SCIENCE

FOR LANGUAGE DEVELOPMENT

GRADE 7 • BOOK 2

BASED ON
ALASKA
SCIENCE
STANDARDS

Sealaska Heritage Institute

UNIT 6

C–1: Concepts of Life Science

KEY VOCABULARY

Key Vocabulary

CHEMICAL CHANGE	*the process in which substances are changed into one or more different products*
CONSUMER	*an organism requires complex organic compounds for food, so it feeds on other organisms for food*
DECOMPOSER	*an organism that eats dead or decaying matter*

Key Vocabulary

ENERGY	*the ability to do work or cause change; it can be any form and can be converted from one form to another*
FOOD WEB	*a model that shows that complex feeding relationship by which energy and nutrients are transferred between organisms in a community*
PHYSICAL CHANGE	*the process that changes a substance's form without producing a new substance*

Key Vocabulary

PRODUCER	*any organism that is able to make food through photosynthesis or chemosynthesis*
STRUCTURE	*the arrangement or relationship of parts of organs in an organism.*
TRANSFER	*the movement of one form of energy from place to place*

Key Vocabulary

TRANSFORMATION

the conversion of energy from one form to another

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.

Nod and Clap

Mount the vocabulary pictures on the board. Point to one of the pictures and say its name. The students should nod their heads to indicate that you said the correct vocabulary word for the picture. However, when you point to a picture and say an incorrect name for it, the students should clap their hands ONCE. Repeat this process until all of the vocabulary pictures have been used a number of times in this way.

Student Support Materials

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

SPEAKING

The Disappearing Pictures

Mount five or six pictures on the board, vertically. Point to the picture at the top and tell the students to name it. Continue in this way until the students have named all of the pictures from top to bottom. Then, remove the last picture and repeat this process—the students should say all of the vocabulary words, including the name for the "missing" picture. Then, remove another picture from the board and have the students repeat this process. Continue in this way until the students are saying all of the vocabulary words from a blank board or until the students cannot remember the "missing pictures."

Flashlight Name

Mount the vocabulary pictures on the board and the walls of the classroom. Darken the classroom as much as possible. Use a strong flashlight to direct the students' attention to one of the pictures. The students should identify the picture that is illuminated by the light of the flashlight. Continue in this way until all of the vocabulary words have been said a number of times.

Roll 'Em Again!

Mount the vocabulary pictures on the board. Number each picture from one to six (repeat a number as often as necessary). Then, group the students into two teams. Give the first player in each team a die. When you say "Go," the first player in each team must roll his/her die. He/She should call the number showing on it and then say a complete sentence about a vocabulary picture on the board that has the same number. Repeat this process until all students have participated.

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.

Funnel Words

Group the students into two teams. Give the first player in each team a funnel. Mount the sight words on the walls, board, and windows, around the classroom. Say one of the sight words. The students with the funnels must then look through them to locate the sight word you named. The first student to do this correctly wins the round. Repeat with other pairs of students until all players in each team have played.

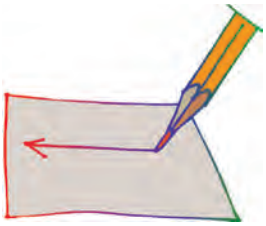
Letter Encode

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



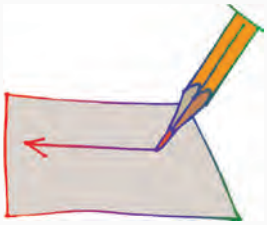
Mirror Writing

Group the students into two teams. Have the first player from each team stand in front of the board. Give each of the two players a small, unbreakable mirror. Stand some distance behind the two players with pictures for the sight words. Hold up one of the pictures. When you say "Go," the players must use the mirrors to look over their shoulders to see the picture you are holding. When a player sees the picture, he/she must write the sight word for that picture on the board. The first player to do this correctly wins the round. Repeat this process until all players in each team have had an opportunity to respond.

Silent Dictation

Provide each student with writing paper and a pen. The students should watch carefully as you move your lips as though you are saying one of the sight words (do not voice the word). After "lipping" the sight word, each student should write that word on his/her sheet of paper. Repeat this process with other sight words. Afterwards, review the students' responses.

