UNIT 8

D-1: Concepts of Earth Science

KEY VOCABULARY

Culturally Responsive & Place-Based Introduction of Science Vocabulary

TILT

Place-Based Perspective

Prop a can on its side in the front of the classroom and ask the students to imagine that this is your house. What might life be like inside this structure on a "tilt"? What famous building is on a tilt in Italy? The leaning Tower of Pisa! How many students have heard of this? The Earth is another object that is tilted on its axis. This tilt causes us to experience seasons as different parts of the Earth come nearer to the sun.

Heritage Cultural Perspective

Mankind has forever known the concept of tilt and tilted objects. What a boring world this would be if EVERYTHING stood straight! Just as trees sometimes tilt in growth or after they age, so do totem poles from time to time. Totems are said to be alive and that they die just like other organisms. Just as trees fall to the ground, so do totems. Several older photographs show village sites with both straight and tilted totems.

RELATIVE

Place-Based Perspective

On the board, draw a large circle representing the sun and a smaller circle representing the Earth. Ask the students how many of them think that the Earth is large? Explain to them that though it may be large in their perspectives, it is actually small "relative" to the size of the sun. In another example, 20 degrees Fahrenheit might be considered frigid to someone from the Lower 48 but it may be rather mild for someone from Fairbanks who is used to -30! The feeling is therefore relative!!

Heritage Cultural Perspective

The world can be seen from many different points of view. While comparisons dealing with size and other characteristics may be objective, they may also be subjective based on personal experience. Athabascans visiting Southeast Alaska in the winter probably found the weather extremely mild relative to the frigid interior.

ROTATION

Place-Based Perspective

Explain to the students that rotation is movement along a circle or a center. Ask the students to come up with as many objects that "rotate" as they can and list them on the board. Did they mention the Earth? Tell the students that the Earth does rotate around its axis — one full turn per day. The side that is turning toward the sun experiences daylight while the other side experiences darkness.

Heritage Cultural Perspective

The sun and the moon move across our sky in a circular motion every day. This is caused not only by our planet's rotation around its axis but also its rotation around the sun. These movements were obvious to Native peoples of long ago. These celestial movements impact our daily life on planet Earth. Imagine what would happen if the Earth failed to rotate!

Culturally Responsive & Place-Based Introduction of Science Vocabulary

CONDUCTION

Place-Based Perspective

Show the students the photo of the camp stove on page 685. Ask the students to tell you the flow of heat between all of the objects: fire, pot, water, and air. Explain that thermal energy (heat) is being transferred between each of those objects through conduction. Molecules that are next to one another and of different temperatures are passing the heat along the gradient.

Heritage Cultural Perspective

Lightning conducts electricity along air molecules. It can move from a cloud to the ground, from the ground to a cloud, or from cloud to cloud. While lightning is infrequent in Alaska, it can be seen occasionally. Just as we all marvel at lightning and thunder today, surely the Native peoples of long ago did the same. The Tlingit even have a Thunderbird crest — a bird whose flapping wings creates thunder!

RADIATION

Place-Based Perspective

Ask the students how many of them have had x-rays. Did they have to wear heavy blankets or bibs to block other parts of their body? Explain that x-rays emit radiation—high energy particles that pass through the body. In low doses these are safe but we do not want excess radiation if unnecessary. What else emits large amounts of radiation?

Heritage Cultural Perspective

Sunlight is one of the most obvious forms of radiation present in our daily lives. It is filtered through the Earth's atmosphere and can be seen by our naked eyes when the sun is above the horizon. In Southeast Alaska clouds and rain often block direct solar radiation. Sunny days can sometimes be a real treat. Native peoples of long ago probably enjoyed the occasional warm sunny days that we long for today!

GEOCHEMISTRY

Place-Based Perspective

Show the students the picture of pallasite on page 689. Explain that these are rare stone-iron meteorites that have periodically fallen to earth from space. They are made up of several compounds. The study of rocks and minerals found on and in the earth is called geochemistry! How many students have thought about a career involving this field of study? What types of careers are possible in this field?

