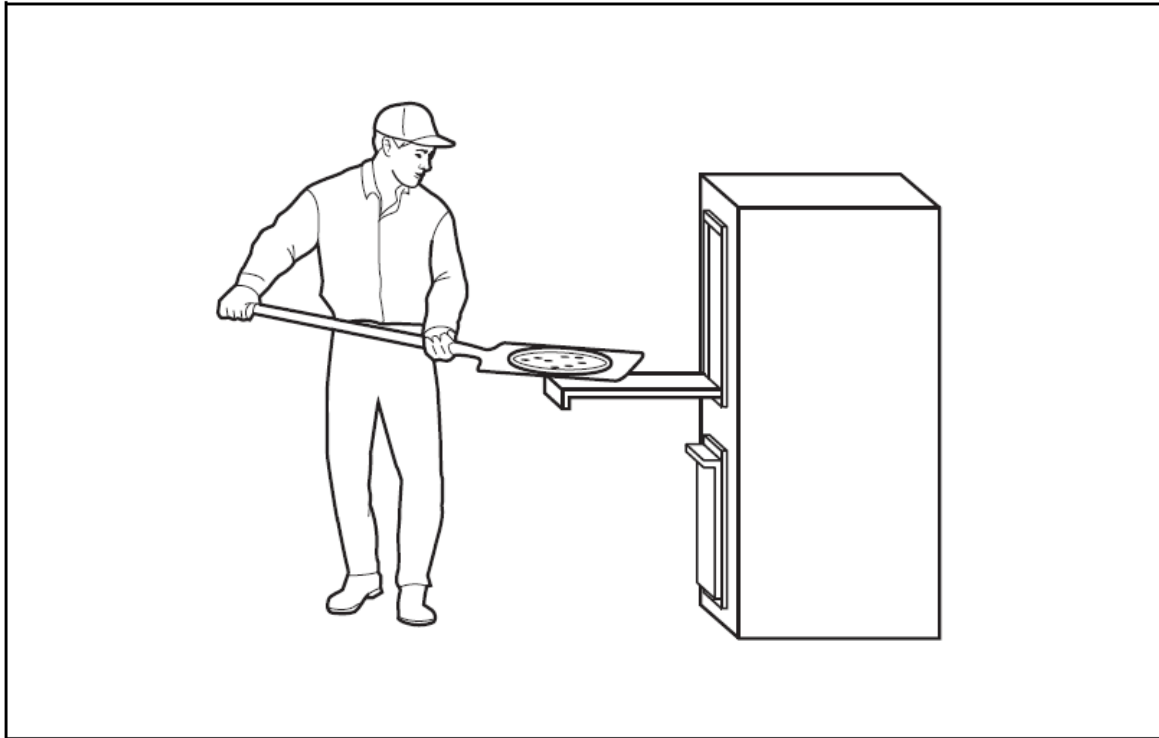
The egg changes shape.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Eli works in a pizza parlor where the oven is heated to six hundred degrees Fahrenheit. He must use a long spatula to place the pizza into the oven and remove it when it is done. Which material is most likely used in the spatula to keep Eli safe? <i>Point to and read the answer choices.</i></p> <p>A. wood B. plastic C. stainless steel D. no response</p>

Item Information	
Item Type	MC
Page Reference	11
Alignment	SCI.AAS.8.7
Point Value	1
Depth of Knowledge	1
Answer Key	A

Appendix: Released Items: Grade 8



wood

plastic

stainless steel

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Many people use cell phones to communicate with each other. Point to the picture. Cell phones use electromagnetic waves to transmit information. Which sentence describes the electromagnetic waves that cell phones use? Point to and read the answer choices.</p> <p>A. They can be seen by the human eye. B. They are invisible to the human eye. C. They are visible only in the dark. D. no response</p>

Item Information	
Item Type	MC
Page Reference	20
Alignment	SCI.AAS.8.19
Point Value	1
Depth of Knowledge	1
Answer Key	B

Appendix: Released Items: Grade 8



They can be seen by the human eye.

They are invisible to the human eye.

