



# UNIT 3

**B-1: Concepts of Physical Science**





# KEY VOCABULARY



# Key Vocabulary

## **BOILING POINT**

*the temperature at which a liquid becomes a gas*

## **COMPOUNDS**

*a substance formed by the chemical combination of two or more compounds*

## **CONDUCTIVITY**

*the ability of a material to conduct heat or electricity*

# Key Vocabulary

## DENSITY

*mass per unit of volume*

## ELEMENTS

*one of the known chemical substances that cannot be broken down further without changing its chemical property*

## FREEZING POINT

*the temperature at which a substance changes state from a liquid to a solid*



# Key Vocabulary

## HEAT

*the kinetic movement of molecules in an object that causes an increase in temperature*

## LIGHT

*a form of electromagnetic energy that travels in waves through space and can be seen when it interacts with matter*

## MATTER

*anything that has mass and takes up space*



## *Key Vocabulary*

### **MIXTURES**

*a physical combination of two or more substances that are blended together without forming a new substance*







# LESSONS

# Science Language for Success

*Introduce the key science vocabulary, using concrete materials and/or pictures.*

## LISTENING

*Use the Mini Pictures activity page from the Student Support Materials. Have the students cut out the pictures. Say the key words and the students show the pictures.*



### Let's Move

Identify an appropriate body movement for each vocabulary word. This may involve movements of hands, arms, legs, etc. Practice the body movements with the students. When the students are able to perform the body movements well, say a vocabulary word. The students should respond with the appropriate body movement. You may wish to say the vocabulary words in a running story. When a vocabulary word is heard, the students should perform the appropriate body movement.

### Student Support Materials

Have the students work on the activity pages from the Student Support Materials from this unit. Afterward, review their work.

## SPEAKING



### Actions!

Group the students together in front of you. Perform an action which represents one of the key vocabulary words. The students should say the vocabulary word for the action you perform. Repeat, using a different action for each vocabulary word.

### One to Six

Provide each student with two blank flashcards. Each student should then write a number between one and six on each of his flashcards (one number per card). When the students' number cards are ready, toss two dice and call the numbers showing. Any student or students who have those two numbers must then identify a vocabulary picture you show. The students may exchange number cards periodically during this activity.

### Picture Bingo

Give the students the mini pictures used earlier. Each student should place them face down on his/her desk. Then, have each student turn one picture face up. Say a vocabulary word. Any student or students who have the picture for that word face up must say a complete sentence using that vocabulary word. Those pictures should then be put to the side and other pictures turned over. Continue in this way until a student or students have no pictures left on their desks.

# Science Language for Success

## READING

Introduce the science sight words to the students—match the sight words with the vocabulary pictures. The sight words are included in the Student Support Materials, attached to these lesson plans.



*Note: After each unit, mount a set of the unit's words on the walls around the room. Use the "word walls" for review and reinforcement activities.*

### Face

Mount the sight words around the classroom on the walls, board, and windows. Group the students into two teams. Give the first player in each team a flashlight. Darken the classroom, if possible. Say one of the sight words. When you say "Go," the students should turn their flashlights on and attempt to locate the sight word you said. The first player to do this correctly wins the round. Repeat until all players in each team have participated.

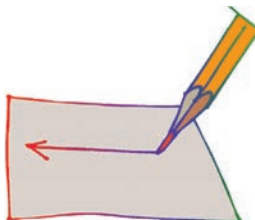
### String Along

Join all of the students together with string (the students do not need to move from their seats). Before tying the ends of the string together, insert a roll of tape over one of the ends of the string. Tie the ends of the string together. Turn your back to the students. The students should pass the roll of tape along the string as quickly as possible. When you clap your hands, the student left holding the tape must then identify a sight word you show him. Repeat this process until many students have responded and until all of the sight words have been correctly identified a number of times.

### Letter Encode

Give each student his/her envelope that contains the alphabet letters. Mount one of the science pictures on the board. The students must use the cut out letters to spell the word. Review the students' work. Repeat, until all of the words have been spelled in this way.

## WRITING

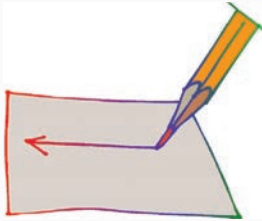


### Let's Write

Provide the students with a copy of the creative writing page from the Student Support Materials. The students should write as much as they can about the graphic. Later, have each student read his/her writing to the class.

# Science Language for Success

## WRITING (CONTINUED)



### Flashlight Writing

If possible, darken the classroom. Give a student a flashlight. Say one of the vocabulary words and the student should write that word with the light of the flashlight on a wall or on the board. Repeat until many students have had a chance to participate. An alternative is to provide each student with writing paper and a pen. Darken the classroom, if possible. Use the light of a flashlight to write one of the sight words on the wall or board. When you have completed the writing of the word, each student should then write the same word on his/her sheet of paper. Repeat until all sight words have been written in this way.

This activity may also be done in team form. In this case, group the students into two teams. Darken the classroom. Use the light of a flashlight to write one of the sight words on the board. When you say “Go,” the first player in each team should rush to the board and use chalk to write the same word on the board. The first player to do this correctly wins the round. Repeat until all players have played.