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.

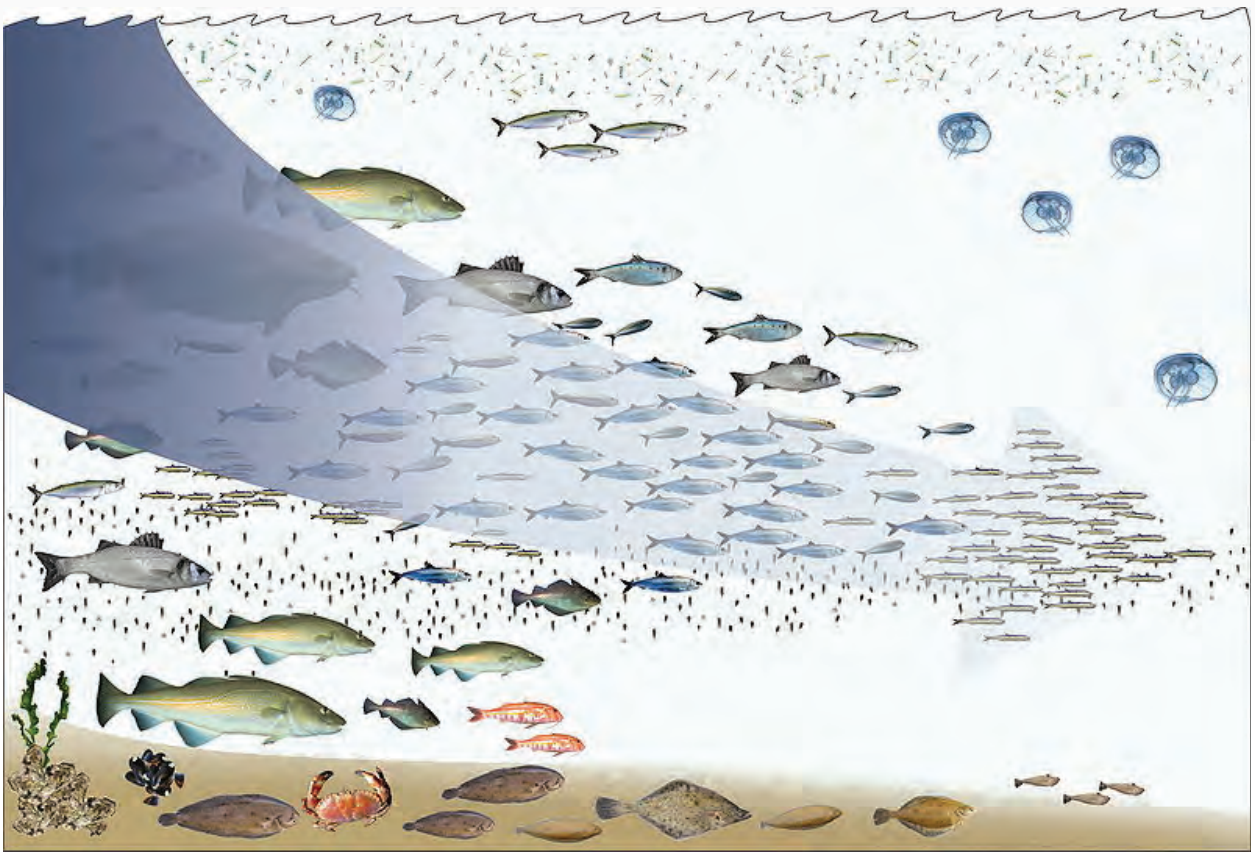
VOCABULARY PICTURES

CHEMICAL CHANGE

CONSUMER

DECOMPOSER

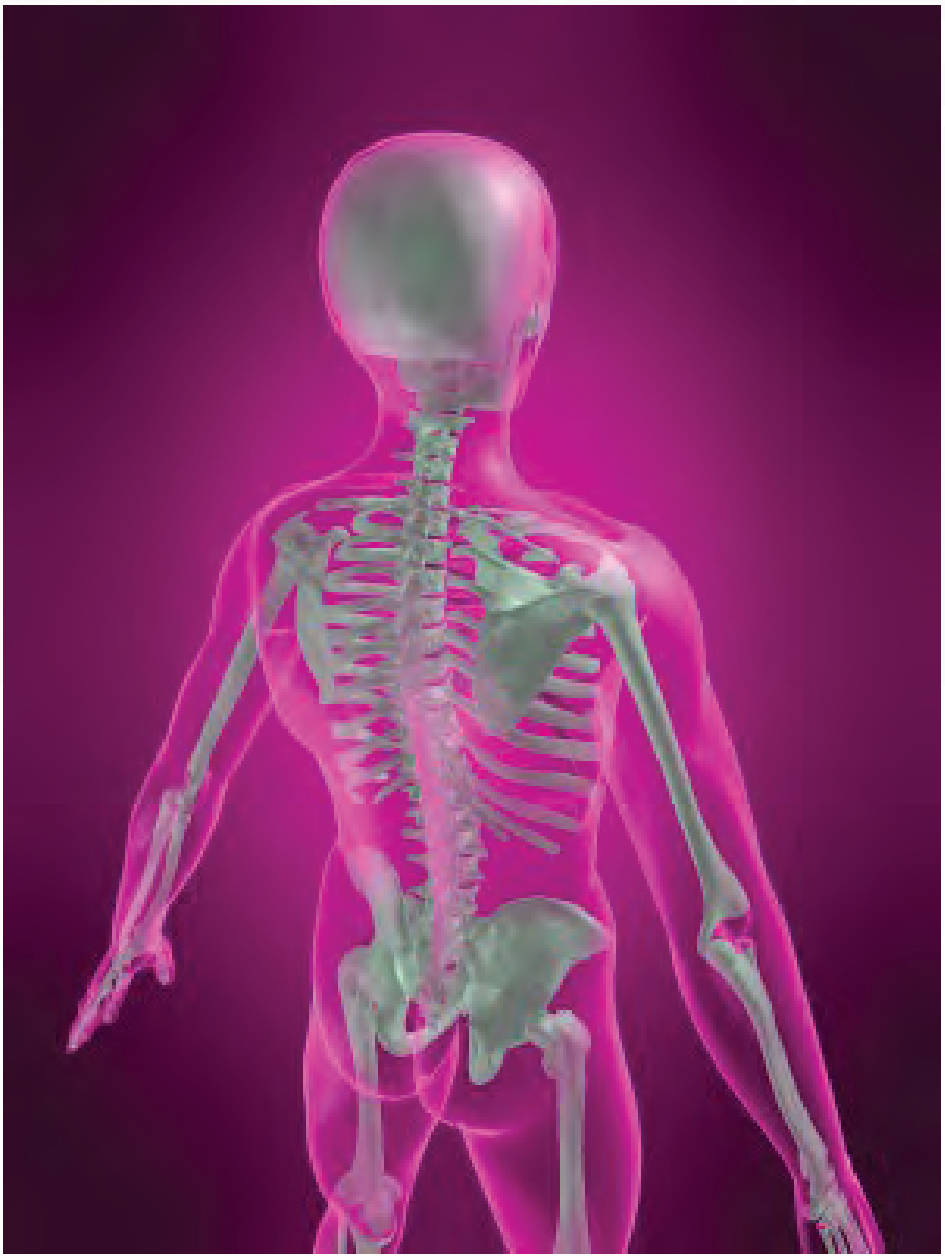
ENERGY



