UNIT 5

C–1: Concepts of Life Science

KEY VOCABULARY

Culturally Responsive & Place-Based Introduction of Science Vocabulary

REPRODUCTION

Place-Based Perspective

Before the lesson begins, collect samples of plant seeds. Present the seeds to the students, and have them suggest how to use them to create new plants. Use this to introduce "reproduction" to the students. Lead the students to understand that a woman releases one egg or human seed per month. One sperm can fertilize the egg and the woman is then pregnant.

Heritage Cultural Perspective

Native people of Southeast Alaska have always been aware of the reproductive cycles of wildlife in their environment. For example, they had to be aware of the reproductive cycles in fish to collect fish eggs—an important food source. Throughout Southeast Alaska, herring eggs, salmon eggs, and hooligan eggs are plentiful during the spring, summer, and fall.

ADAPT

Place-Based Perspective

Collect samples of clothing that represent different weather forms. Present the samples to the students, calling upon them to suggest when each clothing item would be worn. Relate this adaptation of clothing to the weather to ways in which plants and animals adapt to their environments. Cite examples, such as camouflage, and the development of thick hair and layers of fat.

Heritage Cultural Perspective

The Native people of Southeast Alaska adapted to life in their environment through the foods they ate, their clothing, their living structures, their tools, and their transportation. In addition, Native people adapted to new ideas, standards, religions, and education after contact with Europeans.

EXTERNAL

Place-Based Perspective

If a part of a vehicle is available, show it to the students. Have the students identify where the item goes on or in a vehicle. If an actual part is not available, use a model. Direct the students' attention to the external parts of the vehicle.

Heritage Cultural Perspective

Traditionally, some Native people believed that fishing equipment and paraphernalia should never be brought into a clan house. This would cause bad luck in fishing. Therefore, all fishing items were stored externally from the clan house.

Culturally Responsive & Place-Based Introduction of Science Vocabulary

INTERNAL

Place-Based Perspective

Use an actual vehicle part or a model of a vehicle to direct the students' attention to the internal parts of a vehicle. Relate both external and internal to other contexts, such as building structures and the human body.

Heritage Cultural Perspective

A number of Native head pieces are designed with internal components. During a ceremony, the performer opens the external covering of the head piece to expose the internal component of the piece.

DICHOTOMOUS KEY

Place-Based Perspective

A dichotomous key is a tool that allows people to identify things in nature, including plants, rocks, and animals, to name a few. There are two parts, thus the label "dichotomous". Show the containers of two food items; have the students decide whether the foods are sweet, not sweet, hot, cold, etc. Use this as an analogy for the dichotomous key when applied to things in the environment.

Heritage Cultural Perspective

Native people have always identified wildlife—including fish, insects, animals, and plants—by their physical attributes. Native people used features such as appearance, smell, and feel to identify things in nature.

MIGRATION

Place-Based Perspective

Place a tray of soil in front of the students. Use models of houses to create a community on one side of the tray. Create a small river beside the community. On the other side of the tray, create a larger river. Pour water into the large river. Have the students imagine what the people in the community would do if their river dried up—they would most likely migrate to the bigger river. Relate this to migration in nature.

Heritage Cultural Perspective

The Taku River and Inlet are named after the Tlingit name for the Canada Goose. The geese migrated down the river from Canada and up the river to the Interior. Native people of Southeast Alaska have migration songs that relate to their trek into Southeast Alaska.

Culturally Responsive & Place-Based Introduction of Science Vocabulary

COMMUNICATION

Place-Based Perspective

Show the students a set of earphones and a pen. Have them tell what is the same about the two items. Lead the students to understand that both can be used for communication. Have the students cite other forms of communication, such as television, computers, and newspapers.

Heritage Cultural Perspective

Body language has always played a vital role in communication among Native people. In addition, box drums were used to alert people to dangers. Also, there was a system in place in which the brother-in-law of a family was used to communicate with other clans in various communities.

HIBERNATION

Place-Based Perspective

Prepare a mock bag of garbage. Show it to the students, telling them that the bears did not bother the garbage—have them determine why. Lead the students to understand that if the garbage were out in the winter, the bears were hibernating and would not have been around. Cite other examples of wildlife that hibernate.

Heritage Cultural Perspective

In the the story "The Woman Who Married the Bear"—the woman hibernates with the bear.

LESSONS

Science Language for Success—Lesson 1

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.

Turn and Face

Mount the vocabulary pictures on the walls and board. Group the students together in the center of the classroom. Say one of the vocabulary words and the students should turn to face the picture for the word you said. Depending upon the size of your class, this activity may be done in small groups. This activity may also be done in team form. In this case, have a player from each team stand in the center of the classroom. When a player faces the wrong direction (i.e., the wrong picture), he/she is "out" until a later round of the activity. Repeat until all players have had an opportunity to participate.

Student Support Materials

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

SPEAKING

Balloon Volleyball

Group the students into two teams. The two teams should stand, facing one another. Toss a round, inflated balloon to the members of Team One. The members of Team One must then bounce the balloon to the members of Team Two. The players should continue to bounce the balloon back and forth in this way until a team loses the balloon. You may wish to establish the rule that players may not move their feet during the activity. When a team loses the balloon, show them a vocabulary picture and all team members in that team must say the vocabulary word for it. Repeat until players in both teams have responded a number of times.

Slip String

Mount the vocabulary pictures on the board. Join all of the students together with a long length of string. Before tying the ends of the string together, insert a roll of tape over one end of the string (a large washer can also be used). Then, tie the ends of the string together. Face away from the students. The students should then pass the roll of tape as quickly as possible along the string. When you clap your hands, the student who is holding the roll of tape, must identify (orally) a vocabulary picture you point to. For added motivation, you may wish to place more than one roll of tape (or washer) on the line of string. Repeat until many students have responded.