# VOCABULARY PICTURES

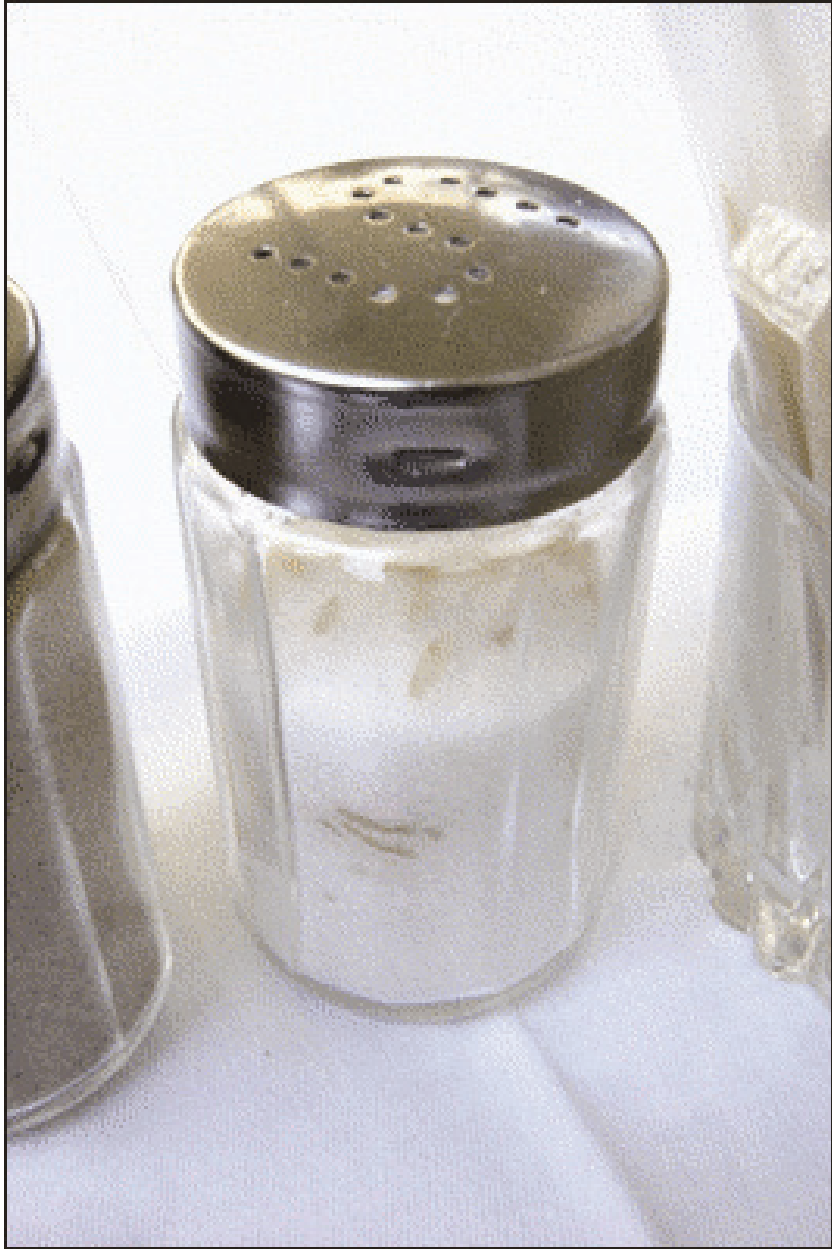






## **BOILING POINT**





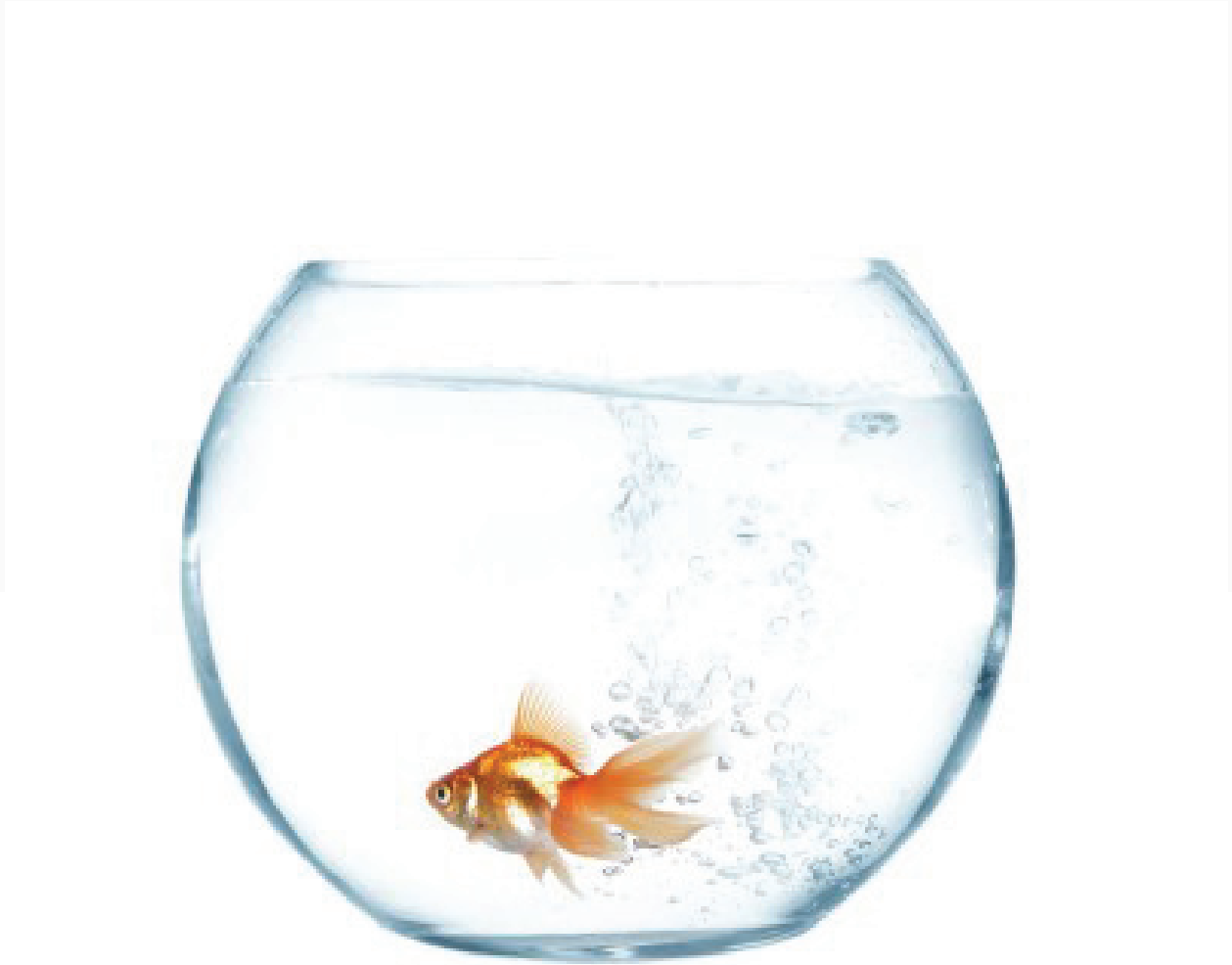


## COMPOUNDS





# CONDUCTIVITY





# DENSITY





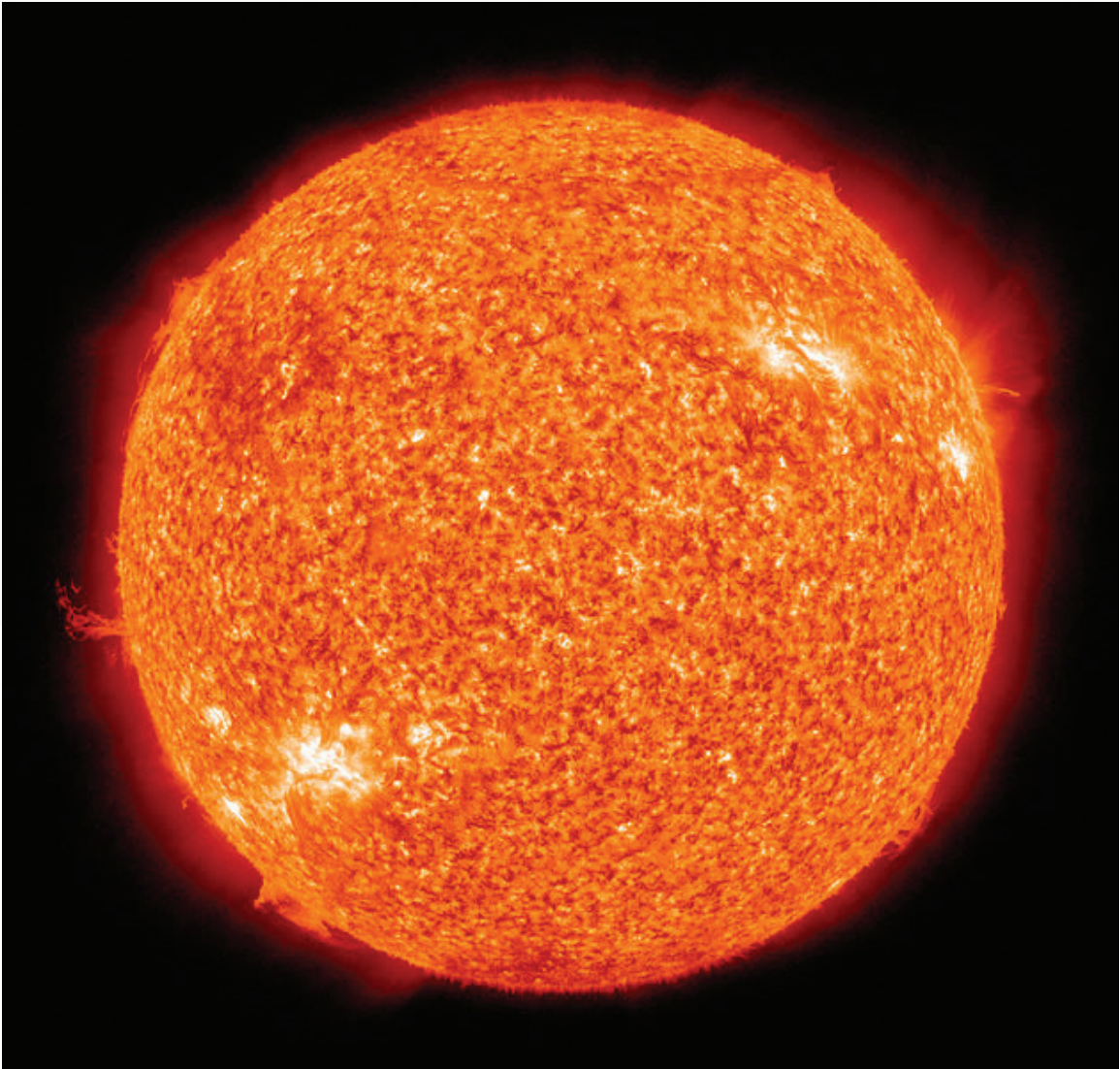
## ELEMENTS







## **FREEZING POINT**





# HEAT





# LIGHT





# MATTER







## MIXTURES



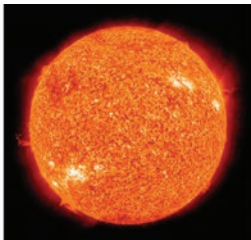
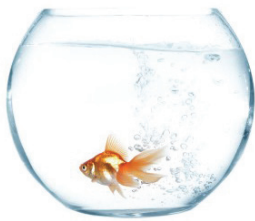
# STUDENT SUPPORT MATERIALS

Listening • Mini Pictures

# Listening: Mini Pictures



Have the students cut out the pictures. Say the key math words from this unit, and the students should hold up the pictures for them.





# STUDENT SUPPORT MATERIALS

Listening Comprehension

# Listening Comprehension



Read the following sentences to the students. The students should circle “true” or “false” for each of the sentences. Review the students’ work.

- 1 Density is the mass per unit of volume. True  
False