Heritage Cultural Perspective

Learning about the world around us helps us to grow and survive on the landscape. Native peoples of Alaska depended on knowledge of the earth. They studied geochemistry and observed rocks and minerals found on the Earth. They knew different soil types and where these could be found. They knew where to find brittle rocks and those that could not be broken. They also knew where to find metals, such as gold and copper.

Culturally Responsive & Place-Based Introduction of Science Vocabulary

POSITION

Place-Based Perspective

Place several pencils (or pick-up sticks if available) in a pile on a table. Explain that each of the sticks is in a different "position" — a particular placement or arrangement. Have the students try to remove one pencil at a time without touching any other or causing any other to move. If it moves, that student is eliminated!

Heritage Cultural Perspective

The position of an object or objects can be very important for mankind. The position of an ancient Tlingit village, for example, often dictated its inhabitants' access to resources and control of trade. The Stikine Tlingit villages were positioned along and near the Stikine river valley. This allowed them access to the river's rich fisheries but also to an important trade route to the interior.

COMPOSITION

Place-Based Perspective

Show the students a can or bottle of soda or juice. Pass the can around the room and have the students each read off an ingredient from the label. Write these on the board as the students are reading them aloud. Explain that these make up the "composition" of that item. What is the composition of the classroom? What about of the human body?

Heritage Cultural Perspective

The composition of tribes in Southeast Alaska has long been an important aspect of indigenous culture. Tribes are composed of several clans from both the Raven and the Eagle/Wolf moieties. Individual clans are composed of house groups. This composition dictates interpersonal, inter-clan, and inter-tribal relationships. What might happen if different components of this composition were added or removed?

BRIGHTNESS

Place-Based Perspective

Light a candle and place it on the desk. Set a standard flashlight and an LED flashlight next to it. Ask the students to rank the brightness of each. Explain that the "brightness" is their perceived intensity of each light source. What is the brightest light source they know of? The least bright (without being dark)?

Heritage Cultural Perspective

The brightness of sunlight and moonlight in Southeast Alaska has obvious fluctuations from day to day based on the weather and has long had implications for Native peoples. On a bright day (or night), navigating in a canoe may be easier as one can see greater distances. Imagine now trying to navigate in very dim or lightless situations!

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.

Stretch

Place the vocabulary pictures on the floor, in a scattered form. The pictures should be quite close together. Have a student stand beside the pictures. Say a vocabulary word for one of the pictures. The student should place his/her left foot on that picture. Then, say other vocabulary words and the student must identify the correct pictures with different parts of his/her body. You may wish to have two students participate in this process at the same time for added motivation.

Student Support Materials

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

SPEAKING

Right or Wrong?

Mount the vocabulary pictures on the board. Point to one of the pictures and say its vocabulary word. The students should repeat the vocabulary word for that picture. However, when you point to a picture and say an incorrect vocabulary word for it, the students should remain silent. Repeat this process until the students have responded a number of times to the different vocabulary pictures.

Change Time

Group the students into pairs. One student should be without a partner to be "it" for the first round of the activity. Have the pairs of students stand, back to back, with elbows interlocked. Say a vocabulary word. Tell the students to listen for that word repeated once again. Say a number of vocabulary words—eventually repeating the vocabulary word you said at the beginning of the round. The students should drop arms and find new partners. However, "it" must also find a partner, thus producing a new "it" for the next round of the game. The student who is left without a partner must then use the vocabulary word you said (at the beginning of the round) in a complete sentence of his/her own. Repeat this process until all students have responded.

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.

The Disappearing Word

Mount all of the sight words on the board. For added motivation, you may wish to prepare an extra set of sight word cards to add to those on the board. Have the students look carefully at the sight words. Then, the students should close their eyes. When the students' eyes are closed, remove one of the sight words from the board. Have the students open their eyes and identify the missing word. Repeat this process until all of the sight words have been removed from the board and identified in this way.

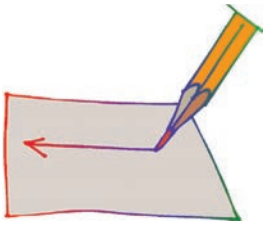
Letter Encode

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.

Student Support Materials

Have the students complete the sight recognition and encoding activities in the Student Support Materials. When finished, review their work.

