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2018 Streamlined TEKS

GRADE 5 SCIENCE

STAAR® Preparation and Practice

- 13 Readiness TEKS Lessons
- 3-step approach for remediation
- Over 185 authentic STAAR test items

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GRADE 5 SCIENCE

STAAR® Preparation and Practice

Streamlined TEKS

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Sampler

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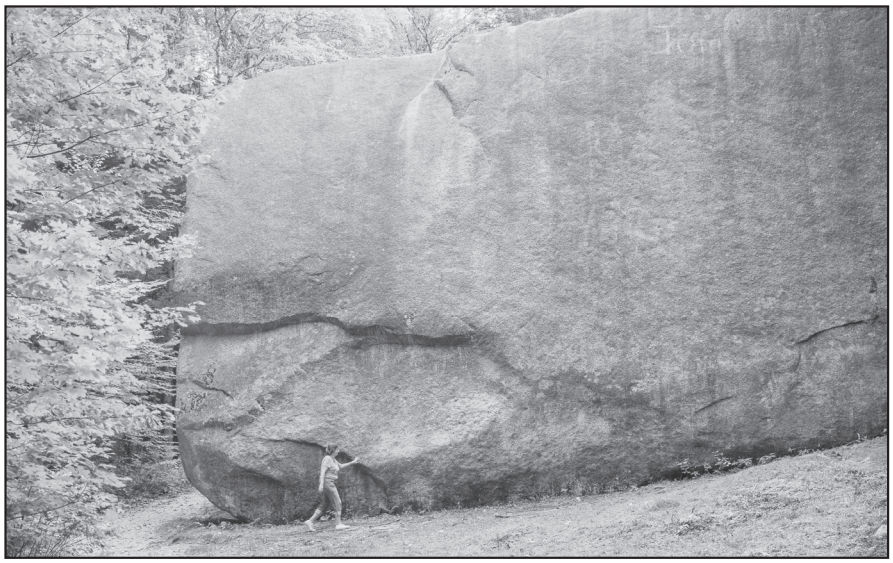

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TEKS Correlations

The 11 Readiness TEKS are **highlighted** in these tables and make up 60–65% of the STAAR test questions.

Reporting Category 1: Matter and Energy		
TEKS	Lesson	Page
5.5A	**1.2**	21
5.5B	1.1	14
5.5C	1.1	12
3.5C	1.1	8

Reporting Category 2: Force, Motion, and Energy		
TEKS	Lesson	Page
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Reporting Category 4: Organisms and Environments		
TEKS	Lesson	Page
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3.9A	4.1	192
3.10B	4.3	221

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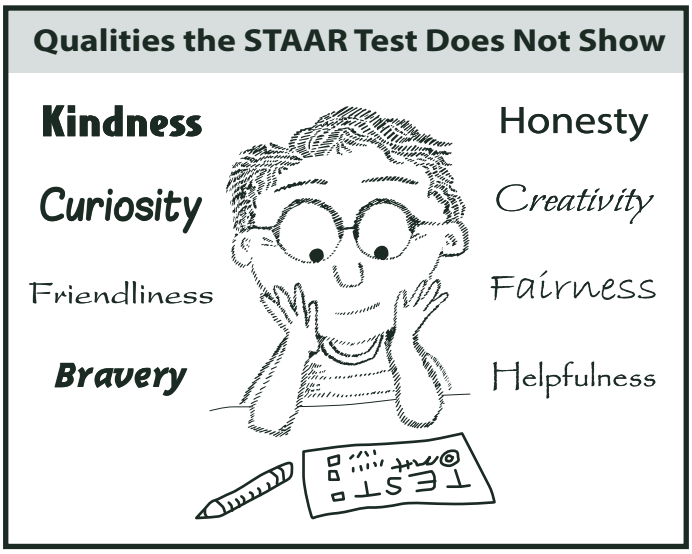
Dear Students,

You are amazing in so many ways. There is no test that shows all the qualities that make you YOU.



You will take the STAAR Grade 5 Science test later this year. The test will ask questions about the science you have learned in grades 3, 4, and 5. But don't worry! This workbook was designed to help you prepare for the STAAR test by

- reviewing the skills and concepts you need to know, and
- providing practice questions that are similar to those you will see when you take the actual STAAR test.

Practicing Smart

You can do well on the STAAR Grade 5 Science test if you practice. But it's important to practice smart. Don't practice by solving just any old science problems. Practice with problems like the ones on the test. You'll have a chance to practice smart by using this workbook.

When practicing, don't be afraid of making a mistake. Your mistakes give important feedback, telling you what you need to learn. So when you miss a question, spend extra time analyzing it. Why is another answer the correct answer? What did you do wrong to get the incorrect answer? This way, you won't make the same mistake on the actual STAAR test!

Remember that you build your test-taking "muscles" one practice test question at a time. When you give a problem your full attention, you are building your test-taking muscles of focus.

Getting ready for the STAAR Grade 5 Science test can be fun! Read each lesson carefully, and practice, practice, practice. Keep trying and you will succeed!

Your partners in STAAR success,

The Sirius Education Team

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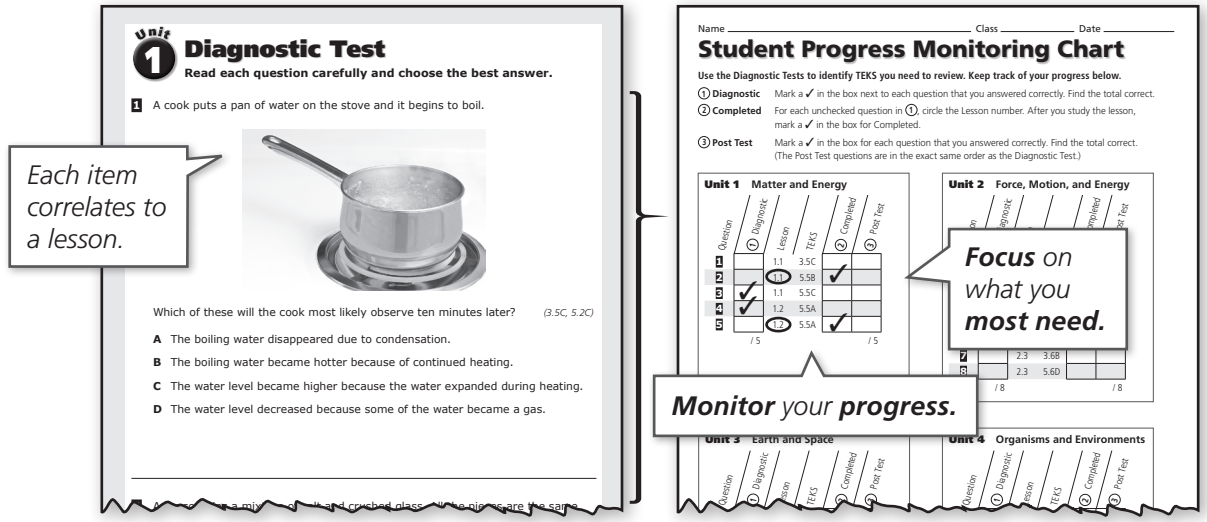
Using This Book for STAAR Success

This workbook is your path to winning results on the STAAR test.
Find out what you already know. Review and practice the rest.

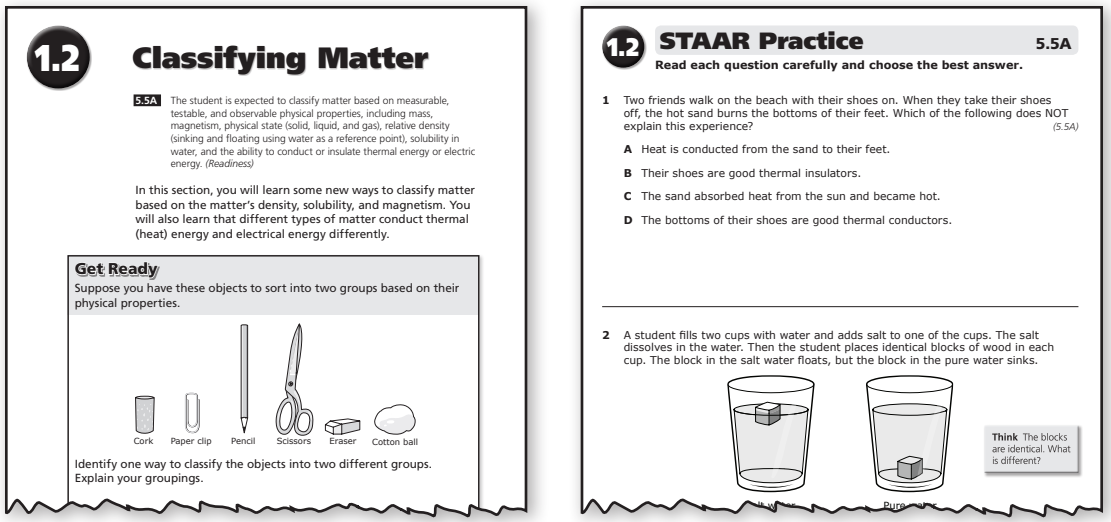
STEP 1 Identify Your Needs—Unit Diagnostic Tests

Use the 4 Unit Diagnostic Tests to identify what you know and what you need to review. Keep track of your results in the Student Progress Monitoring Chart.