- 2 A compound is the physical combination of two or more substances that are blended together without forming a new substance. True  
False
- 3 Light is a form of electromagnetic energy that travels in waves through space and can be seen when it interacts with matter. True  
False
- 4 Freezing point is the temperature at which a liquid becomes a gas. True  
False
- 5 The boiling point is the temperature at which a substance changes state from a liquid to a solid. True  
False
- 6 Mixture is a substance formed by the chemical combination of two or more elements. True  
False
- 7 Conductivity is the ability of a material to conduct heat or electricity. True  
False
- 8 An element is anything that has mass and takes up space. True  
False
- 9 Heat is the kinetic movement of molecules in an object that causes an increase in temperature. True  
False
- 10 Matter is one of the known chemical substances that cannot be broken down further without changing its chemical properties. True  
False



# STUDENT SUPPORT MATERIALS

Sight Words



**boiling point**

**compounds**

**conductivity**







**density**

**elements**

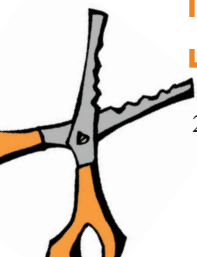
**freezing point**



heat

light

matter





# mixtures





# STUDENT SUPPORT MATERIALS

Basic Reading • Sight Recognition

# Sight Words Activity Page

Have the students highlight or circle the words in this word find. Words appear horizontally.



boiling point compounds conductivity density					elements freezing point heat					light matter mixtures					
C	X	A	H	D	R	W	O	M	U	T	F	B	X	E	M
E	F	R	E	E	Z	I	N	G	P	O	I	N	T	P	I
C	D	K	A	N	R	B	N	T	R	E	M	O	P	I	X
O	N	B	T	S	X	J	Y	T	C	V	B	M	I	C	T
N	N	P	U	I	J	U	F	N	R	T	T	I	L	O	U
D	U	F	N	T	Q	I	O	T	P	N	C	E	K	M	R
U	B	I	Y	Y	N	P	U	C	I	E	K	S	V	P	E
C	S	L	T	L	R	F	A	O	W	Q	B	Z	X	O	S
T	U	R	J	E	I	A	P	O	I	E	M	I	X	U	R
I	B	N	R	T	Y	G	A	S	T	R	A	U	I	N	A
V	E	N	M	W	N	I	H	C	X	N	T	I	O	D	Q
I	A	Z	X	I	Q	R	U	T	E	C	T	I	B	S	N
T	I	A	L	E	M	E	N	T	S	C	E	V	B	W	N
Y	O	I	X	V	N	Q	R	S	T	M	R	P	M	Y	U
Q	O	I	O	T	E	L	E	M	E	N	T	S	S	L	T
B	S	G	Q	I	O	T	S	Q	A	F	F	K	H	G	E