WRITING

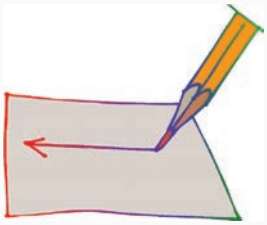


Flashlight Writing

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.

WRITING (CONTINUED)



Student Support Materials

Provide the students with a copy of the writing pages from the Student Support Materials. When finished, review the students' work.

VOCABULARY PICTURES

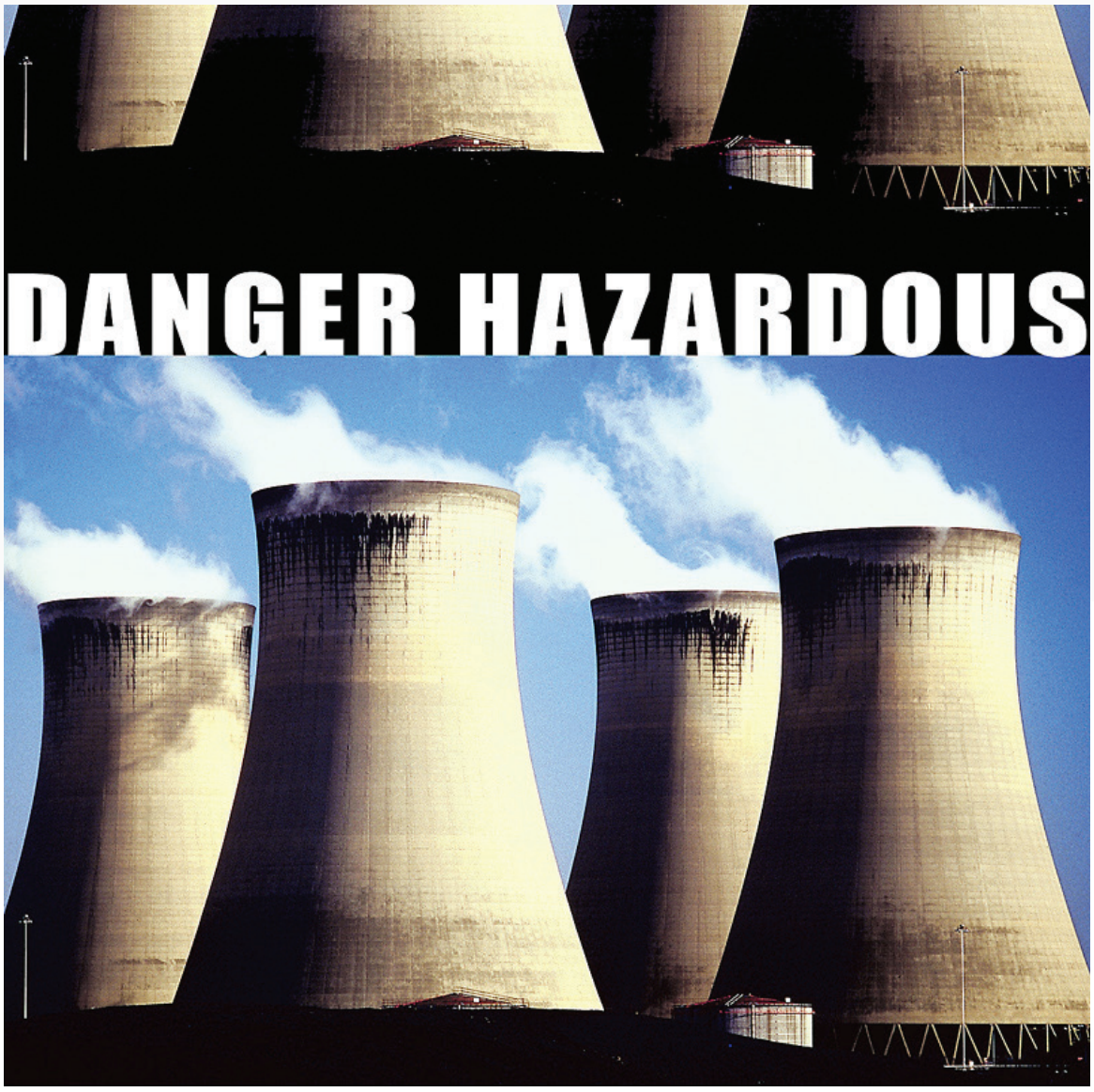
TILT

RELATIVE


PENN REELS
30TW
INTERNATIONAL II

ROTATION

CONDUCTION


DANGER HAZARDOUS

RADIATION

GEOCHEMISTRY

POSITION

Baked Salmon

Salmon

Bacon

Onion

Tomato sauce

Put salmon into oven at 350 degrees for 1 hour. Put bacon strips on salmon 15 minutes after you put it in the oven. Then the last 10 minutes put onion rings on top. Pour 1 can tomato sauce over the top.

COMPOSITION

BRIGHTNESS

STUDENT SUPPORT MATERIALS

Listening • Mini Pictures

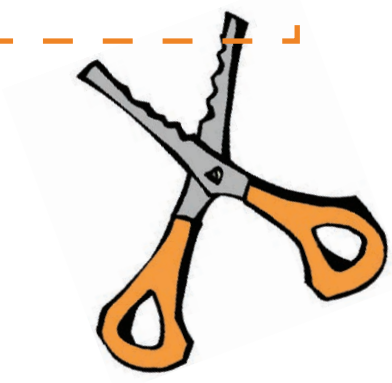
Listening: Mini Pictures

Prepare a copy of these pages for each student. The students should cut out the pictures and lay them on the floor or desk. Say the key words and the students should show you the pictures. Repeat a number of times. This activity can also be done with pairs of students to determine who is the fastest player.

Baked Salmon

Salmon	Onion
Bacon	Tomato sauce

Put salmon into oven at 350 degrees for 1 hour. Put bacon strips on salmon 15 minutes after you put it in the oven. Then the last 10 minutes put onion rings on top. Pour 1 can tomato sauce over the top.



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. The earth is tilted on its axis. **True** **False**