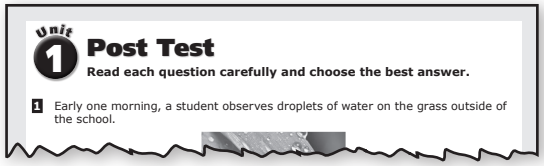
STEP 2 Focus Preparation—Instruction and Practice

Use your Diagnostic Test results to focus TEKS instruction and STAAR practice to meet your unique needs.



STEP 3 Check Your Progress—Unit Post Tests

Use each Unit Post Test to check your progress and to identify additional lessons for review. The Post Test questions cover the same TEKS in the same order as the Diagnostic Test.



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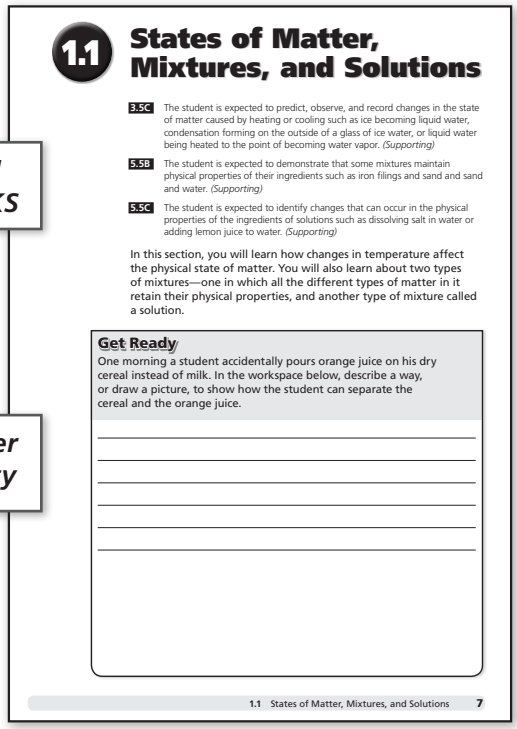
13 Lessons with TEKS Instruction and STAAR Practice

TEKS Instruction—Engaging Interactive Learning

Student-friendly instruction reviews each tested TEKS. Students actively participate in learning with **interactive** and **scaffolded** Your Turn questions.



1.1 States of Matter, Mixtures, and Solutions

3.5C The student is expected to predict, observe, and record changes in the state of matter caused by heating or cooling such as ice becoming liquid water, condensation forming on the outside of a glass of ice water, or liquid water being heated to the point of becoming water vapor. *(Supporting)*

5.5B The student is expected to demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand and sand and water. *(Supporting)*

5.5C The student is expected to identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water. *(Supporting)*

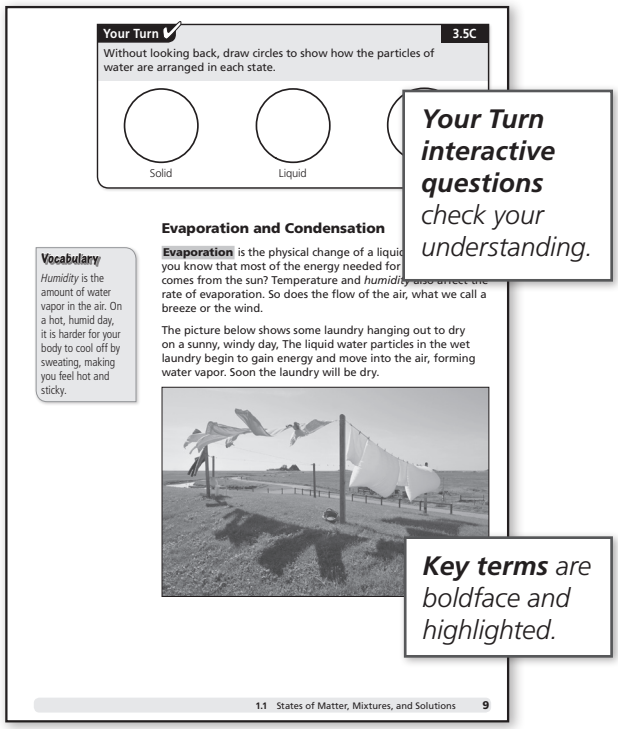
In this section, you will learn how changes in temperature affect the physical state of matter. You will also learn about two types of mixtures—one in which all the different types of matter in it retain their physical properties, and another type of mixture called a solution.

Get Ready
One morning a student accidentally pours orange juice on his dry cereal instead of milk. In the workspace below, describe a way, or draw a picture, to show how the student can separate the cereal and the orange juice.

1.1 States of Matter, Mixtures, and Solutions 7

Full TEKS

Opener activity



Your Turn 3.5C
Without looking back, draw circles to show how the particles of water are arranged in each state.

Solid Liquid

Evaporation and Condensation

Vocabulary
Humidity is the amount of water vapor in the air. On a hot, humid day, it is harder for your body to cool off by sweating, making you feel hot and sticky.

Evaporation is the physical change of a liqui... you know that most of the energy needed for ... comes from the sun? Temperature and *humidity* also affect the rate of evaporation. So does the flow of the air, what we call a breeze or the wind.

The picture below shows some laundry hanging out to dry on a sunny, windy day. The liquid water particles in the wet laundry begin to gain energy and move into the air, forming water vapor. Soon the laundry will be dry.

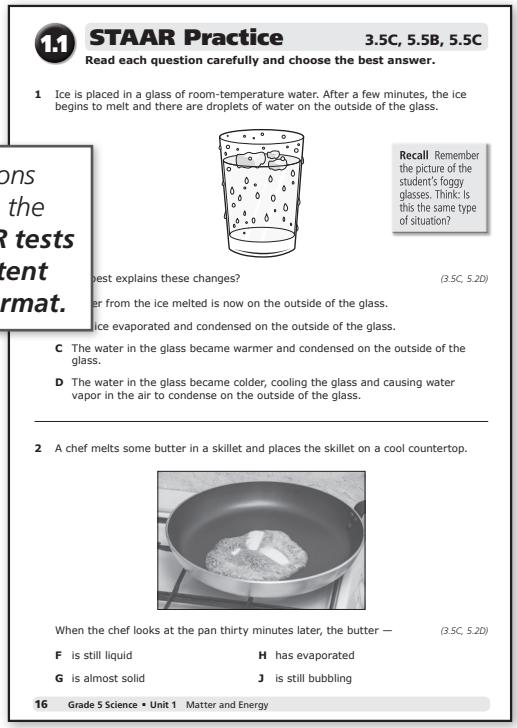
1.1 States of Matter, Mixtures, and Solutions 9

Your Turn interactive questions *check your understanding.*

Key terms *are boldface and highlighted.*

STAAR Practice—Abundant and Systematic Practice

Each lesson includes **authentic STAAR practice** with **test-taking tips**.



1.1 STAAR Practice 3.5C, 5.5B, 5.5C

Read each question carefully and choose the best answer.

1 Ice is placed in a glass of room-temperature water. After a few minutes, the ice begins to melt and there are droplets of water on the outside of the glass.

Recall Remember the picture of the student's foggy glasses. Think: Is this the same type of situation?

...best explains these changes? *(3.5C, 5.2D)*

...er from the ice melted is now on the outside of the glass.

...ice evaporated and condensed on the outside of the glass.

C The water in the glass became warmer and condensed on the outside of the glass.

D The water in the glass became colder, cooling the glass and causing water vapor in the air to condense on the outside of the glass.

2 A chef melts some butter in a skillet and places the skillet on a cool countertop.

When the chef looks at the pan thirty minutes later, the butter — *(3.5C, 5.2D)*

F is still liquid **H** has evaporated

G is almost solid **J** is still bubbling

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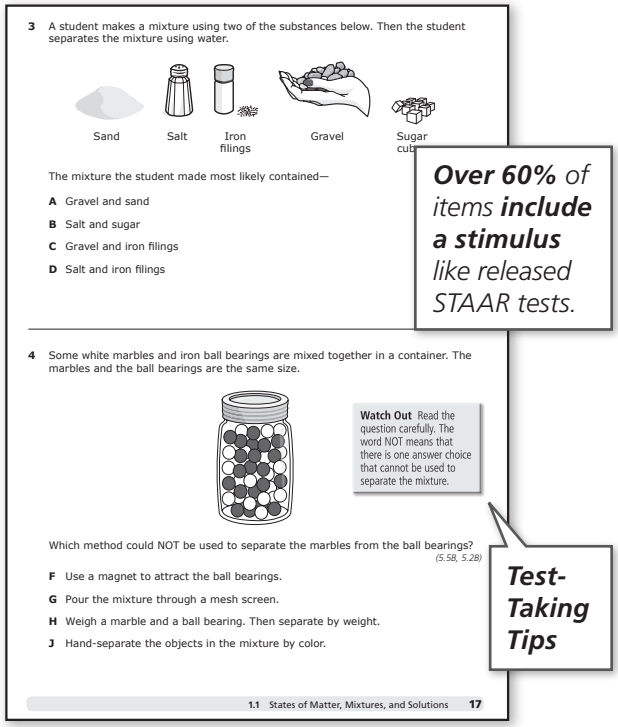
Questions match the STAAR tests in content and format.