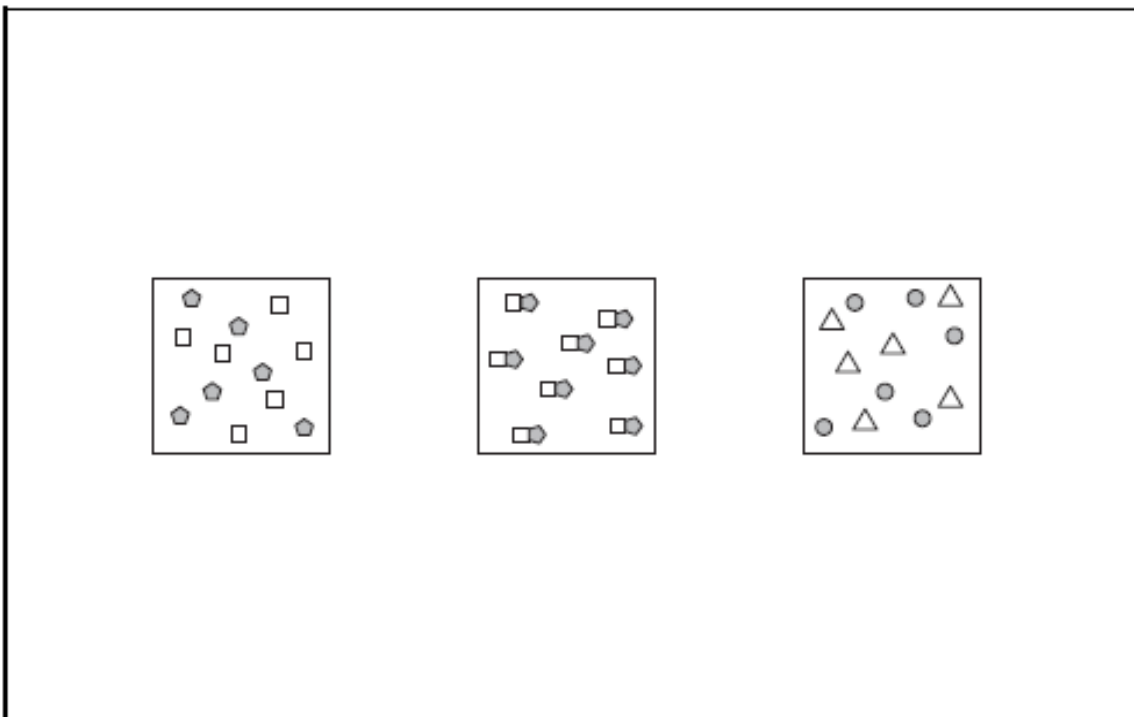
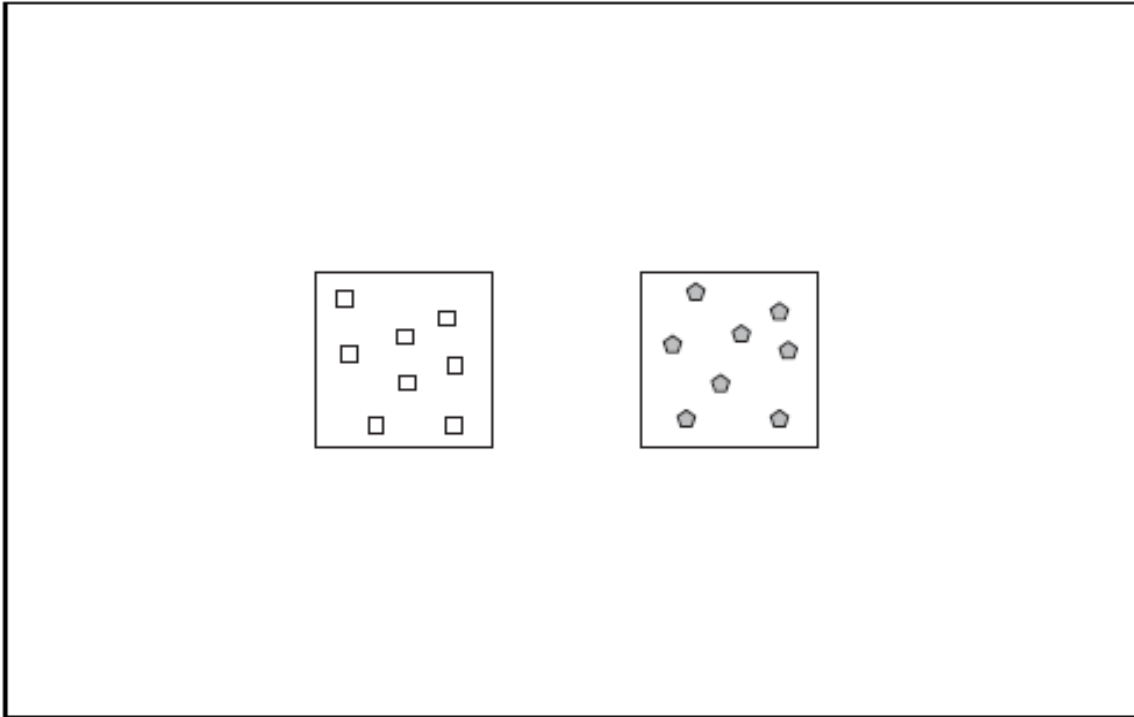
They are visible only in the dark.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Here is a representation of the atoms of two pure substances. Point to the picture. Which picture shows a compound formed by these two substances? Point to the answer choices.</p> <p>A. mixture on left B. compound in center C. mixture on right D. no response</p>