# Sight Words Activity Page

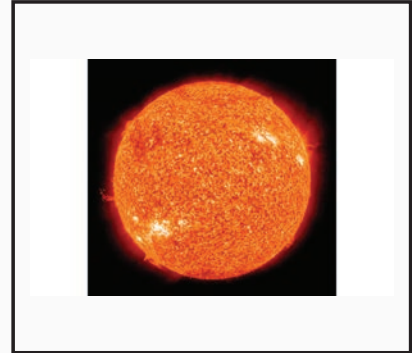
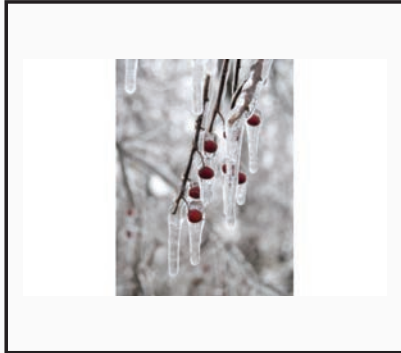
Have the students highlight or circle the words in this word find. Words appear horizontally.



boiling point compounds conductivity density				elements freezing point heat				light matter mixtures							
		H	D									M			
	F	R	E	E	Z	I	N	G	P	O	I	N	T	I	
C			A	N										X	
O			T	S										C	T
N				I							T			O	U
D				T						N				M	R
U				Y					I					P	E
C				L				O						O	S
T					I		P				M			U	
I						G					A			N	
V					N		H				T			D	
I				I				T			T			S	
T			L								E				
Y		I									R				
	O					E	L	E	M	E	N	T	S		
B															

# Sight Words Activity Page

Have the students cut out the key words and glue them at the bottom of their pictures.

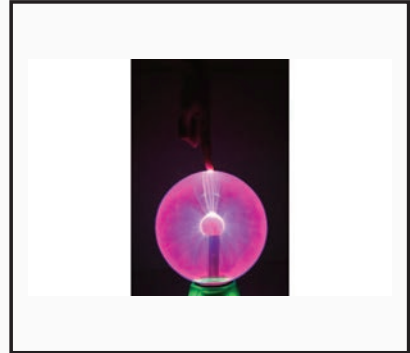
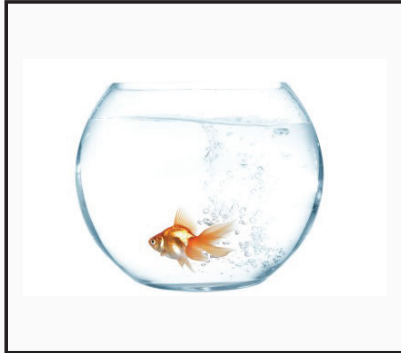


boiling point	compounds	conductivity	density
elements	freezing point	heat	light
matter	mixtures		





# Sight Words Activity Page







# STUDENT SUPPORT MATERIALS

Basic Reading • Encoding

# Encoding Activity Page

Have the students cut out and encode the syllables of the words, OR number the syllables in their correct sequence.



**pounds com**

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**it tiv con duct y**

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**ter mat**

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# Encoding Activity Page

Have the students cut out and encode the syllables of the words, OR number the syllables in their correct sequence.



e el ments

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heat

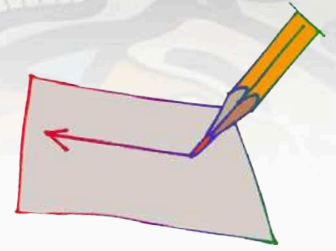
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tures mix

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# Word Scramble Activity Page



Rearrange or unscramble the following letters to form one of the listed unit words.  
As you use a word, cross it off.

heat	light	elements	compounds	conductivity
mixtures	density	matter	freezing point	boiling point

**erttam**

\_\_ a \_\_ e \_\_

**isyetdn**

\_\_ n \_\_ y

**obiipoilnntg**

\_\_ l \_\_ o \_\_

**pzteofgnnier**

f \_\_ i \_\_ p \_\_ t

**ditiuoycvtn c**

\_\_ c \_\_ ty

**tsemneel**

\_\_ e \_\_ t \_\_

**onusocmpd**

\_\_ u n \_\_

**mutsrxei**

\_\_ x \_\_ u \_\_

**htae**

\_\_ e \_\_

**lthig**

\_\_ h \_\_



# STUDENT SUPPORT MATERIALS

Reading Comprehension

# Reading Comprehension Activity Page

Have the students cut out the words and glue them under their definitions.



<b>mass per unit of volume</b>	<b>a substance formed by the chemical combination of two or more compounds</b>	<b>a form of electromagnetic energy that travels in waves through space and can be seen when it interacts with matter</b>
<b>the temperature at which a substance changes state from a liquid to a solid</b>	<b>the temperature at which a liquid becomes a gas</b>	<b>a physical combination of two or more substances that are blended together without forming a new substance</b>
<b>the ability of a material to conduct heat or electricity</b>	<b>one of the known chemical substances that cannot be broken down further without changing its chemical property</b>	<b>the kinetic movement of molecules in an object that causes an increase in temperature</b>
<b>anything that has mass and takes up space</b>		

<b>boiling point</b>	<b>compounds</b>	<b>conductivity</b>	<b>density</b>
<b>elements</b>	<b>freezing point</b>	<b>heat</b>	<b>light</b>
<b>matter</b>	<b>mixtures</b>		





# Reading Comprehension Activity Page

Write the word or words that best complete each sentence in the space below. Words may be used only once.



heat	light	elements	compounds	conductivity
mixtures	density	matter	freezing point	boiling point