3 A student makes a mixture using two of the substances below. Then the student separates the mixture using water.

Sand Salt Iron filings Gravel Sugar cubes

The mixture the student made most likely contained—

A Gravel and sand

B Salt and sugar

C Gravel and iron filings

D Salt and iron filings

4 Some white marbles and iron ball bearings are mixed together in a container. The marbles and the ball bearings are the same size.

Watch Out Read the question carefully. The word NOT means that there is one answer choice that cannot be used to separate the mixture.

Which method could NOT be used to separate the marbles from the ball bearings? *(5.5B, 5.2B)*

F Use a magnet to attract the ball bearings.

G Pour the mixture through a mesh screen.

H Weigh a marble and a ball bearing. Then separate by weight.

J Hand-separate the objects in the mixture by color.

1.1 States of Matter, Mixtures, and Solutions 17

Over 60% *of items* ***include a stimulus*** *like released STAAR tests.*

Test-Taking Tips

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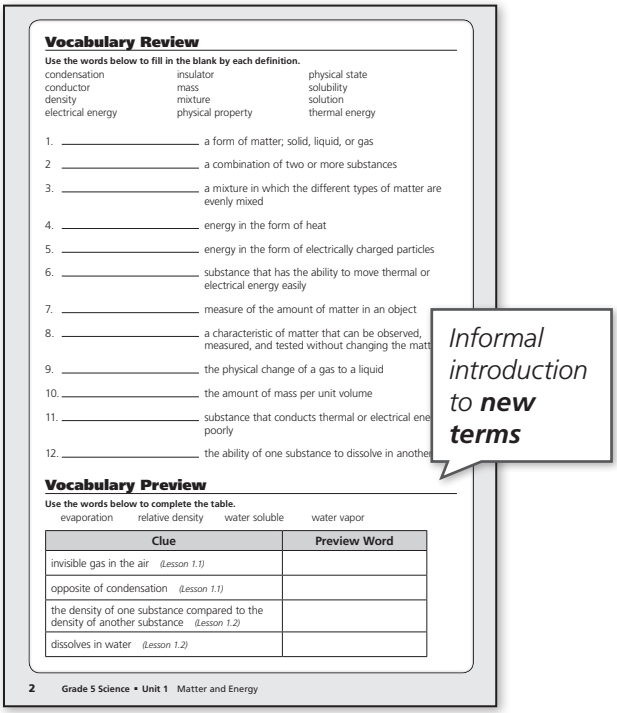
Additional Resources for STAAR Success

Unit Opener—Vocabulary

Review prerequisite vocabulary and **preview new key terms** with an engaging activity.



Vocabulary Review

Use the words below to fill in the blank by each definition.

condensation, conductor, density, electrical energy, insulator, mass, mixture, physical property, physical state, solubility, solution, thermal energy

1. _____ a form of matter; solid, liquid, or gas
2. _____ a combination of two or more substances
3. _____ a mixture in which the different types of matter are evenly mixed
4. _____ energy in the form of heat
5. _____ energy in the form of electrically charged particles
6. _____ substance that has the ability to move thermal or electrical energy easily
7. _____ measure of the amount of matter in an object
8. _____ a characteristic of matter that can be observed, measured, and tested without changing the matt
9. _____ the physical change of a gas to a liquid
10. _____ the amount of mass per unit volume
11. _____ substance that conducts thermal or electrical ene poorly
12. _____ the ability of one substance to dissolve in another

Vocabulary Preview

Use the words below to complete the table.

evaporation, relative density, water soluble, water vapor

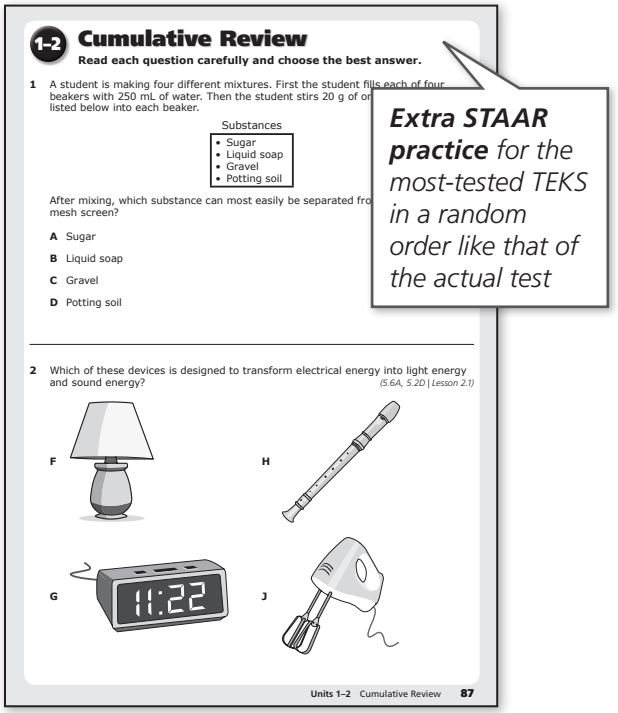
Clue	Preview Word
invisible gas in the air *(Lesson 1.1)*	
opposite of condensation *(Lesson 1.1)*	
the density of one substance compared to the density of another substance *(Lesson 1.2)*	
dissolves in water *(Lesson 1.2)*	

2 Grade 5 Science • Unit 1 Matter and Energy

*Informal introduction to **new terms***

Cumulative STAAR Review

Mixed practice provides spaced review to help students remember what they learn.



1–2 Cumulative Review

Read each question carefully and choose the best answer.

1 A student is making four different mixtures. First the student fills each of four beakers with 250 mL of water. Then the student stirs 20 g of or listed below into each beaker.

Substances
- Sugar
- Liquid soap
- Gravel
- Potting soil

After mixing, which substance can most easily be separated fro mesh screen?

A Sugar
B Liquid soap
C Gravel
D Potting soil

2 Which of these devices is designed to transform electrical energy into light energy and sound energy? *(5.6A, 5.2D | Lesson 2.1)*

F
H
G

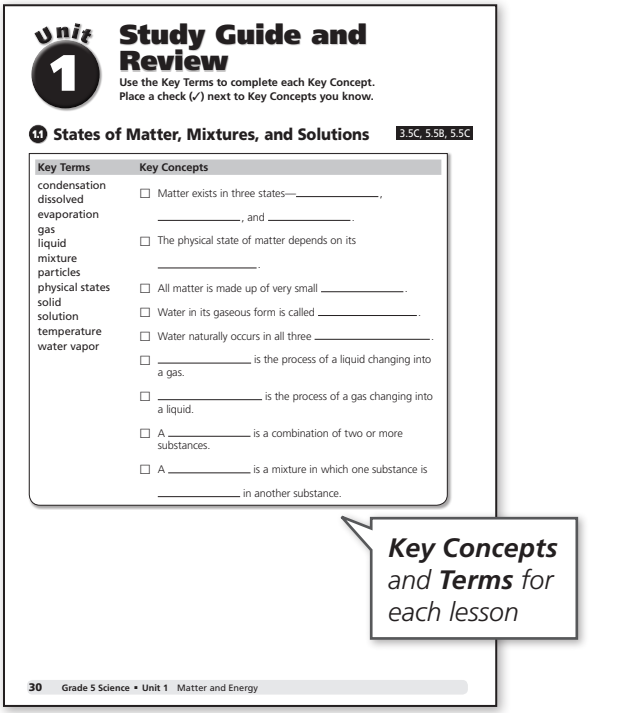
J

Units 1–2 Cumulative Review 87

***Extra STAAR practice** for the most-tested TEKS in a random order like that of the actual test*

Unit Study Guide & Review

Interactive review of each lesson's **Key Concepts** and **Key Terms.**



Unit 1

Study Guide and Review

Use the Key Terms to complete each Key Concept.
Place a check (✓) next to Key Concepts you know.

1.1 States of Matter, Mixtures, and Solutions 3.5C, 5.5B, 5.5C

Key Terms	Key Concepts
condensation dissolved evaporation gas liquid mixture particles physical states solid solution temperature water vapor	☐ Matter exists in three states—_____, _____, and _____. ☐ The physical state of matter depends on its _____. ☐ All matter is made up of very small _____. ☐ Water in its gaseous form is called _____. ☐ Water naturally occurs in all three _____. ☐ _____ is the process of a liquid changing into a gas. ☐ _____ is the process of a gas changing into a liquid. ☐ A _____ is a combination of two or more substances. ☐ A _____ is a mixture in which one substance is _____ in another substance.