2. There is a relative difference in size between killer whales and beluga whales. **True** **False**

3. The rotation of Ferris wheels is scary for some people. **True** **False**

4. Heating water on a stove is an example of conduction. **True** **False**

5. X-ray machines emit radiation. **True** **False**

6. Geochemistry is the study of organic tissues. **True** **False**

7. The position of a rear-view mirror is not important for a driver. **True** **False**

8. A turkey is usually part of the composition of a thanksgiving dinner. **True** **False**

9. The brightness of all light bulbs is the same. **True** **False**

Listening Comprehension: Answer Key

Read the following sentences to the students. The students should circle "true" or "false" for each of the sentences. Review the students' work.

1	The Earth is tilted on its axis.	**True** / **False**
2	There is a relative difference in size between killer whales and beluga whales.	**True** / **False**
3	The rotation of Ferris wheels is scary for some people.	**True** / **False**
4	Heating water on a stove is an example of conduction.	**True** / **False**
5	X-ray machines emit radiation.	**True** / **False**
6	Geochemistry is the study of organic tissues.	**True** / **False**
7	The position of a rear-view mirror is not important for a driver.	**True** / **False**
8	A turkey is usually part of the composition of a thanksgiving dinner.	**True** / **False**
9	The brightness of all light bulbs is the same.	**True** / **False**