Item Information	
Item Type	MC
Page Reference	8
Alignment	SCI.AAS.8.3
Point Value	1
Depth of Knowledge	1
Answer Key	B

Appendix: Released Items: Grade 8



Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Here are two toy vehicles, a truck and a car. <i>Point to the picture.</i> The truck has more mass than the car. If the same amount of force pushes the truck and the car forward, which vehicle will speed up faster? <i>Point to and read the answer choices.</i></p> <p>A. truck B. car C. They will speed up the same. D. no response</p>

Item Information	
Item Type	MC
Page Reference	16
Alignment	SCI.AAS.8.13
Point Value	1
Depth of Knowledge	2
Answer Key	B

Appendix: Released Items: Grade 8



truck

car

They will speed up the same.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Quinn places a soccer ball on level grass. <i>Point to the picture. Which two sentences best describe what could affect the motion of the soccer ball? Choose two. Point to and read the answer choices.</i></p> <p>A. The soccer ball will begin rolling forward by itself. B. The soccer ball will not move until an outside force is applied. C. The soccer ball can move if it is kicked. D. The soccer ball will not move if it is kicked. E. no response</p>

Item Information	
Item Type	MS
Page Reference	12
Alignment	SCI.AAS.8.8
Point Value	2
Depth of Knowledge	2
Answer Key	B, C

Appendix: Released Items: Grade 8



The soccer ball will begin rolling forward by itself.

The soccer ball will not move until an outside force is applied.

The soccer ball can move if it is kicked.

The soccer ball will not move if it is kicked.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Here is part of the periodic table of the elements that shows symbols and names for the nonmetal elements. <i>Point to the table. Which answer choice best describes a characteristic that these nonmetal elements have in common?</i> <i>Point to and read the answer choices.</i></p> <p>A. They can be bent and pounded into thin sheets. B. They are poor conductors of heat and electricity. C. They are good conductors of heat and electricity. D. no response</p>

Item Information	
Item Type	MC
Page Reference	6
Alignment	SCI.AAS.8.1
Point Value	1
Depth of Knowledge	1
Answer Key	B

Appendix: Released Items: Grade 8

					He Helium
H Hydrogen	C Carbon	N Nitrogen	O Oxygen	F Fluorine	Ne Neon
		P Phosphorus	S Sulfur	Cl Chlorine	Ar Argon
			Se Selenium	Br Bromine	Kr Krypton
				I Iodine	Xe Xenon
				At Astatine	Rn Radon

They can be bent and pounded into thin sheets.

They are poor conductors of heat and electricity.

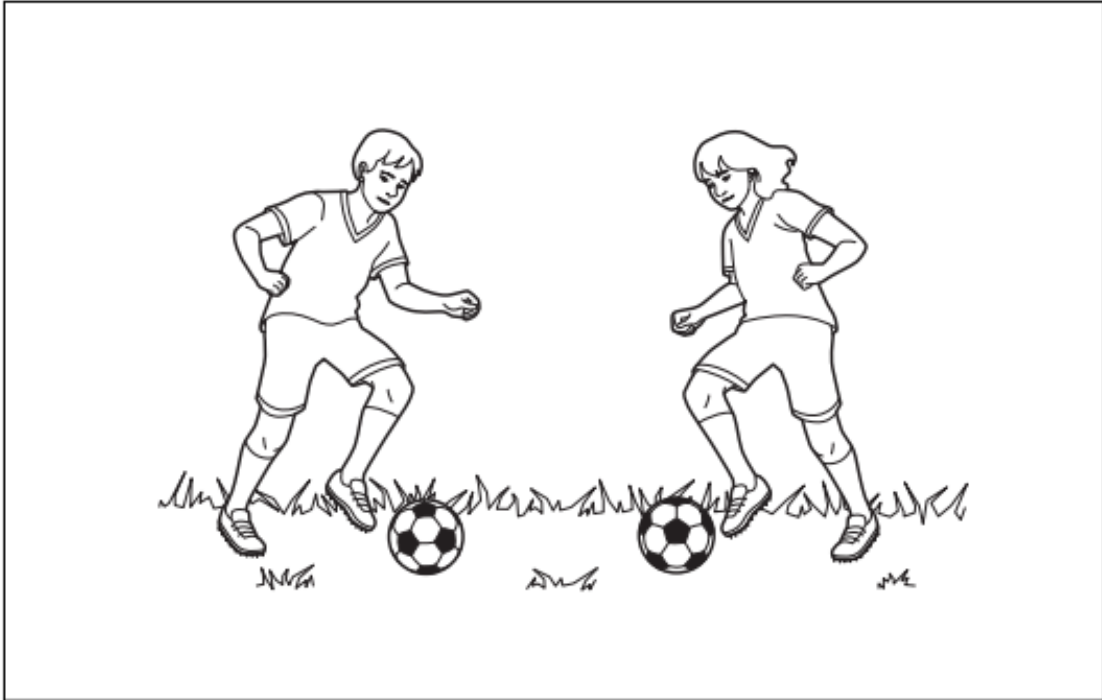
They are good conductors of heat and electricity.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Ellen was kicking her soccer ball around in her yard. Her friend Ryan was kicking another soccer ball around Ellen's yard. Suddenly, the two balls hit each other! Which answer choice describes what most likely happens to the path of the two balls after they collide? Point to and read the answer choices.</p> <p>A. Both balls stop when they collide. B. One soccer ball moves over the other soccer ball. C. Each soccer ball takes a path in a different direction. D. no response</p>