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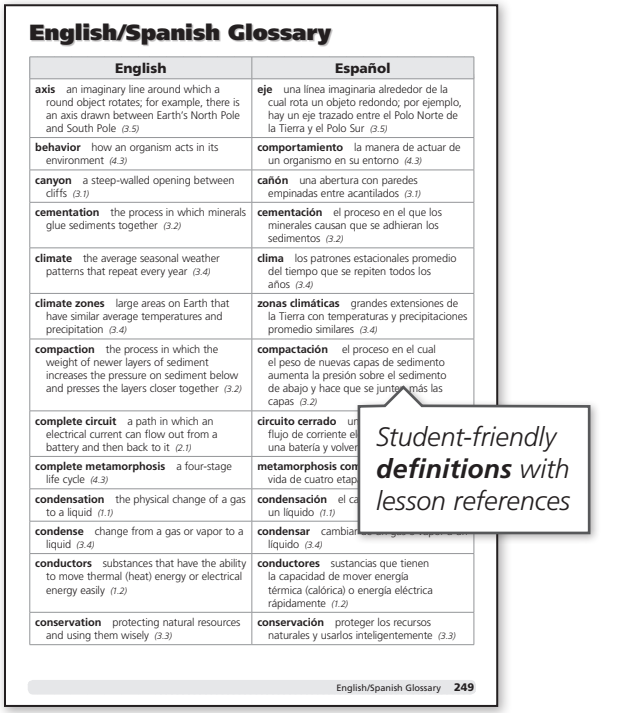
***Key Concepts** and **Terms** for each lesson*

English/Spanish Glossary

English/Spanish glossary has definitions for almost 100 key terms.



English/Spanish Glossary

English	Español
axis an imaginary line around which a round object rotates; for example, there is an axis drawn between Earth's North Pole and South Pole *(3.5)*	**eje** una línea imaginaria alrededor de la cual rota un objeto redondo; por ejemplo, hay un eje trazado entre el Polo Norte de la Tierra y el Polo Sur *(3.5)*
behavior how an organism acts in its environment *(4.3)*	**comportamiento** la manera de actuar de un organismo en su entorno *(4.3)*
canyon a steep-walled opening between cliffs *(3.1)*	**cañón** una abertura con paredes empinadas entre acantilados *(3.1)*
cementation the process in which minerals glue sediments together *(3.2)*	**cementación** el proceso en el que los minerales causan que se adhieran los sedimentos *(3.2)*
climate the average seasonal weather patterns that repeat every year *(3.4)*	**clima** los patrones estacionales promedio del tiempo que se repiten todos los años *(3.4)*
climate zones large areas on Earth that have similar average temperatures and precipitation *(3.4)*	**zonas climáticas** grandes extensiones de la Tierra con temperaturas y precipitaciones promedio similares *(3.4)*
compaction the process in which the weight of newer layers of sediment increases the pressure on sediment below and presses the layers closer together *(3.2)*	**compactación** el proceso en el cual el peso de nuevas capas de sedimento aumenta la presión sobre el sedimento de abajo y hace que se junten más las capas *(3.2)*
complete circuit a path in which an electrical current can flow out from a battery and then back to it *(2.1)*	**circuito cerrado** un flujo de corriente el una batería y volver
complete metamorphosis a four-stage life cycle *(4.3)*	**metamorphosis com** vida de cuatro etap
condensation the physical change of a gas to a liquid *(1.1)*	**condensación** el ca un líquido *(1.1)*
condense change from a gas or vapor to a liquid *(3.4)*	**condensar** cambian líquido *(3.4)*
conductors substances that have the ability to move thermal (heat) energy or electrical energy easily *(1.2)*	**conductores** sustancias que tienen la capacidad de mover energía térmica (calórica) o energía eléctrica rápidamente *(1.2)*
conservation protecting natural resources and using them wisely *(3.3)*	**conservación** proteger los recursos naturales y usarlos inteligentemente *(3.3)*

English/Spanish Glossary 249

***Student-friendly definitions** with lesson references*

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Name _____ Class _____ Date _____

Student Progress Monitoring Chart

Use the Diagnostic Tests to identify TEKS you need to review. Keep track of your progress below.

① **Diagnostic** Mark a ✓ in the box next to each question that you answered correctly. Find the total correct.

② **Completed** For each unchecked question in ①, circle the Lesson number. After you study the lesson, mark a ✓ in the box for Completed.

③ **Post Test** Mark a ✓ in the box for each question that you answered correctly. Find the total correct. (The Post Test questions are in the exact same order as the Diagnostic Test.)

Unit 1 Matter and Energy

Question	① Diagnostic	Lesson	TEKS	② Completed	③ Post Test
1		1.1	3.5C		
2		1.1	5.5B		
3		1.1	5.5C		
4		1.2	5.5A		
5		1.2	5.5A		
	/ 5				/ 5

Unit 2 Force, Motion, and Energy

Question	① Diagnostic	Lesson	TEKS	② Completed	③ Post Test
1		2.1	5.6A		
2		2.1	5.6A		
3		2.1	5.6B		
4		2.1	5.6B		
5		2.2	5.6C		
6		2.2	5.6C		
7		2.3	3.6B		
8		2.3	5.6D		
	/ 8				/ 8

Unit 3 Earth and Space

Question	① Diagnostic	Lesson	TEKS	② Completed	③ Post Test
1		3.1	5.7B		
2		3.1	5.7B		
3		3.1	3.7B		
4		3.2	5.7A		
5		3.2	5.7A		
6		3.2	4.7A		
7		3.3	4.7C		
8		3.4	4.8B		
9		3.4	5.8B		
10		3.5	5.8C		
11		3.5	3.8D		
	/ 11				/ 11

Unit 4 Organisms and Environments

Question	① Diagnostic	Lesson	TEKS	② Completed	③ Post Test
1		4.1	5.9A		
2		4.1	5.9A		
3		4.1	5.9B		
4		4.1	5.9B		
5		4.1	3.9A		
6		4.2	5.9C		
7		4.2	5.9D		
8		4.3	5.10A		
9		4.3	5.10A		
10		4.3	5.10B		
11		4.3	5.10B		
12		4.3	3.10B		
	/ 12				/ 12

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Unit 1

Matter and Energy

Reporting Category 1
The student will demonstrate an understanding of the properties of matter and energy and their interactions.

1.1 States of Matter, Mixtures, and Solutions (3.5C, 5.5B, 5.5C)
1.2 Classifying Matter (5.5A)

In this unit, you will learn how matter changes forms and how it combines to form mixtures and solutions. You also will learn that you can classify matter based on its physical properties.

It's a cold winter day in Japan. However, this snow monkey and her baby are relaxing and warming up in a hot spring. Natural hot springs are heated by energy from deep below Earth's surface.

Get Ready

Name three types of matter found in the picture above—one solid, one liquid, and one gas.

Vocabulary Review

Use the words below to fill in the blank by each definition.

condensation	insulator	physical state
conductor	mass	solubility
density	mixture	solution
electrical energy	physical property	thermal energy

1. _____ a form of matter; solid, liquid, or gas
2. _____ a combination of two or more substances
3. _____ a mixture in which the different types of matter are evenly mixed
4. _____ energy in the form of heat
5. _____ energy in the form of electrically charged particles
6. _____ substance that has the ability to move thermal or electrical energy easily
7. _____ measure of the amount of matter in an object
8. _____ a characteristic of matter that can be observed, measured, and tested without changing the matter
9. _____ the physical change of a gas to a liquid
10. _____ the amount of mass per unit volume
11. _____ substance that conducts thermal or electrical energy poorly
12. _____ the ability of one substance to dissolve in another

Vocabulary Preview

Use the words below to complete the table.

evaporation relative density water soluble water vapor

Clue	Preview Word
invisible gas in the air *(Lesson 1.1)*	
opposite of condensation *(Lesson 1.1)*	
the density of one substance compared to the density of another substance *(Lesson 1.2)*	
dissolves in water *(Lesson 1.2)*	

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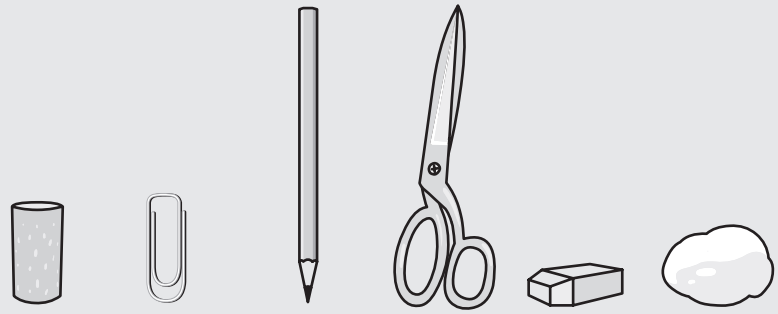
1.2 Classifying Matter

5.5A The student is expected to classify matter based on measurable, testable, and observable physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating using water as a reference point), solubility in water, and the ability to conduct or insulate thermal energy or electric energy. *(Readiness)*

In this section, you will learn some new ways to classify matter based on the matter's density, solubility, and magnetism. You will also learn that different types of matter conduct thermal (heat) energy and electrical energy differently.

Get Ready

Suppose you have these objects to sort into two groups based on their physical properties.



Cork Paper clip Pencil Scissors Eraser Cotton ball

Identify one way to classify the objects into two different groups. Explain your groupings.

Group 1 _____

_____

_____

Group 2 _____

_____

_____

Identify two additional objects that could go in each group, and tell which group they belong to.