STUDENT SUPPORT MATERIALS

Sight Words

tilt

relative

rotation

conduction

radiation

geochemistry

position

composition

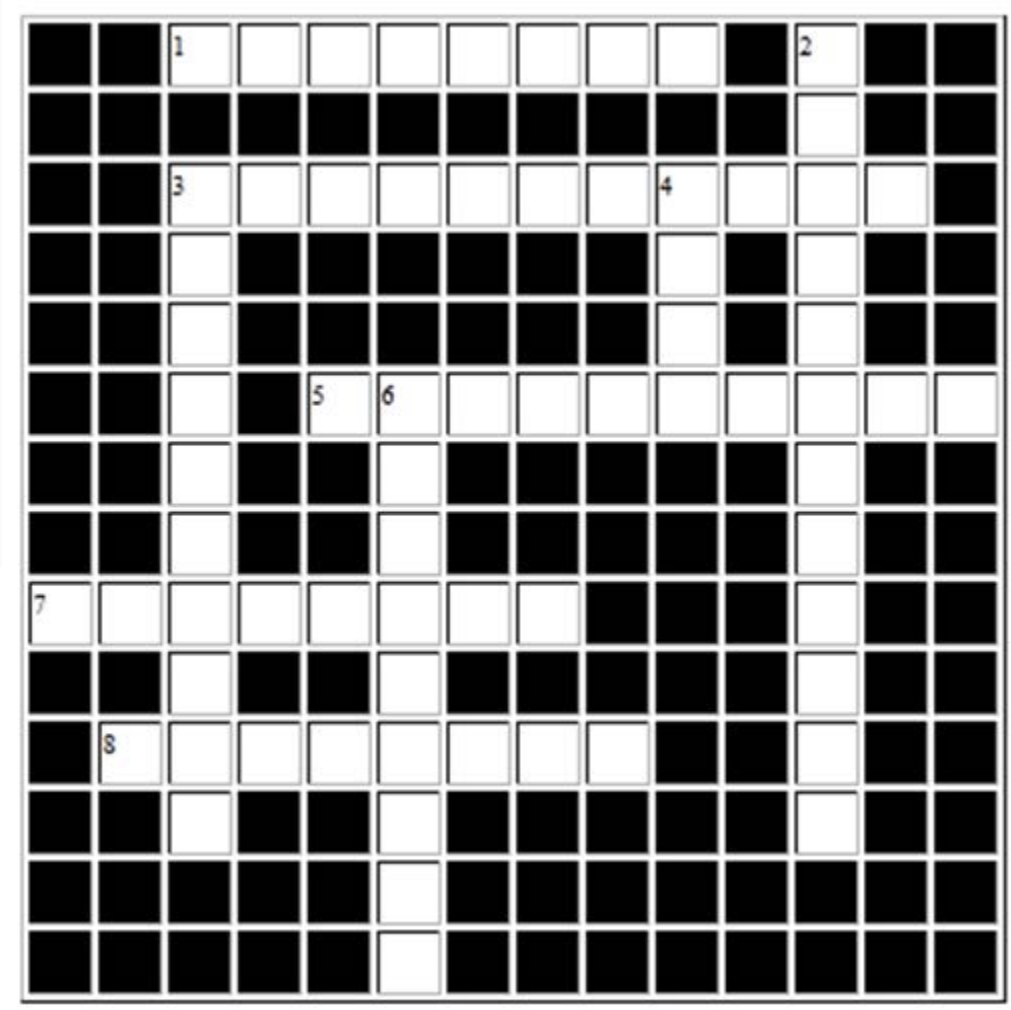
brightness

STUDENT SUPPORT MATERIALS

Basic Reading • Sight Recognition

Sight Words Activity Page

Have the students complete the cross word puzzle below. A blank box is present for any space bet word phrase.



Across

1. Possessing a specified charachteristic in comparison to something else.
3. The nature of something's ingredients or constitutents.
5. The perceived intendity level of light in a visual spectrum.
7. Turn on or around an axis or a center.
8. A particular way in which someone or something is placed or arranged.

Down

2. The study of the chemical composition of the earth and its rocks and minerals.
3. Transfer of thermal energy between neighboring molecules due to a temperature gradient.
4. A sloping position or movement.
6. Emission of energy as electromagnetic waves or as sub-atomic particles.

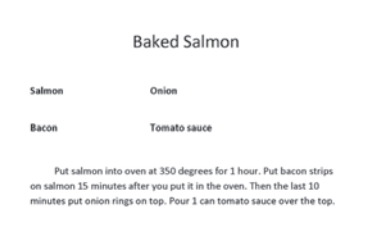
Sight Words Activity Page

Answer Key

		1 R	E	L	A	T	I	V	E	2 G	
										E	
		3 C	O	M	P	O	S	I	4 T	I	O	N
		O							I		C	
		N							L		H	
		D		5 B	6 R	I	G	H	T	N	E	S	S
		U			A						M	
		C			D						I	
7 R	O	T	A	T	I	O	N				S	
		I			A						T	
	8 P	O	S	I	T	I	O	N			R	
		N			I						Y	
					O							
					N							