Item Information	
Item Type	MC
Page Reference	14
Alignment	SCI.AAS.8.10
Point Value	1
Depth of Knowledge	1
Answer Key	C

Appendix: Released Items: Grade 8



Both balls stop when they collide.

One soccer ball moves over the other soccer ball.

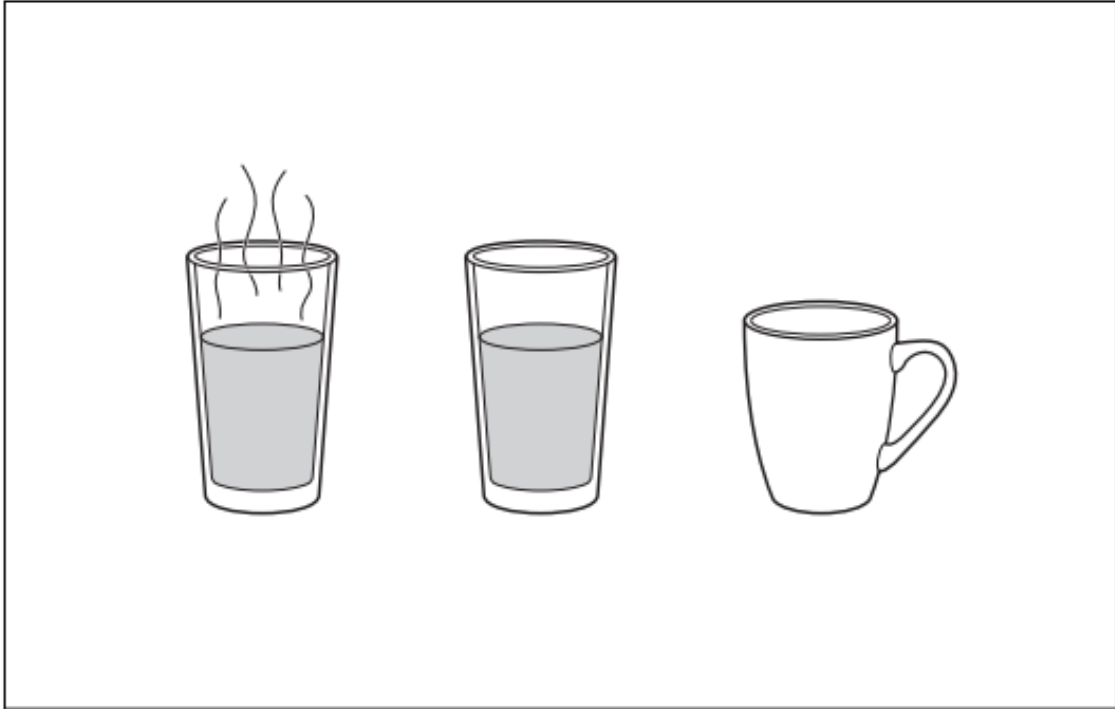
Each soccer ball takes a path in a different direction.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Molly poured her hot chocolate into a tall glass. Point to the picture on the left. After a few minutes, she told her mother that her hot chocolate had gotten cold. Point to the picture in the middle. "Molly," her mother said, "you should have used your insulated mug." Point to the picture on the right. Which answer choice best explains why her mother suggested using the insulated mug? Point to <u>and</u> read the answer choices.</p> <p>A. The insulated mug would prevent heat from transferring to the air better than glass.</p> <p>B. The glass is a better insulator than the mug, so the hot chocolate would cool slowly.</p> <p>C. The insulated mug is a better conductor of heat, so the hot chocolate would cool rapidly.</p> <p>D. no response</p>

Item Information	
Item Type	MC
Page Reference	11
Alignment	SCI.AAS.8.7
Point Value	1
Depth of Knowledge	2
Answer Key	A

Appendix: Released Items: Grade 8



The insulated mug would prevent heat from transferring to the air better than glass.