_____

_____

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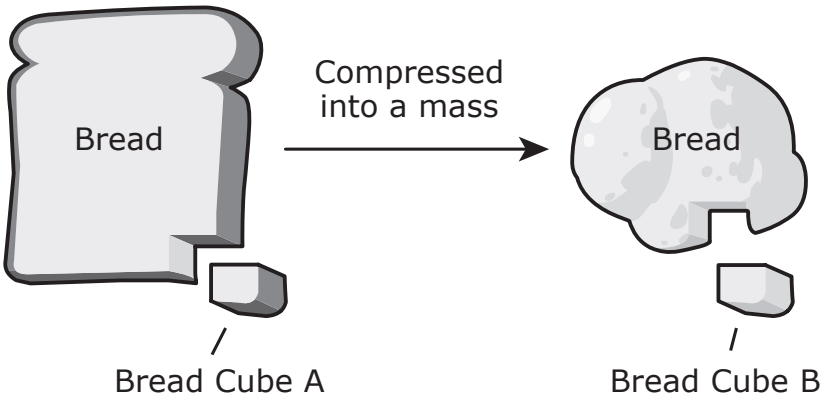
Physical Properties of Matter 5.5A

A **physical property** of matter is a characteristic that can be *observed*, *measured*, and *tested* without changing the matter.

The pumpkin in the illustration has a smooth surface and the coconut has a rough surface. Their textures are different. You can use a scale to compare their weights. Texture and weight are physical properties.

Mass and Density

Mass and density are physical properties of matter. **Mass** is the measure of the amount of matter in an object. **Density** is the amount of mass per unit volume. The illustration below will help you understand this.



- The slice of bread and the compressed bread have the same mass because no bread was added or taken away.
- The matter in Bread Cube B is more compact so its density is greater than the density of Bread Cube A.

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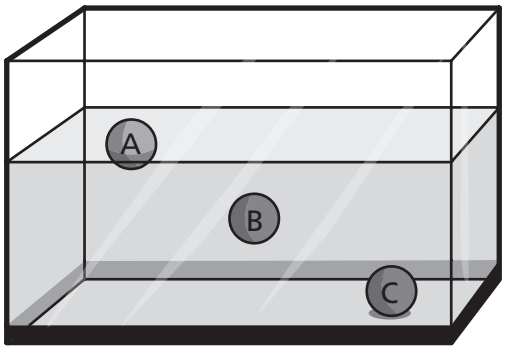
Comparing Density

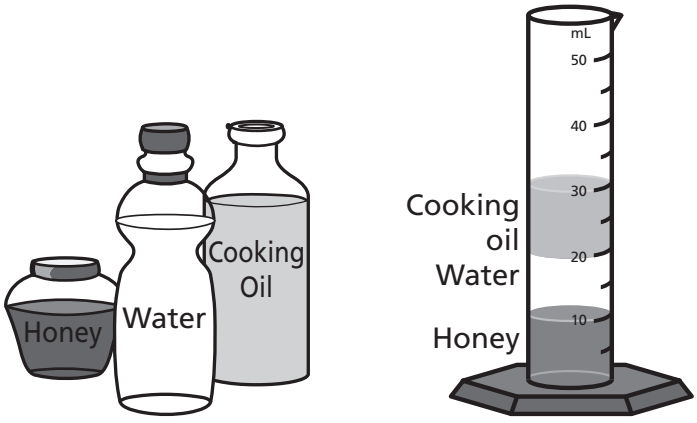
Relative density is how dense one type of matter is compared to another. The diagrams below show a way to compare densities of solids and liquids.

Compare the Density of Three Solid Objects



- Sphere A rests on the surface of the water. Its density is less than the density of the water.
- Sphere B floats in the middle of the water. Its density is greater than that of Sphere A but less than that of Sphere C.
- Sphere C sinks to the bottom of the tank. Its density is greater than the density of the water.

Compare the Densities of Three Liquids



Three substances are poured into a graduated cylinder. When you observe them thirty minutes later, you can conclude that:

- Honey has the greatest density because it sinks to the bottom.
- Water floats on the honey, so it is less dense than honey.
- Cooking oil floats on the water, so it is less dense than water.

Think on This

The *relative density* of substances determines whether one substance will sink or float in another substance. Here, the density of each sphere is compared to the density of water.

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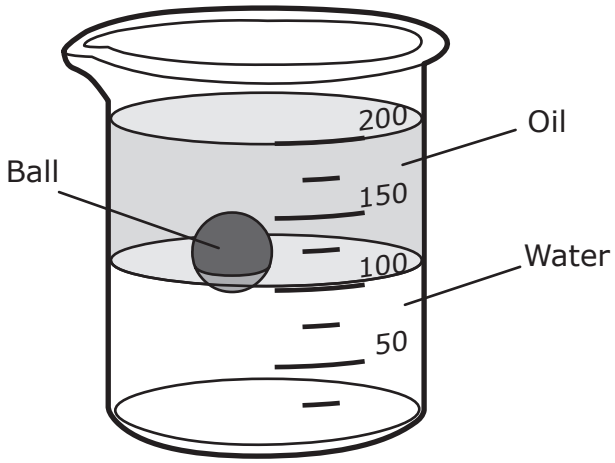
Diagnostic Test Item

5.5A, 5.2D

4 During a demonstration, a teacher fills a beaker with equal amounts of water and oil. Then the teacher drops a plastic ball into the beaker. After a few minutes, the students observe that both the oil and the ball float on the surface of the water.



Based on these observations, which statement correctly describes the densities of the oil and the ball?

F The oil and the ball are both more dense than the water.

G The oil and the ball are both less dense than the water.

H The oil is less dense than the water and the ball is more dense than the water.

J The oil is more dense than the water and the ball is less dense than the water.

Explanation

F If something is more dense than water it will sink in the water, but the oil and water both float.

G Correct! The oil and the ball both float on the water, demonstrating that they are less dense than the water.

H If the ball were more dense than the water, it would sink to the bottom of the beaker.

J If the oil were more dense than the water, it would sink below the water in the beaker.

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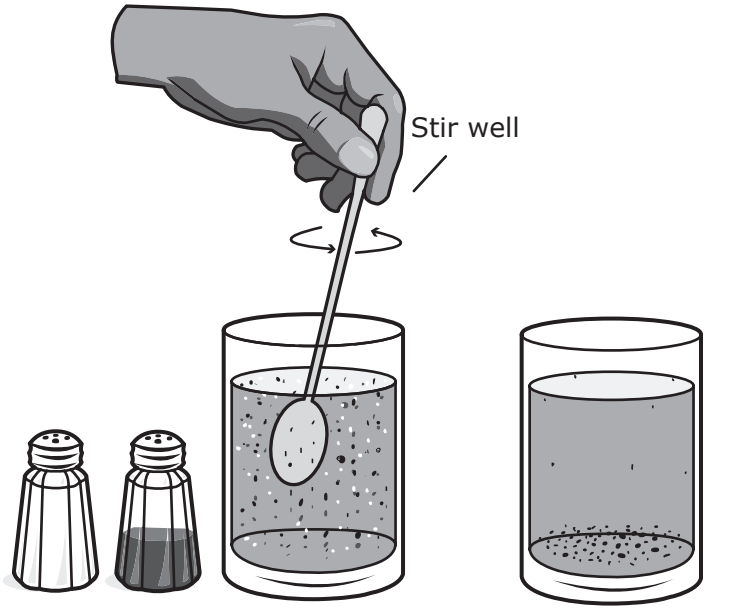
Solubility in Water

Solubility is the ability of one substance to dissolve in another substance. A **water-soluble** substance will dissolve in water. The diagram shows what happens when salt and pepper are stirred into pure, warm water.



Salt is water-soluble so you can no longer see it. The pepper is still visible because it is insoluble in water. If you boiled away the water, both the salt and the pepper would remain.

Vocabulary

The prefixes *in-* and *non-* mean NOT. *Insoluble* means "NOT soluble."

Magnetism

Magnets are objects made of materials that can *attract* (pull) or *repel* (push) other magnetic objects without touching them. The force between magnets and the objects they attract or repel is called **magnetism**. A magnet has no effect on non-metals such wood, plastic, rubber, or glass.

The recycling industry uses powerful electromagnets to separate different materials. When the electromagnet is turned on, it picks up magnetic materials. When it is turned off, it drops them.

Did You Know?

Not all metals are magnetic. Iron, nickel, and cobalt are the most common magnetic materials. Other metals, such as aluminum and copper, are not affected by magnets.

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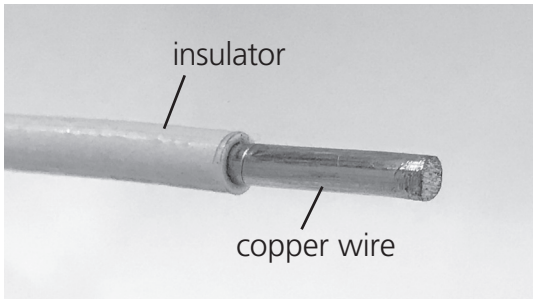
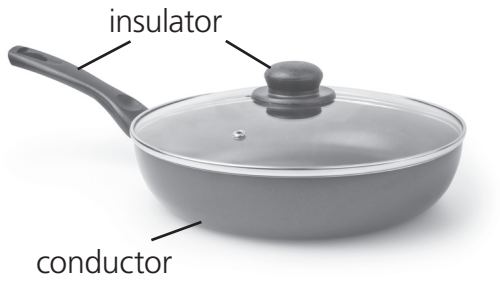
Ability to Conduct or Insulate

Conductors are substances that have the ability to move thermal (heat) energy or electrical energy easily. Metals are good conductors of both electricity and thermal energy.