- 1 Salt is a combination of sodium and chloride, its \_\_\_\_\_ have properties different from their separate elements.
- 2 The periodic table shows material known as \_\_\_\_\_, which cannot be broken down into anything simpler.
- 3 \_\_\_\_\_ from the Sun travels over 90 million miles to Earth.
- 4 The temperature at which a substance boils is called its \_\_\_\_\_.
- 5 The temperature at which a substance freezes is called its \_\_\_\_\_.
- 6 \_\_\_\_\_ like trail mix and mixed nuts are combinations of different substances.
- 7 The ability for material to conduct heat or light is called \_\_\_\_\_.
- 8 \_\_\_\_\_ is thermal energy and is measured in joules.
- 9 Anything that has volume and mass is made up of \_\_\_\_\_.
- 10 The amount of mass for each millimeter of a substance is known as the \_\_\_\_\_ of the substance.

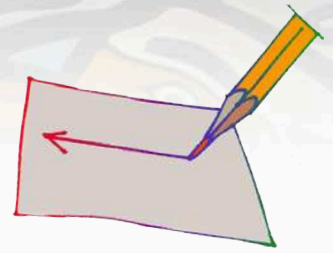




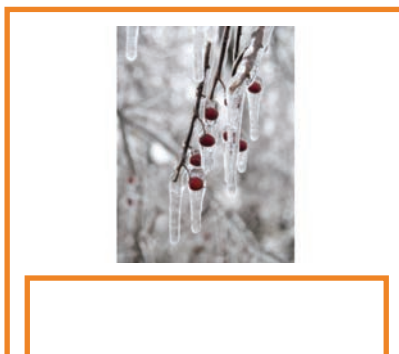
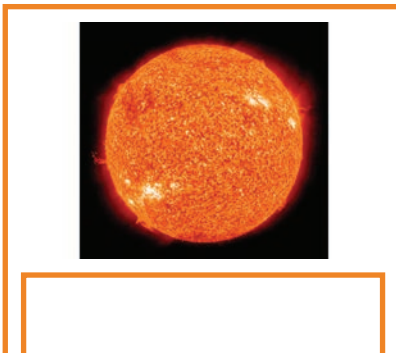
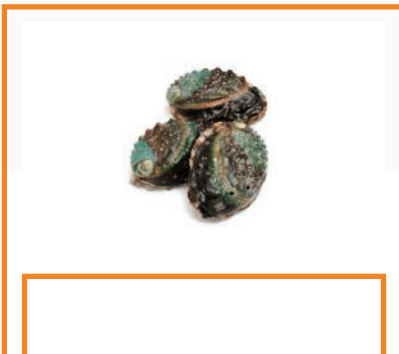
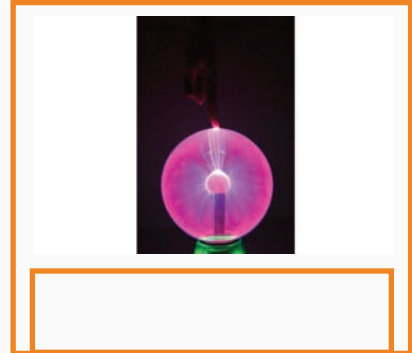
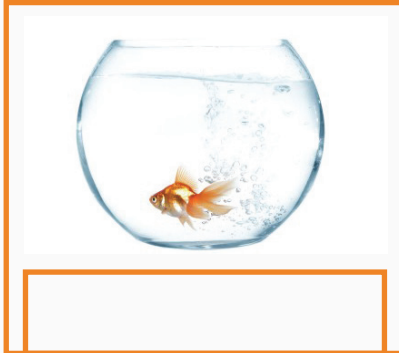
# STUDENT SUPPORT MATERIALS

Basic Writing

# Basic Writing Activity Page

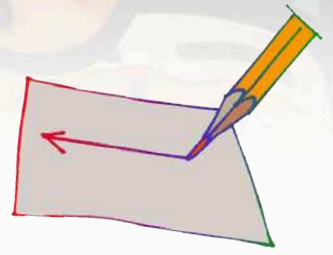


Have the students write the word for each picture.



# Basic Writing Activity Page

Have the students write in the missing letters.



**b**\_\_\_\_\_ing point

**com**\_\_\_\_\_ds

**con**\_\_\_\_\_ivity

**d**\_\_\_\_\_ity

**ele**\_\_\_\_\_ts

**freezing p**\_\_\_\_\_t

**h**\_\_\_\_\_t

**li**\_\_\_\_\_t

**m**\_\_\_\_\_er

**mix**\_\_\_\_\_es

# Graphic Organizer

Model the process for students using the following unit words.