The glass is a better insulator than the mug, so the hot chocolate would cool slowly.

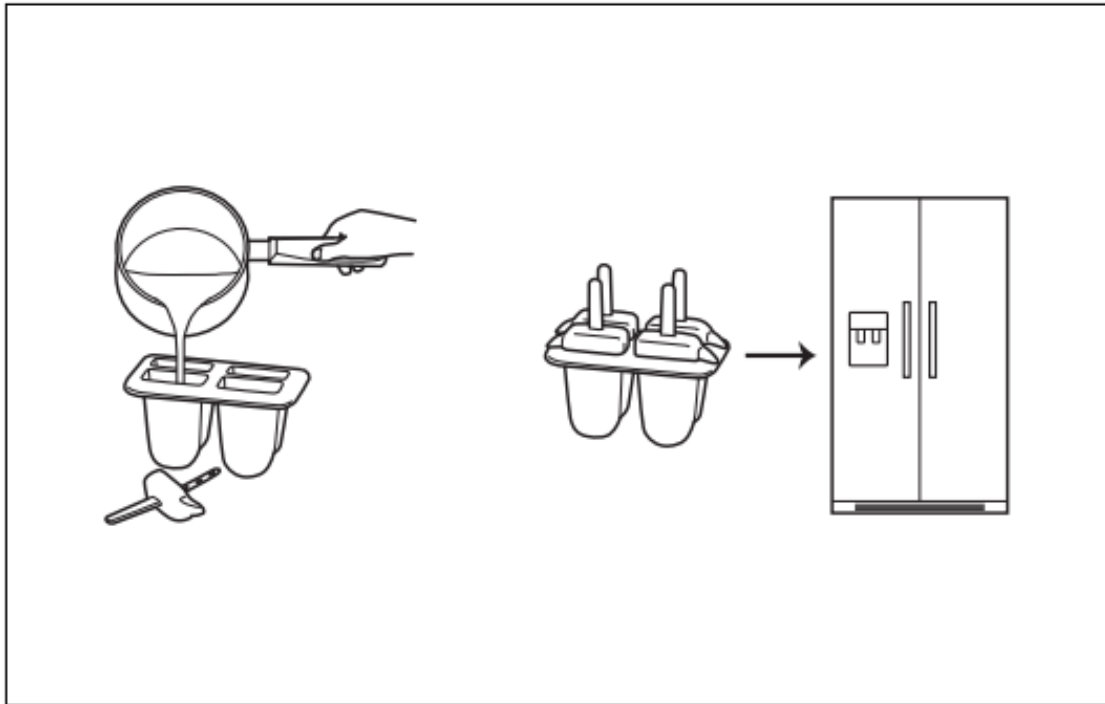
The insulated mug is a better conductor of heat, so the hot chocolate would cool rapidly.

Appendix: Released Items: Grade 8

Teacher Book	
Prepare	<ul style="list-style-type: none"> Place student test page in front of the student. Call student's attention to the page.
SAY	<p>Shannon and Dayton decided to make popsicles. They boiled water and mixed in flavored drink powder and sugar. They poured the hot mixture into the popsicle molds. Point to the picture on the left. Then they put them into the freezer. Point to the picture on the right.</p> <p>Question one: Which answer choice best describes the change in state of the mixture while in the freezer? Point to <u>and</u> read the answer choices.</p> <p>A. from liquid to gas B. from gas to solid C. from liquid to solid D. no response</p> <p>Question two: Which answer choice best describes the motion of the molecules of the mixture over time in the freezer? Point to <u>and</u> read the answer choices.</p> <p>A. The molecules slow down. B. The molecules speed up. C. The molecules stay at the same speed. D. no response</p>

Item Information	
Item Type	EBSR
Page Reference	8
Alignment	SCI.AAS.8.4
Point Value	2
Depth of Knowledge	2
Answer Key	C, A

Appendix: Released Items: Grade 8



from liquid to gas

from gas to solid

from liquid to solid

The molecules slow down.

The molecules speed up.

The molecules stay at the same speed.