Insulators are substances that poorly conduct thermal energy or electricity. Plastic, rubber, wood, glass, and air are good thermal and electrical insulators.



- Copper is a good conductor. It allows electricity to flow through this wire easily.
- The wire's plastic covering is an insulator. It does not allow electricity to flow through it, which protects against fire and electrical shocks.

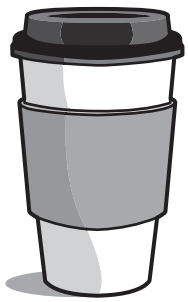


- This skillet is made of a material that conducts thermal energy well.
- Its handle and knob are made of a thermal insulator. They keep the handle and knob from getting too hot to touch safely.

- Air is a good thermal insulator.
- Birds puff up their feathers in cold weather. The air trapped in their feathers holds their body heat in.

Your Turn ✔ **5.5A**

Hot drinks often have a cardboard "sleeve" around them. Use science vocabulary words to explain the purpose of the sleeve.


Hot Tea

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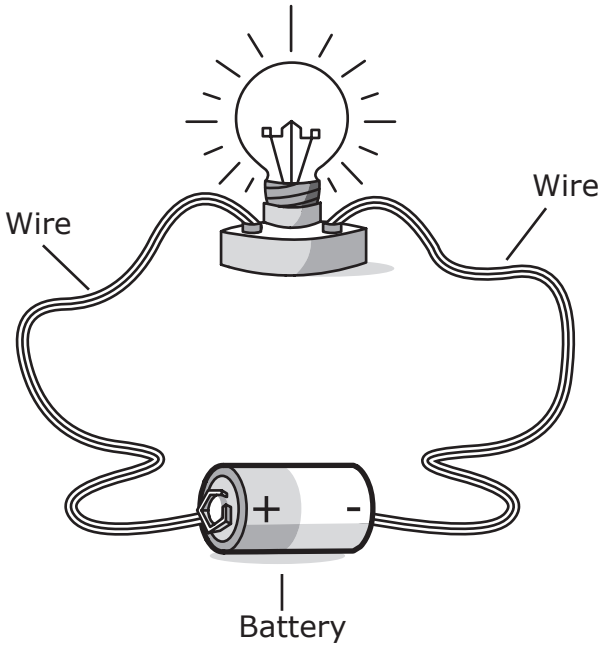
Diagnostic Test Item

5.5A, 5.2D

5 A student uses copper wire to connect the light bulb to a battery, and the light bulb lights up. When the student replaces the copper wire with aluminum wire, the light bulb also lights up.



Which statement best describes the main purpose of the copper and the aluminum in the wires?

A The copper and the aluminum conduct heat energy out of the wires.

B The copper and the aluminum insulate the wires so they do not become too hot.

C The copper and the aluminum conduct electrical energy through the wires.

D The copper and the aluminum conduct electrical energy and prevent it from leaving the wires.

Explanation

A While copper and aluminum are good thermal conductors, this is not their main purpose in lighting the light bulb.

B Copper and aluminum are both metals that are good conductors, not insulators.

C Correct! Copper and aluminum are electrical conductors, which allows an electric current to flow through them.

D While copper and aluminum conduct electricity, they do not prevent electrical energy from leaving the wire. This is the function of the insulator that covers the wire.

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1.2 STAAR Practice 5.5A

Read each question carefully and choose the best answer.

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1 Two friends walk on the beach with their shoes on. When they take their shoes off, the hot sand burns the bottoms of their feet. Which of the following does NOT explain this experience? *(5.5A)*

A Heat is conducted from the sand to their feet.

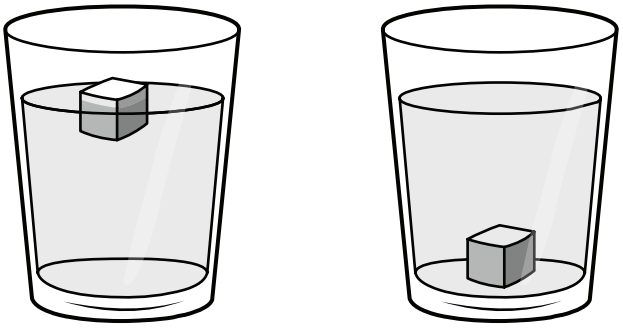
B Their shoes are good thermal insulators.

C The sand absorbed heat from the sun and became hot.

D The bottoms of their shoes are good thermal conductors.

---

2 A student fills two cups with water and adds salt to one of the cups. The salt dissolves in the water. Then the student places identical blocks of wood in each cup. The block in the salt water floats, but the block in the pure water sinks.



Salt water Pure water

Think The blocks are identical. What is different?

Based on these observations, which statement correctly describes the density of the wood blocks? *(5.5A, 5.2D)*

F The blocks are more dense than the pure water and the salt water.

G The blocks are less dense than the pure water and the salt water.

H The blocks are more dense than the pure water but less dense than the salt water.

J The blocks are less dense than the pure water but more dense than the salt water.

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3 A student stirred powdered cocoa into a mug of hot water until the powder disappeared. Which statement best explains why the cocoa powder was not visible? *(5.5A, 5.3A)*

A The cocoa powder condensed into the hot water.

B The cocoa powder settled at the bottom because it has a greater density than water.

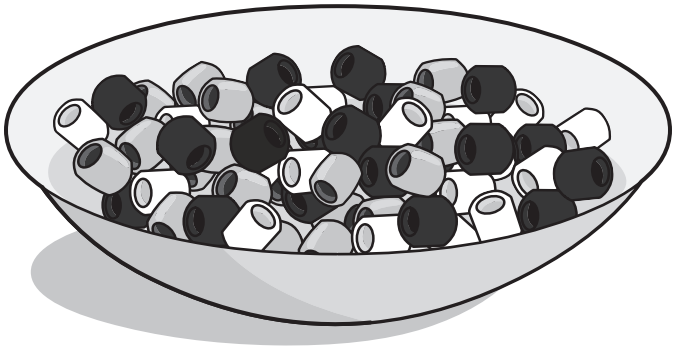
C The cocoa powder dissolved because it is soluble in water.

D The cocoa powder had a greater mass than the hot water, so it dissolved.

Watch Out The question uses the word "not."

---

4 Some iron beads were poured into a bowl of plastic beads.



Which property could NOT be used to separate the beads? *(5.5A, 5.2B)*

F Solubility

G Magnetism

H Density

J Color

---

5 A student writes four lists and challenges a friend to identify the list that best describes salt. Which list should the friend choose? *(5.5A)*

A
- Clear
- Liquid
- Soluble in water

B
- White
- Solid
- Soluble in water

C
- Brown
- Solid
- Insoluble in water

D
- White
- Solid
- Insoluble in water

Work Backwards Try eliminating answer choices. You can eliminate choice A because salt is not a clear liquid.

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6 A student recorded some physical properties of two solid objects.

Object 1	Object 2
Gray	White
Conducts thermal energy	Insulates thermal energy
Conducts electrical energy well	Conducts electricity poorly
More dense than water	Less dense than water

Based on the information in the table, which of the objects is most likely a metal? *(5.5A, 5.2D)*

F Object 1, because all metals are gray

G Object 2, because most metals will sink in water

H Object 1, because metals conduct both thermal and electrical energy

J Object 2, because metals are used to make insulation for electrical and thermal energy

---

7 In a science lab, students observed and recorded some properties of four liquids. The table shows their work.

Liquid	Mass (g)	Density (g/mL)	Color
Water	40	1.0	Clear
Corn oil	15	0.9	Yellow
Syrup	10	1.4	Brown
Rubbing alcohol	25	0.8	Clear

Then the students poured the liquids into a graduated cylinder. After 5 minutes, the students observed the mixture of liquids had separated into four separate layers. Based on the information in the table, what is the order of the liquids in the graduated cylinder, from bottom to top? *(5.5A, 5.2G)*

A Water, rubbing alcohol, corn oil, syrup

B Syrup, water, corn oil, rubbing alcohol

C Rubbing alcohol, corn oil, water, syrup

D Syrup, corn oil, rubbing alcohol, water

Think If the density of water is 1.0, will a substance with a density less than 1.0 float on or sink in water?

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Unit 1 Study Guide and Review

Use the Key Terms to complete each Key Concept.
Place a check (✓) next to Key Concepts you know.