Sight Words Activity Page

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


Baked Salmon

Salmon Onion

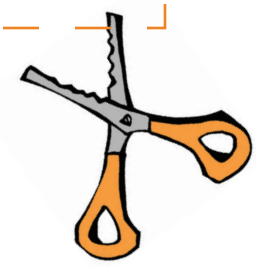
Bacon Tomato sauce

Put salmon into oven at 350 degrees for 1 hour. Put bacon strips on salmon 15 minutes after you put it in the oven. Then the last 10 minutes put onion rings on top. Pour 1 can tomato sauce over the top.

tilt relative rotation conduction

radiation geochemistry position composition

brightness



Sight Words Activity Page

Have the students print the key words from this unit horizonally in the boxes (each word may be written more than once). They should then fill in all other boxes with any letters. Have the students exchange pages. The students should then circle the words on the 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.

tilt

_____

tive **rel** **a**

_____ _____ _____

ta **tion** **ro**

_____ _____ _____

Encoding Activity Page

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

tion	duc	con
_____	_____	_____

ra	tion	a	di
_____	_____	_____	_____

chem	is	geo	try
_____	_____	_____	_____

Encoding Activity Page

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

po tion si

_____ _____ _____

po tion si com

_____ _____ _____ _____

ness bright

_____ _____

Encoding Activity Page

Have the students cut out the word halves and glue them together to create the key words for this unit.

ti	tion
rel	duction
rota	sition
con	tness
ra	lt

Encoding Activity Page

Have the students cut out the word halves and glue them together to create the key words for this unit.

geoch	ative
po	position
com	diation
brigh	emistry

STUDENT SUPPORT MATERIALS

Reading Comprehension

Reading Comprehension Activity Page

Have the students read the text and then select the correct answer for it. They should fill in the appropriate bullet beside the answer of their choice.

1. Which of the following is typically on a tilt?
   - ❍ planet Earth
   - ❍ telephone poles
   - ❍ skyscrapers
   - ❍ totem poles

2. Animals can be classified based on their relative:
   - ❍ intelligence
   - ❍ size
   - ❍ aggressiveness
   - ❍ all of the above

3. Rotation is the action of revolving around a center or an:
   - ❍ axis
   - ❍ anvil
   - ❍ asterisk
   - ❍ none of the above

4. Conduction is the transfer of thermal energy between _____ molecules.
   - ❍ dissimilar
   - ❍ neighboring
   - ❍ distant
   - ❍ similar

5. Which of the following emit radiation?
   - ❍ nuclear power plants
   - ❍ x-ray machines
   - ❍ sun
   - ❍ all of the above

Reading Comprehension Activity Page

6 Which of the following are studied in geochemistry?

- ❍ rocks and minerals
- ❍ birds and mammals
- ❍ reptiles and amphibians
- ❍ none of the above

7 In what position does a teacher usually stand in a classroom?

- ❍ right side
- ❍ back and center
- ❍ front and center
- ❍ back left corner

8 The composition of beef stew may include:

- ❍ beef
- ❍ broth
- ❍ vegetables
- ❍ all of the above

9 Brightness is the _____ intensity of light in a visual spectrum.

- ❍ actual
- ❍ perceived
- ❍ irrelevant
- ❍ degraded

Reading Comprehension Activity Page

ANSWER KEY

1. Which of the following is typically on a tilt?
   - ● planet Earth
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   - ❍ skyscrapers
   - ❍ totem poles

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Reading Comprehension Activity Page

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9. Brightness is the _____ intensity of light in a visual spectrum.
   - ❍ actual
   - ● perceived
   - ❍ irrelevant
   - ❍ degraded

Reading Comprehension Activity Page

Have the students write the letters for sentence halves that match.

1	Earth's tilt toward the sun is what	A	a pot and to water is conduction.
2	A car battery is quite powerful relative to	B	chemical composition of the earth.
3	The rotation of a steering wheel	C	nuclear plants is an example of radiation.
4	The transfer of heat from a stove to	D	causes us to have seasons.
5	The emission of high-energy particles from	E	influences the team's skill level.
6	Geochemistry is the study of the	F	determines the direction water will flow.
7	The position of a drain pipe	G	a watch battery.
8	The composition of a basketball team	H	to be greater due to their distance.
9	We perceive the brightness of some stars	I	allows a driver to turn the wheels.