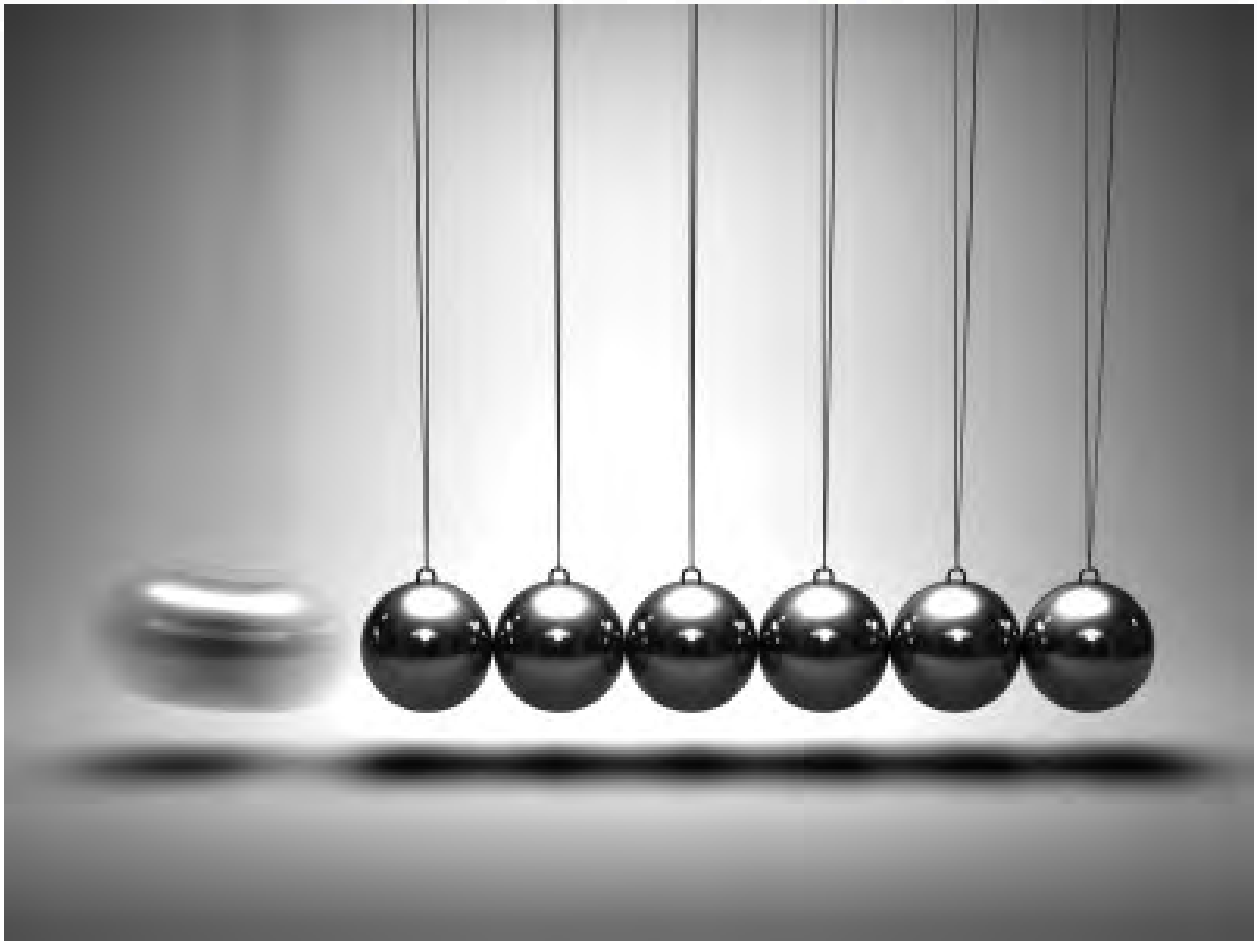
FOOD WEB

PHYSICAL CHANGE

PRODUCER



STRUCTURE



TRANSFER

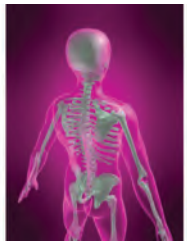
TRANSFORMATION

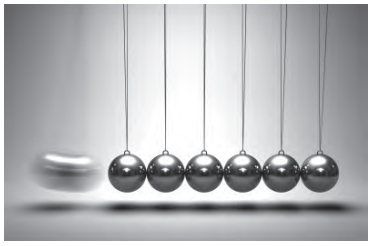
STUDENT SUPPORT MATERIALS

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. A food web is a model that shows the complex feeding relationship by which energy and nutrients are transferred between organisms in a community. **True** **False**