1.1 States of Matter, Mixtures, and Solutions

3.5C, 5.5B, 5.5C

Key Terms	Key Concepts
condensation dissolved evaporation gas liquid mixture particles physical states solid solution temperature water vapor	☐ Matter exists in three states—_____, _____, and _____. ☐ The physical state of matter depends on its _____. ☐ All matter is made up of very small _____. ☐ Water in its gaseous form is called _____. ☐ Water naturally occurs in all three _____. ☐ _____ is the process of a liquid changing into a gas. ☐ _____ is the process of a gas changing into a liquid. ☐ A _____ is a combination of two or more substances. ☐ A _____ is a mixture in which one substance is _____ in another substance.

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1.2 Classifying Matter

5.5A

Key Terms	Key Concepts
attract conductors density insulators magnetism mass physical property relative density repel solubility water-soluble	☐ A _____ can be observed, measured, and tested without changing the type of substance it is. ☐ The amount of mass per unit volume is an object's _____. ☐ _____ is a force that can _____ or _____ certain objects that are not touching. ☐ Substances that conduct thermal and electrical energy poorly are called _____. ☐ A substance that will dissolve in water is called _____. ☐ _____ is the amount of matter in an object. ☐ The ability of one substance to dissolve into another is called _____. ☐ Substances that allow thermal and electrical energy to move easily are called _____. ☐ _____ is how dense one type of matter is compared to another type of matter, such as water.

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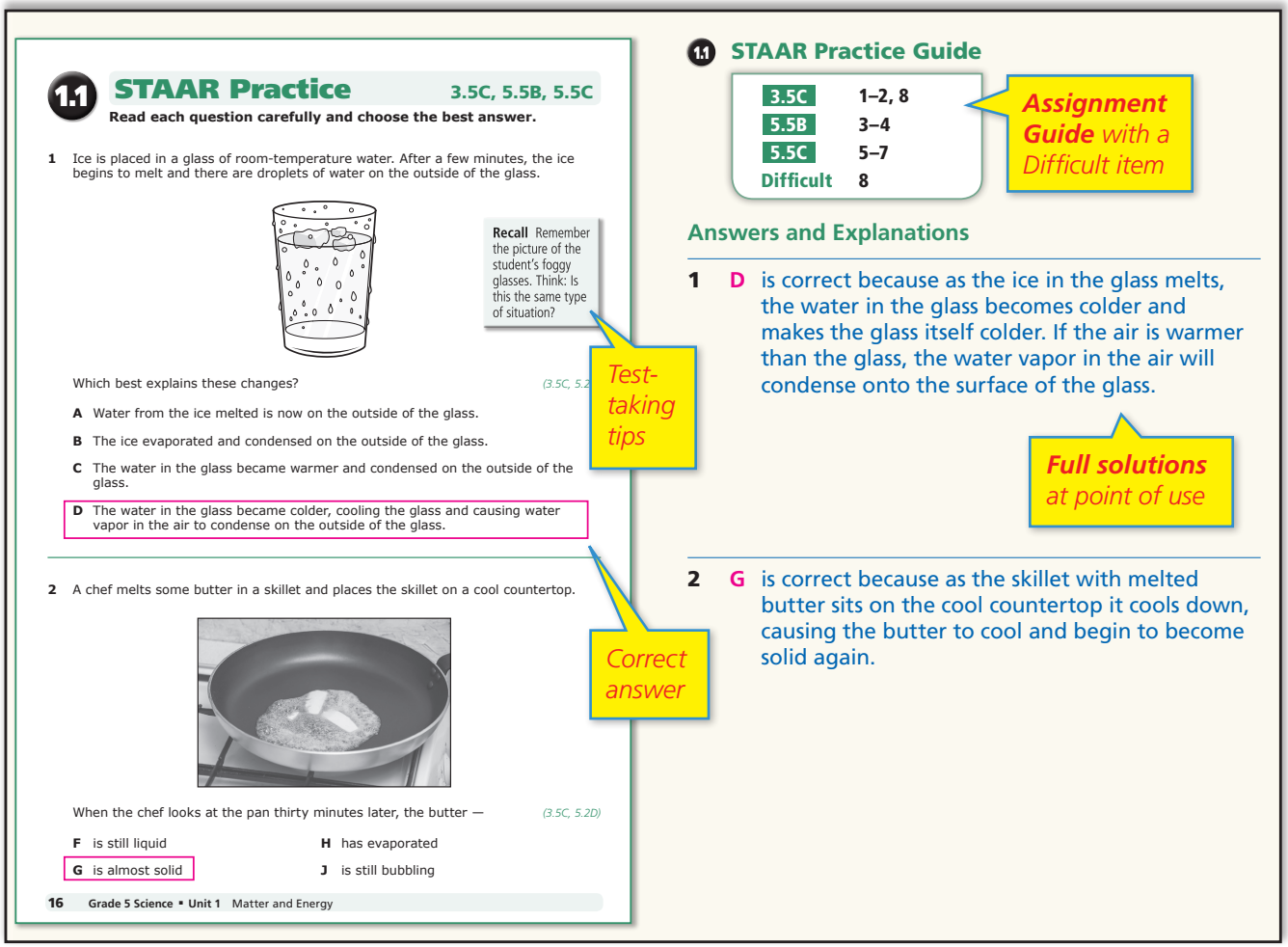
Using This Teacher's Edition

This workbook was created to support teachers in helping students succeed on the STAAR Grade 5 Science exam. It provides comprehensive and systematic **instruction** and **practice** for all 30 tested content TEKS from **Grades 3, 4, and 5**.

The workbook is organized into **four units** that align with the four Reporting Categories. Each unit begins with a ① **Diagnostic Test** that can serve as a baseline or to identify students' needs, followed by ② **Lessons** with ample STAAR Practice, and finally a ③ **Post Test** to monitor progress. (The Post Test questions are in the exact same order as the Diagnostic Test and include all tested TEKS.)

STAAR Practice Support for Teachers

This workbook contains **over 185 STAAR** test items that closely match released STAAR tests. Over 60% of the items include a stimulus such as diagrams, tables, graphs, photos, etc. Each STAAR item includes a **full solution** to help teachers or tutors facilitate understanding.



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1.2 STAAR Practice 5.5A

Read each question carefully and choose the best answer.

1 Two friends walk on the beach with their shoes on. When they take their shoes off, the hot sand burns the bottoms of their feet. Which of the following does NOT explain this experience? *(5.5A)*

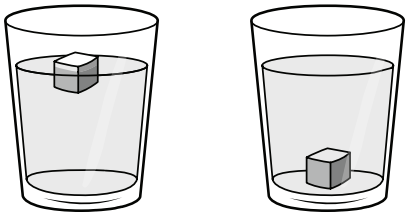
A Heat is conducted from the sand to their feet.

B Their shoes are good thermal insulators.

C The sand absorbed heat from the sun and became hot.

D The bottoms of their shoes are good thermal conductors.

2 A student fills two cups with water and adds salt to one of the cups. The salt dissolves in the water. Then the student places identical blocks of wood in each cup. The block in the salt water floats, but the block in the pure water sinks.



Salt water

Pure water

Think The blocks are identical. What is different?

Based on these observations, which statement correctly describes the density of the wood blocks? *(5.5A, 5.2D)*

F The blocks are more dense than the pure water and the salt water.

G The blocks are less dense than the pure water and the salt water.

H The blocks are more dense than the pure water but less dense than the salt water.

J The blocks are less dense than the pure water but more dense than the salt water.

1.2 STAAR Practice Guide

5.5A	1–7
Difficult	7

Answers and Explanations

1 **D** is correct because if their shoes were good conductors, the heat would have gone through the soles of their shoes and burned their feet.

2 **H** is correct because the two blocks are identical. The fact that one block floats and the other block sinks means that the density of the salt water must be different from the density of the pure water. Since the block in salt water floats, the density of the salt water must be greater than the density of pure water.

Teacher's Edition Sampler

To obtain a copy of the remaining answers to this Sampler, email:

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SAMPLER

GRADE 5 SCIENCE CONTENTS

Unit 1 Matter and Energy

1.1 Matter, Mixtures, and Solutions
1.2 Classifying Matter

Unit 2 Force, Motion, and Energy

2.1 Energy
2.2 Properties of Light
2.3 Force and Motion

1–2 CUMULATIVE REVIEW

Unit 3 Earth and Space

3.1 Changes to Earth's Surface
3.2 Sedimentary Rocks and Fossil Fuels
3.3 Natural Resources
3.4 Weather, Climate, and the Water Cycle
3.5 The Earth, the Sun, and the Moon

1–3 CUMULATIVE REVIEW

Unit 4 Organisms and Environments

4.1 Relationships in Ecosystems
4.2 Changes in Ecosystems
4.3 Structures and Behaviors for Survival

1–4 CUMULATIVE REVIEW

English/Spanish Glossary

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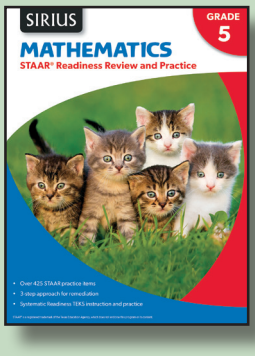