1→_____ 2→ _____ 3→ _____ 4→ _____

5→ _____ 6→ _____ 7→ _____ 8→ _____

9→ _____

Reading Comprehension Activity Page

ANSWER KEY

1	Earth's tilt toward the sun is what	A	a pot and to water is conduction.
2	A car battery is quite powerful relative to	B	chemical composition of the earth.
3	The rotation of a steering wheel	C	nuclear plants is an example of radiation.
4	The transfer of heat from a stove to	D	causes us to have seasons.
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7	The position of a drain pipe	G	a watch battery.
8	The composition of a basketball team	H	to be greater due to their distance.
9	We perceive the brightness of some stars	I	allows a driver to turn the wheels.

1→ D 2→ G 3→ I 4→ A

5→ C 6→ B 7→ F 8→ E

9→ H

Reading Comprehension Activity Page

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

Possessing a specified characteristic in comparison to something else	**A sloping position or movement**	**Emission of energy as electromagnetic waves or as moving subatomic particles**
The perceived intensity level of light in a visual spectrum	**Transfer of thermal energy between neighboring molecules**	**Study of the chemical composition of the earth**
A particular way in which someone or something is placed or arranged	**To turn on or around an axis or a center**	**The nature of something's ingredients or constituents**

tilt **relative** **rotation** **conduction**

radiation **geochemistry** **position** **composition**

brightness

Reading Comprehension Activity Page

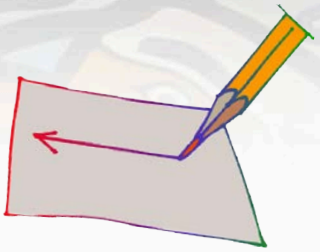
ANSWER KEY

Possessing a specified characteristic in comparison to something else relative	**A sloping position or movement** tilt	**Emission of energy as electromagnetic waves or as moving subatomic particles** radiation
The perceived intensity level of light in a visual spectrum brightness	**Transfer of thermal energy between neighboring molecules** conduction	**Study of the chemical composition of the earth** geochemistry
A particular way in which someone or something is placed or arranged position	**To turn on or around an axis or a center** rotation	**The nature of something's ingredients or constituents** composition

STUDENT SUPPORT MATERIALS

Basic Writing

Basic Writing Activity Page



Have the students write in the missing letters.

t_____t

re_____ve

rot_____n

con_____ tion

r_____tion

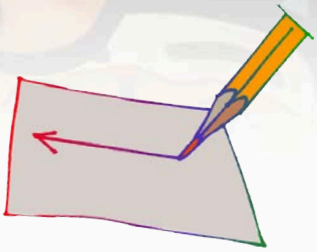
geo_____stry

po_____on

com_____ion

bri_____ss

Basic Writing Activity Page



Have the students write the word for each picture.

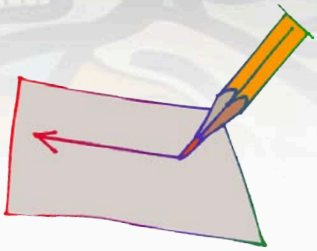
Baked Salmon

Salmon Onion

Bacon Tomato sauce

Put salmon into oven at 350 degrees for 1 hour. Put bacon strips on salmon 15 minutes after you put it in the oven. Then the last 10 minutes put onion rings on top. Pour 1 can tomato sauce over the top.

Basic Writing Activity Page



ANSWER KEY

composition

tilt

conduction

brightness

rotation

relative

position

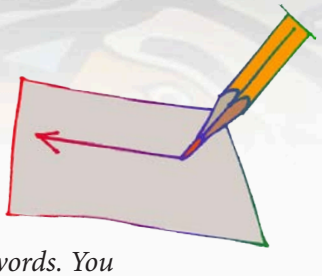
radiation

geochemistry

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.