2. A decomposer is an organism that requires complex organic compounds for food, so it feeds on other organisms for food. **True** **False**

3. Chemical change is the process in which substances are changed into one or more different products. **True** **False**

4. Matter is anything that has mass and takes up space. **True** **False**

5. Physical change is the process that changes a substance's form without producing a new substance. **True** **False**

6. A consumer is an organism that requires complex organic compounds for food, so it feeds on other organisms for food. **True** **False**

7. A producer is an organism that eats dead or decaying matter. **True** **False**

8. Transformation is the conversion of energy from one form to another. **True** **False**

9. Energy is the ability to do work or cause change; it can be in any form and can be converted from one form to another. **True** **False**

10. Transfer is the movement of one form of energy from one place to another. **True** **False**

STUDENT SUPPORT MATERIALS

Sight Words

chemical change

consumer

decomposer

energy

food web

physical change

producer

structure

transfer

transformation

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.

chemical change	food web	producer
consumer	matter	transfer
decomposer	physical change	transformation
energy		

C	H	E	M	I	C	A	L	C	H	A	N	G	E	O	P
Z	D	T	I	P	T	O	B	D	U	C	B	Y	M	E	H
Q	T	X	Z	V	C	O	N	S	U	M	E	R	I	L	Y
Z	R	D	W	Z	Q	Y	P	I	U	O	L	K	N	M	S
M	A	E	E	Q	P	E	E	W	E	Y	O	P	B	K	I
V	N	D	P	C	I	V	F	Q	U	H	L	R	G	I	C
E	S	V	F	O	O	D	W	E	B	N	P	O	T	O	A
O	F	B	B	N	C	M	B	Z	H	U	E	D	Y	L	L
L	O	G	N	V	B	Y	P	S	N	J	D	U	H	P	C
W	R	N	Y	R	T	J	K	O	M	M	C	C	N	Q	H
V	M	H	U	E	Y	K	I	R	S	I	V	E	M	A	A
Q	A	Y	K	Q	I	M	E	K	O	E	A	R	I	A	N
U	T	M	R	Z	K	R	L	J	H	E	R	U	J	K	G
M	I	S	L	K	A	I	O	E	N	E	R	G	Y	N	E
L	O	W	E	T	V	B	N	Y	H	U	I	K	J	L	M
W	N	I	S	E	B	C	T	R	A	N	S	F	E	R	Z

Sight Words Activity Page

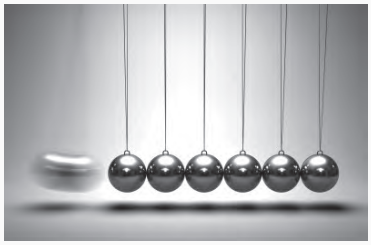
Have the students highlight or circle the words in this word find. Words appear horizontally.

chemical change consumer decomposer energy	food web physical change producer	structure transfer transformation

C	H	E	M	I	C	A	L	C	H	A	N	G	E	P
														H
	T		Z	V	C	O	N	S	U	M	E	R		Y
	R	D												S
	A		E									P		I
	N			C								R		C
	S		F	O	O	D	W	E	B			O		A
	F					M						D		L
	O						P					U		C
	R							O				C		H
	M								S			E		A
	A									E		R		N
	T					R								G
	I				A			E	N	E	R	G	y	E
	O			T										
	N		S				T	R	A	N	S	F	E	R

Sight Words Activity Page

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



chemical change	consumer	decomposer	energy
food web	physical change	producer	structure
transfer	transformation		

Sight Words Activity Page

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.

mer	con	su
_____	_____	_____

er	pos	de	com
_____	_____	_____	_____

er	gy	en
_____	_____	_____

Encoding Activity Page

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

for trans ma tion

_____ _____ _____ _____

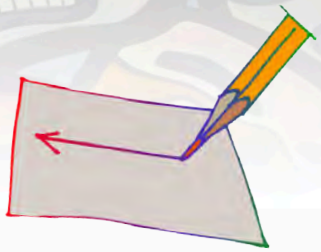
i phys cal change

_____ _____ _____ _____

web food

_____ _____

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.