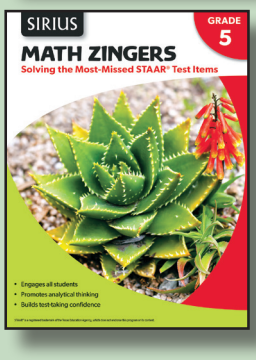

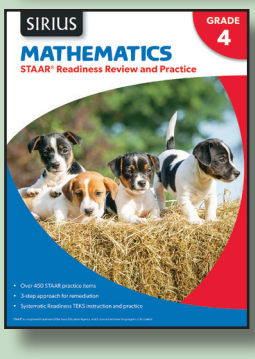

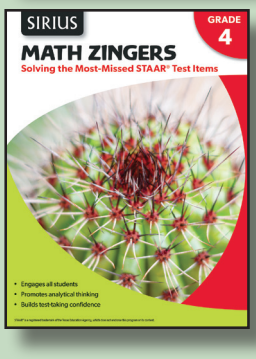

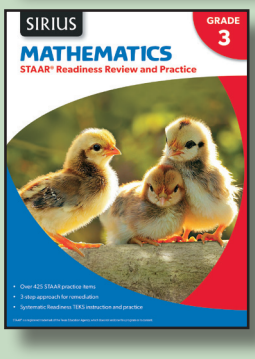

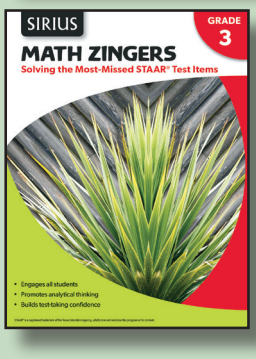

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STAAR GRADE 5 SCIENCE

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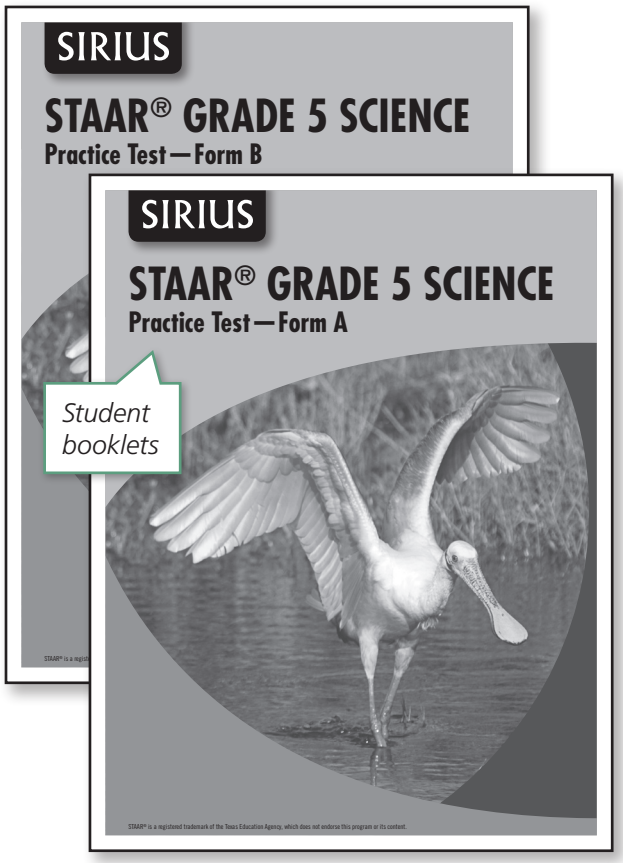

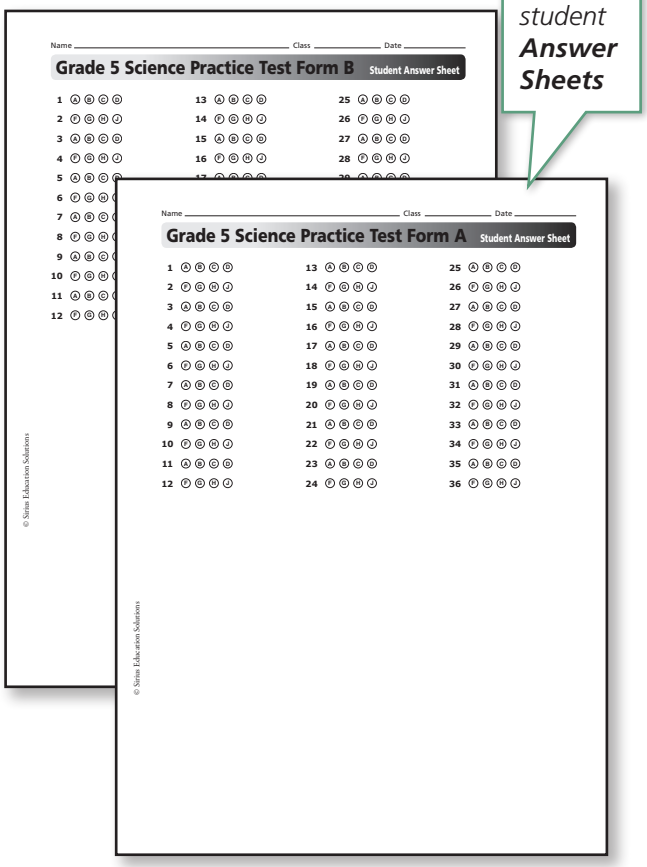

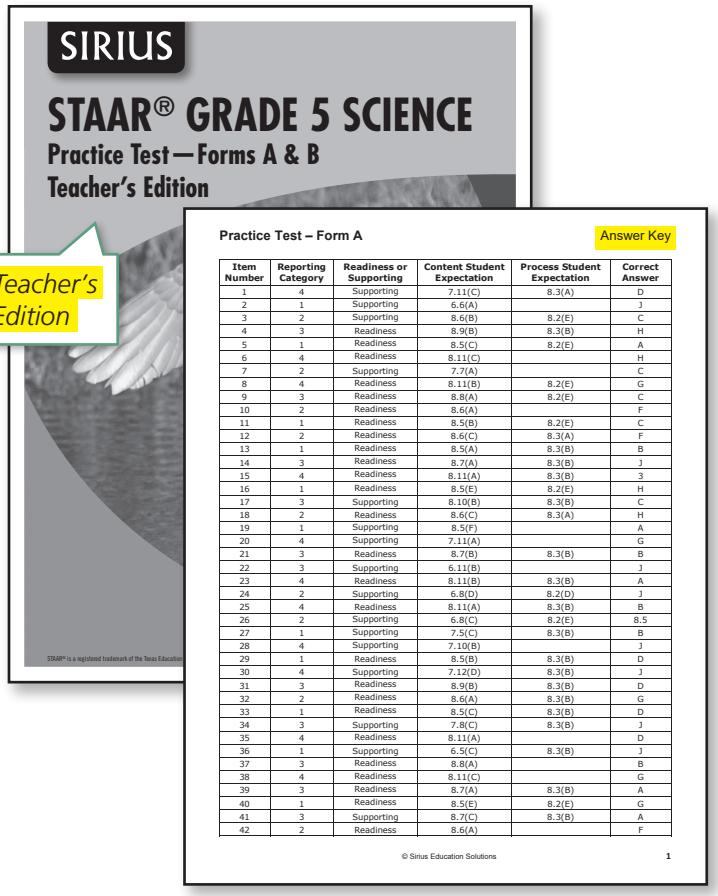

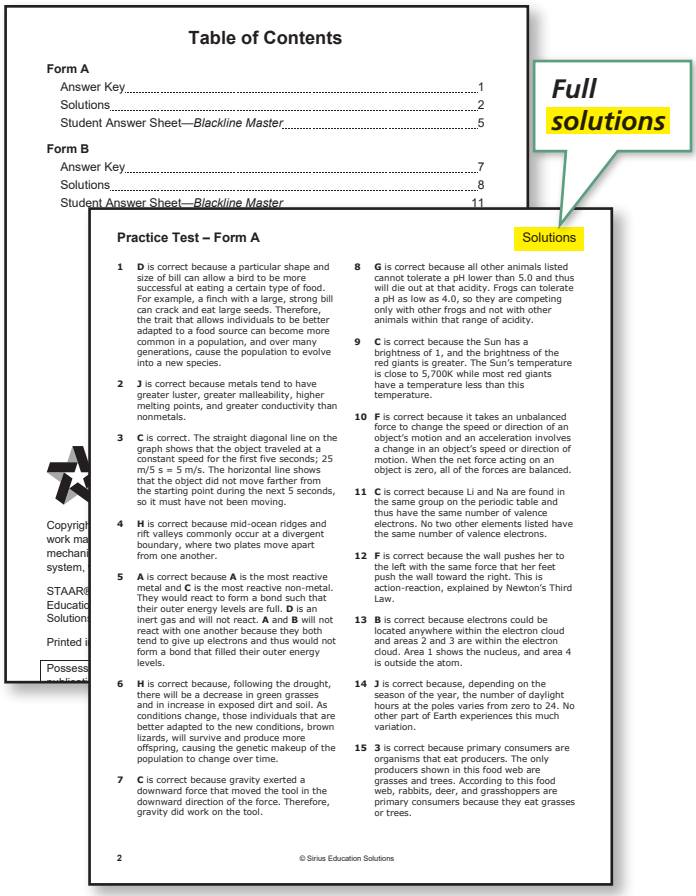

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