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	boiling point	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	compounds	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	conductivity	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	density	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	elements	NOT EXAMPLES:

# Graphic Organizer

<b>WHAT IT IS:</b>		<b>WHAT IT IS NOT:</b>
<b>EXAMPLES:</b>	freezing point	<b>NOT EXAMPLES:</b>

<b>WHAT IT IS:</b>		<b>WHAT IT IS NOT:</b>
<b>EXAMPLES:</b>	heat	<b>NOT EXAMPLES:</b>

<b>WHAT IT IS:</b>		<b>WHAT IT IS NOT:</b>
<b>EXAMPLES:</b>	light	<b>NOT EXAMPLES:</b>

<b>WHAT IT IS:</b>		<b>WHAT IT IS NOT:</b>
<b>EXAMPLES:</b>	matter	<b>NOT EXAMPLES:</b>

<b>WHAT IT IS:</b>		<b>WHAT IT IS NOT:</b>
<b>EXAMPLES:</b>	mixtures	<b>NOT EXAMPLES:</b>



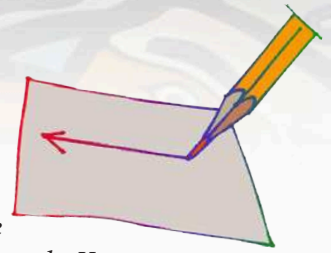




# STUDENT SUPPORT MATERIALS

Creative Writing

# Creative Writing Activity Page



Have the students write sentences of their own, using the key words from this unit. When the students' sentences are finished, have them take turns reading their sentences orally. The students should say "Blank" for the key words; the other students must name the "missing" words. You may wish to have the students write the "definitions" for the key words.

## BOILING POINT

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## COMPOUNDS

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## CONDUCTIVITY

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## DENSITY

---

## ELEMENTS

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## FREEZING POINT

---

## HEAT

---

## LIGHT

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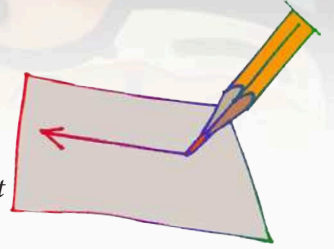
## MATTER

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## MIXTURES

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# Creative Writing Activity Page



On the lines below, write a paragraph based on the picture. Before you begin writing, reflect on the unit words – freezing point, elements, heat, and light.



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# UNIT ASSESSMENT

**B-1: Concepts of Physical Science**





# SCIENCE PROGRAM

Unit Assessment Teacher's Notes  
Grade 7 • Unit 3 (B-1)  
Theme: Concepts of Physical Science

Date: \_\_\_\_\_



# Unit Assessment

Provide each student with a copy of the students' pages. Read the following instructions aloud. The students should answer the questions on their copies of the assessment.

## BASIC LISTENING

Turn to pages 1 in your test. Look at the pictures in the boxes.

1. Write the number 1 on top of the picture for **BOILING POINT**.
2. Write the number 2 on top of the picture for **COMPOUNDS**.
3. Write the number 3 on top of the picture for **CONDUCTIVITY**.
4. Write the number 4 on top of the picture for **DENSITY**.
5. Write the number 5 on top of the picture for **ELEMENTS**.
6. Write the number 6 on top of the picture for **FREEZING POINT**.
7. Write the number 7 on top of the picture for **HEAT**.
8. Write the number 8 on top of the picture for **LIGHT**.
9. Write the number 7 on top of the picture for **MATTER**.
10. Write the number 8 on top of the picture for **MIXTURES**.

## LISTENING COMPREHENSION

Turn to page 2 in your test. Listen to the sentences I say. Circle "T" for true and "F" for false sentences."

1. Density is the mass per unit of volume.
2. A compound is the physical combination of two or more substances that are blended together without forming a new substance.
3. Light is a form of electromagnetic energy that travels in waves through space and can be seen when it interacts with matter.
4. Freezing point is the temperature at which a liquid becomes a gas.
5. The boiling point is the temperature at which a substance changes state from a liquid to a solid.
6. Mixture is a substance formed by the chemical combination of two or more elements.





## Unit Assessment

7. Conductivity is the ability of a material to conduct heat or electricity.
8. An element is anything that has mass and takes up space.
9. Heat is the kinetic movement of molecules in an object that causes an increase in temperature.
10. Matter is one of the known chemical substances that cannot be broken down further without changing its chemical properties.

### SIGHT RECOGNITION

Turn to pages 3 and 4 in your test. Look at the pictures in the boxes. Circle the word for each picture.

### DECODING/ENCODING

Turn to page 5 in your test. Look at the scrambled letters on the left. Rearrange or unscramble the letters to form each of the unit words.

### READING COMPREHENSION

Turn to page 6 in your test. Write the word or words that best complete each sentence in the space below. Words may be used only once.

### BASIC WRITING

Turn to page 7 in your test. Look at the pictures in the boxes. Write the word for each picture.

### CREATIVE WRITING

Turn to page 8 in your test. Write a sentence of your own, using each word.

*Teacher: To get a percentage for this student's assessment, divide the total number of questions correct by the total number of questions, then multiply this answer by 100 to determine the percentage of questions answered correctly.*