consumer	transformation	transfer	energy	physical change
food web	reproduction	decomposer	structure	chemical change

n e f a r s r t	**t _ _ _ _ s _ _ _ _**
a a m r t o i t o n f s n r	**_ _ r _ _ _ s _ _ _ _ m _ _ _ _ o n**
t t e r u s r c u	**_ _ _ r _ _ _ _ t _ _ _ _**
g y r e n e	**_ _ n _ _ r _ _ _**
o r c n u s m e	**_ _ o _ _ _ _ _ _ _ _**
e r p o u d r n c i o t	**r _ _ _ _ r _ _ _ _ _ _ _ _ _ _ _ _**
n s r m e c u o	**_ _ _ _ _ _ _ _ u m _ _ _**
r d s e o m p c e o	**_ _ _ _ c _ _ _ _ p _ _ _ _ _r**
l e c m i a c h	**_ _ _ _ e _ _ i _ _ a _ _**
g n a e c h	**_ _ h _ _ n _ _ _**
y i a p h l c s	**_ _ h _ _ s _ _ _ _ al**
h a c g e n	**c _ _ _ _ n g _ _**
b f d e w o o	**_ _ o _ _ d _ _ _ _ e _ _**

STUDENT SUPPORT MATERIALS

Reading Comprehension

Reading Comprehension Activity Page

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

a model that shows the complex feeding relationship by which energy and nutrients are transferred between organisms in a community	an organism that eats dead or decaying matter	the process in which substances are changed into one or more different products
the process that changes a substance's form without producing a new substance	the arrangement or relationship of parts of organs in an organism.	an organism requires complex organic compounds for food, so it feeds on other organisms for food
any organism that is able to make food through photosynthesis or chemosynthesis	the conversion of energy from one form to another	the ability to do work or cause change; it can be in any form and can be converted from one form to another
the movement of one form of energy from place to another		

chemical change | consumer | decomposer | energy

food web | physical change | producer | structure

transfer | transformation

Reading Comprehension Activity Page

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

consumer	transformation	transfer	energy	physical change
food web	reproduction	decomposer	structure	chemical change

1. Energy _____ takes place in each level of an ecosystem.

2. A _____ is an organism that uses the sun's energy to make sugar and oxygen and they are the base of every food chain.

3. A _____ is a network of several food chains when put together and share common links.

4. A _____ breaks down dead or decaying plant or animal material, such as fungi.

5. A _____ is a process where atoms break their old links and form new links with other atoms, such as in a burning candle.

6. _____ is the process of converting energy from one form to another.

7. The bones of a skeletal system help give the body shape and _____ .

8. A sharpened pencil is an example of a _____ because the form of the object has been altered but not its substance.

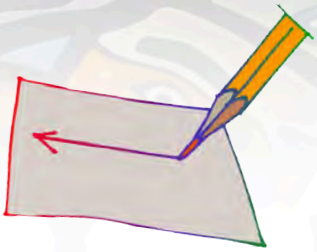
9. The ability to perform work or change an object requires _____.

10. A _____ is any animal that eats plants or animals.

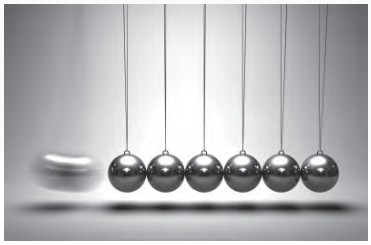
STUDENT SUPPORT MATERIALS

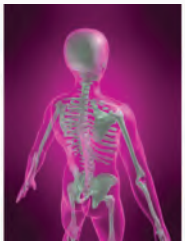
Basic Writing

Basic Writing Activity Page

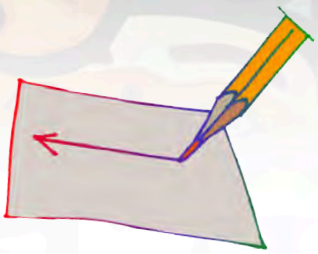


Have the students write the word for each picture.