TILT

_____

RELATIVE

_____

ROTATION

_____

CONDUCTION

_____

RADIATION

_____

GEOCHEMISTRY

_____

POSITION

_____

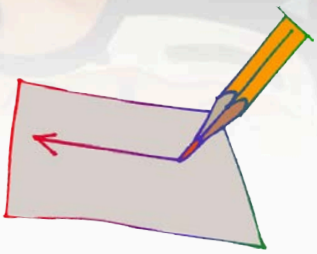
COMPOSITION

_____

BRIGHTNESS

_____

Creative Writing Activity Page



Have the students write sentences of their own, based on the picture below. When finished, have each student read his/her sentences to the others.

UNIT ASSESSMENT

D-1: Concepts of Earth tatScience

SCIENCE PROGRAM

Unit Assessment Teacher's Notes
Grade 8 • Unit 8 (D–1)
Theme: Concepts of Earth 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 page 1 in your test. Look at the pictures in the boxes.

1. Write the number 1 by the picture for **TILT**.
2. Write the number 2 by the picture for **RELATIVE**.
3. Write the number 3 by he picture for **ROTATION**.
4. Write the number 4 by the picture for **CONDUCTION**.
5. Write the number 5 by the picture for **RADIATION**.
6. Write the number 6 by the picture for **GEOCHEMISTRY**.
7. Write the number 7 by the picture for **POSITION**.
8. Write the number 8 by the picture for **COMPOSITION**.
9. Write the number 9 by the picture for **BRIGHTNESS**.

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. The leaning Tower of Pisa is famous because of its tilt.
2. The sun is huge relative to the Earth.
3. The rotation of the earth is along its axis.
4. Conduction is a longer name for duct tape.
5. Radiation is a harmless substance found in river valleys.
6. Geochemistry is the study of the chemical composition of the Earth.
7. The position of a batter in baseball is at the home plate.
8. The composition of beef stew usually includes chicken.
9. All light bulbs have the same brightness.

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.

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 pages 5 and 6 in your test. Look at the word parts in the boxes. Circle the other half or part of each word.

READING COMPREHENSION

Turn to page 7 in your test. Read the sentence part and fill in the bullet for the correct sentence ending.

BASIC WRITING

Turn to page 8 in your test. Look at the pictures in the boxes. Write the word for each picture.

CREATIVE WRITING

Turn to page 9 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 8 • Unit 8 (D–1)
Theme: Concepts of Earth Science

Date:_____ Student's Name:_____

Number Correct:_____ Percent Correct:_____

Baked Salmon

Salmon **Onion**

Bacon **Tomato sauce**

Put salmon into oven at 350 degrees for 1 hour. Put bacon strips on salmon 15 minutes after you put it in the oven. Then the last 10 minutes put onion rings on top. Pour 1 can tomato sauce over the top.

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

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1. Which of the following refers to something that is tilted?
   - ❍ straight
   - ❍ narrow
   - ❍ leaning

2. Alaska is actually a small state _____ its human population.
   - ❍ compared to
   - ❍ relative to
   - ❍ regardless of

3. The day/night cycle experienced on Earth is due to its _____.
   - ❍ size
   - ❍ rotation
   - ❍ tides

4. Conduction affects weather patterns as it is the transfer of what kind of energy?
   - ❍ thermal
   - ❍ potential
   - ❍ static

5. Like nuclear power plants and x-ray machines, the sun emits _____.
   - ❍ waste
   - ❍ water
   - ❍ radiation

6. Those who study geochemistry are interested in:
   - ❍ natural selection of species on earth
   - ❍ conservation of earth's resources
   - ❍ the chemical composition of the earth

7. The _____ of planets in relation to the sun is a factor in their surface temperatures.
   - ❍ position
   - ❍ make-up
   - ❍ resistance

8. The composition of Southeast Alaska's landscapes includes:
   - ❍ mountains, rivers, islands
   - ❍ mountains, rivers, deserts
   - ❍ deserts, rivers, islands

9. The perceived _____ of a star is due to its distance and size.
   - ❍ color
   - ❍ brightness
   - ❍ consistency

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TILT

RELATIVE

ROTATION

CONDUCTION

RADIATION

GEOCHEMISTRY

POSITION

COMPOSITION

BRIGHTNESS

SCIENCE PROGRAM

Unit Assessment ANSWER KEY
Grade 8 • Unit 8 (D–1)
Theme: Concepts of Earth Science

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Baked Salmon

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

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