# SCIENCE PROGRAM

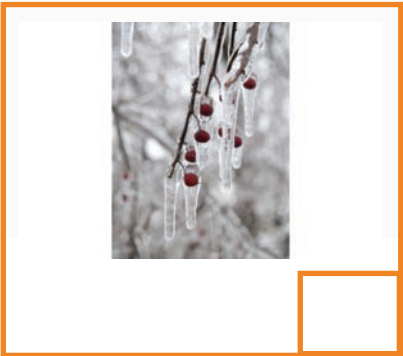
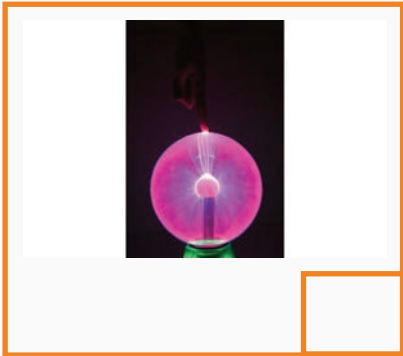
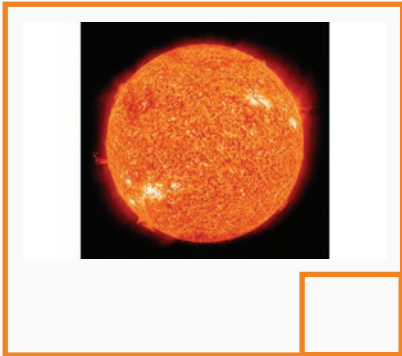
Unit Assessment Student Pages

Grade 7 • Unit 3 (B-1)

Theme: Concepts of Physical Science

Date: \_\_\_\_\_ Student's Name: \_\_\_\_\_

Number Correct: \_\_\_\_\_ Percent Correct: \_\_\_\_\_

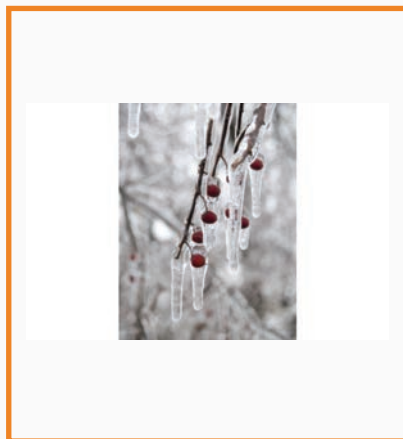




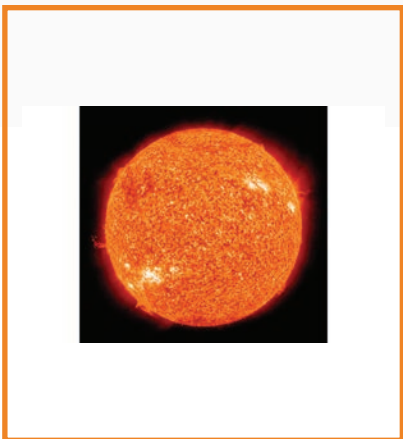
1.            **T**        **F**
2.            **T**        **F**
3.            **T**        **F**
4.            **T**        **F**
5.            **T**        **F**
6.            **T**        **F**
7.            **T**        **F**
8.            **T**        **F**
9.            **T**        **F**
10.           **T**        **F**



boiling point  
 compounds  
 conductivity  
 density  
 elements  
 freezing point  
 heat  
 light  
 matter  
 mixtures



boiling point  
 compounds  
 conductivity  
 density  
 elements  
 freezing point  
 heat  
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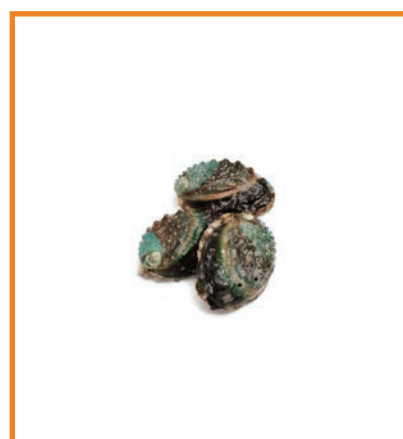
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boiling point  
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boiling point  
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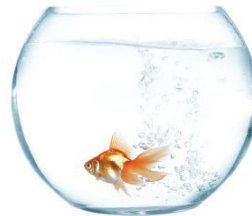
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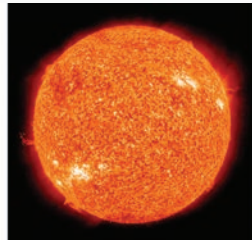
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heat	light	elements	compounds	conductivity
mixtures	density	matter	freezing point	boiling point

- ① Salt is a combination of sodium and chloride, its \_\_\_\_\_ have properties different from their separate elements.
- ② The periodic table shows material known as \_\_\_\_\_, which cannot be broken down into anything simpler.
- ③ \_\_\_\_\_ from the Sun travels over 90 million miles to Earth.
- ④ The temperature at which a substance boils is called its \_\_\_\_\_.
- ⑤ The temperature at which a substance freezes is called its \_\_\_\_\_.
- ⑥ \_\_\_\_\_ like trail mix and mixed nuts are combinations of different substances.
- ⑦ The ability for material to conduct heat or light is called \_\_\_\_\_.
- ⑧ \_\_\_\_\_ is thermal energy and is measured in joules.
- ⑨ Anything that has volume and mass is made up of \_\_\_\_\_.
- ⑩ The amount of mass for each millimeter of a substance is known as the \_\_\_\_\_ of the substance.





**BOILING POINT**

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**COMPOUNDS**

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**CONDUCTIVITY**

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**DENSITY**

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**ELEMENTS**

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**FREEZING POINT**

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**HEAT**

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**LIGHT**

---

**MATTER**

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**MIXTURES**

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