Basic Writing Activity Page



Have the students write in the missing letters.

c_____ical change

con_____er

de_____oser

en_____y

f_____d web

physi_____ change

pro_____r

s_____cture

t_____fer

trans_____ation

Graphic Organizer

Model the process for students using the following unit words.

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	chemical change	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	consumer	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	decomposer	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	energy	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	food web	NOT EXAMPLES:

Graphic Organizer

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	physical change	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	producer	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	structure	NOT EXAMPLES:

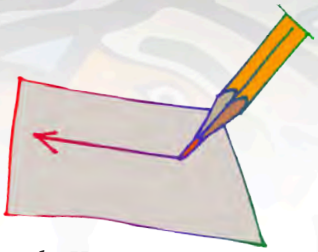
WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	transfer	NOT EXAMPLES:

WHAT IT IS:		WHAT IT IS NOT:
EXAMPLES:	transformation	NOT EXAMPLES:

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.

CHEMICAL CHANGE

_____

CONSUMER

_____

DECOMPOSER

_____

ENERGY

_____

FOOD WEB

_____

PHYSICAL CHANGE

_____

PRODUCER

_____

STRUCTURE

_____

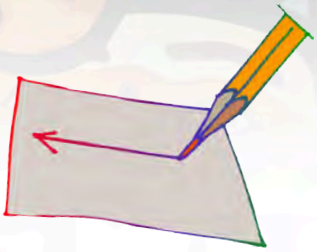
TRANSFER

_____

TRANSFORMATION

_____

Creative Writing Activity Page



On the lines below, write a paragraph based on the picture above. Before you begin writing, reflect on the unit words – energy, food web, physical change, and structure.

UNIT ASSESSMENT

C–1: Concepts of Life Science

SCIENCE PROGRAM

Unit Assessment Teacher's Notes
Grade 7 • Unit 6 (C–1)
Theme: Concepts of Life Scienc

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 **CHEMICAL CHANGE**.
2. Write the number 2 on top of the picture for **CONSUMER**.
3. Write the number 3 on top of the picture for **DECOMPOSER**.
4. Write the number 4 on top of the picture for **ENERGY**.
5. Write the number 5 on top of the picture for **FOOD WEB**.
6. Write the number 6 on top of the picture for **PHYSICAL CHANGE**.
7. Write the number 7 on top of the picture for **PRODUCER**.
8. Write the number 8 on top of the picture for **STRUCTURE**.
9. Write the number 7 on top of the picture for **TRANSFER**.
10. Write the number 8 on top of the picture for **TRANSFORMATION**.

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. A food web is a model that shows the complex feeding relationship by which energy and nutrients are transferred between organisms in a community.
2. A decomposer is an organism that requires complex organic compounds for food, so it feeds on other organisms for food.
3. Chemical change is the process in which substances are changed into one or more different products.
4. Matter is anything that has mass and takes up space.
5. Physical change is the process that changes a substance's form without producing a new substance.

Unit Assessment

6. A consumer is an organism that requires complex organic compounds for food, so it feeds on other organisms for food.
7. A producer is an organism that eats dead or decaying matter.
8. Transformation is the conversion of energy from one form to another.
9. Energy is the ability to do work or cause change; it can be in any form and can be converted from one form to another.
10. Transfer is the movement of one form of energy from place to another.

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.

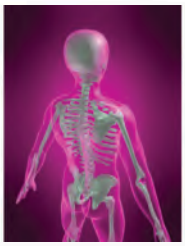
Teacher: To get a percentage for this student's assessment, divide the total number of questions correct by the total number of questions, then multiply this answer by 100 to determine the percentage of questions answered correctly.

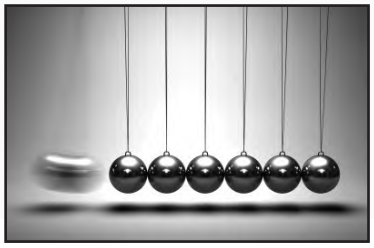
SCIENCE PROGRAM

Unit Assessment Student Pages
Grade 7 • Unit 6 (C–1)
Theme: Concepts of Life Science

Date:_____ Student's Name:_____

Number Correct:_____ Percent Correct:_____





1. T F

2. T F

3. T F

4. T F

5. T F

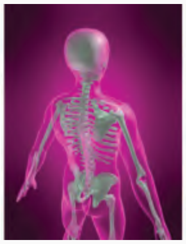
6. T F

7. T F

8. T F

9. T F

10. T F



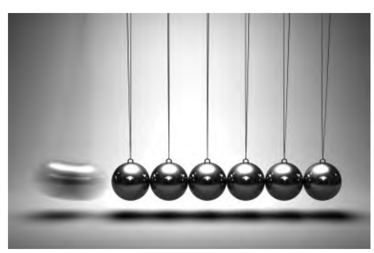
chemical change
consumer
decomposer
energy
food web
physical change
producer
structure
transfer
transformation

chemical change
consumer
decomposer
energy
food web
physical change
producer
structure
transfer
transformation

chemical change
consumer
decomposer
energy
food web
physical change
producer
structure
transfer
transformation

chemical change
consumer
decomposer
energy
food web
physical change
producer
structure
transfer
transformation

chemical change
consumer
decomposer
energy
food web
physical change
producer
structure
transfer
transformation



chemical change
consumer
decomposer
energy
food web
physical change
producer
structure
transfer
transformation

3

chemical change
consumer
decomposer
energy
food web
physical change
producer
structure
transfer
transformation

chemical change
consumer
decomposer
energy
food web
physical change
producer
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n e f a r s r t	t _ _ _ _ s _ _ _ _
a a m r t o i t o n f s n r	_ _ r _ _ _ s _ _ _ _ m _ _ _ _ o n
t t e r u s r c u	_ _ _ r _ _ _ t _ _ _ _
g y r e n e	_ _ n _ _ r _ _ _
b o w f o d e	_ _ o _ _ _ _ _ _ _ _ _
p e o r c r d u	p _ _ _ _ d _ _ _ _ _ _
n s r m e c u o	_ _ _ _ _ _ _ _ u m _ _
m e c o o b e p r	_ _ _ _ c _ _ _ _ p _ _ _ _ _ r
l e c m i a c h	_ _ _ _ e _ _ i _ _ a _ _
g h a e c h	_ _ h _ _ n _ _ _
y i a p h l c s	_ _ h _ _ s _ _ _ _ al
h a c g e n	c _ _ _ _ n g _ _

consumer	transformation	transfer	energy	physical change
food web	reproduction	decomposer	structure	chemical change

1. Energy _____ takes place in each level of an ecosystem.

2. A _____ is an organism that uses the sun's energy to make sugar and oxygen and they are the base of every food chain.

3. A _____ is a network of several food chains when put together and share common links.

4. A _____ breaks down dead or decaying plant or animal material, such as fungi.

5. A _____ is a process where atoms break their old links and form new links with other atoms, such as in a burning candle.

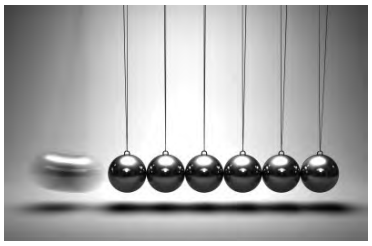
6. _____ is the process of converting energy from one form to another.

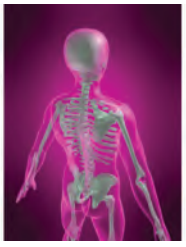
7. The bones of a skeletal system help give the body shape and _____ .

8. A sharpened pencil is an example of a _____ because the form of the object has been altered but not its substance.

9. The ability to perform work or change an object requires _____.

10. A _____ is any animal that eats plants or animals.





CHEMICAL CHANGE

CONSUMER

DECOMPOSER

ENERGY

FOOD WEB

PHYSICAL CHANGE

PRODUCER

STRUCTURE

TRANSFER

TRANSFORMATION