Science Language for Success—Lesson 2

SPEAKING (CONTINUED)

Roll 'Em Again!

Mount the vocabulary pictures on the board. Number each picture using the numbers 1 to 6 (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.

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.

Deal

Before the activity begins, obtain two decks of playing cards. Give all of the cards from one deck to the students (if possible, arrange it so that all students have the same number of cards). Mount the sight words on the board. Hold a playing card from the other deck of cards against one of the sight words on the board. The student who has the matching playing card must identify the sight word. When the student has done this correctly, he/she should place that playing card to the side. Continue in this way until a student or students have no playing cards left in their hands.

Letter Encode

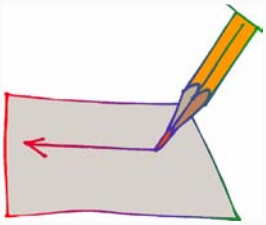
Give each student his/her envelope that contains the alphabet letters. Mount one of the science pictures on the board. The students must use the cut-out letters to spell the word. Review the students' work. Repeat, until all of the words have been spelled in this way.

Student Support Materials

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

Science Language for Success—Lesson 2

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.

Yarn Spell

Group the students into two teams. Give the first player in each team lengths of yarn or string. Say a vocabulary word. When you say "Go," the first player in each team must then use the yarn or string to "write" the word on the floor. The first player to complete his/her word wins the round. Repeat this process until all players in each team have played. If pipe cleaners are available, they may be used in place of the yarn or string (have both long and short lengths of the pipe cleaners ready for the activity).

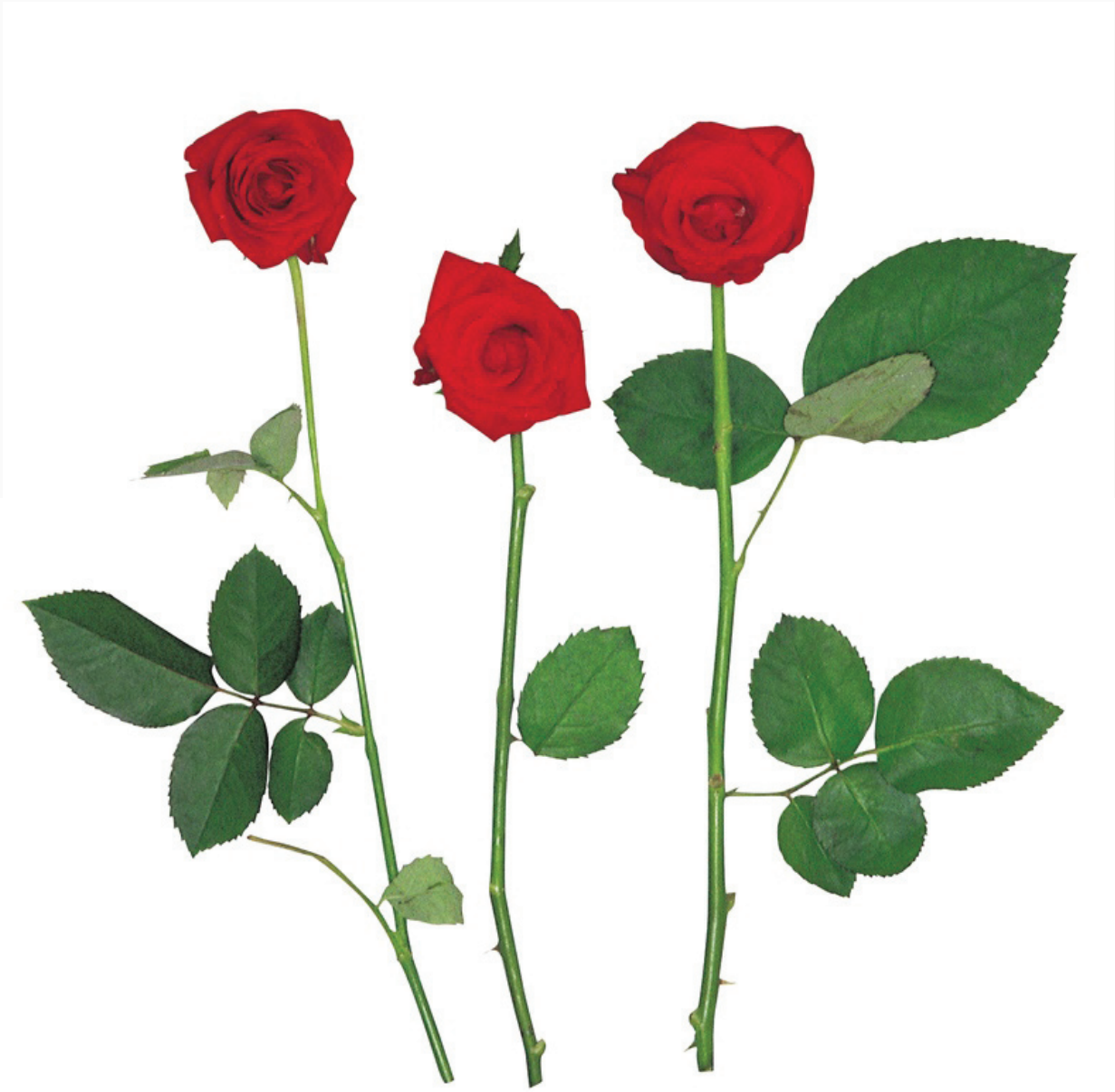
Student Support Materials

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

VOCABULARY PICTURES

ADAPT

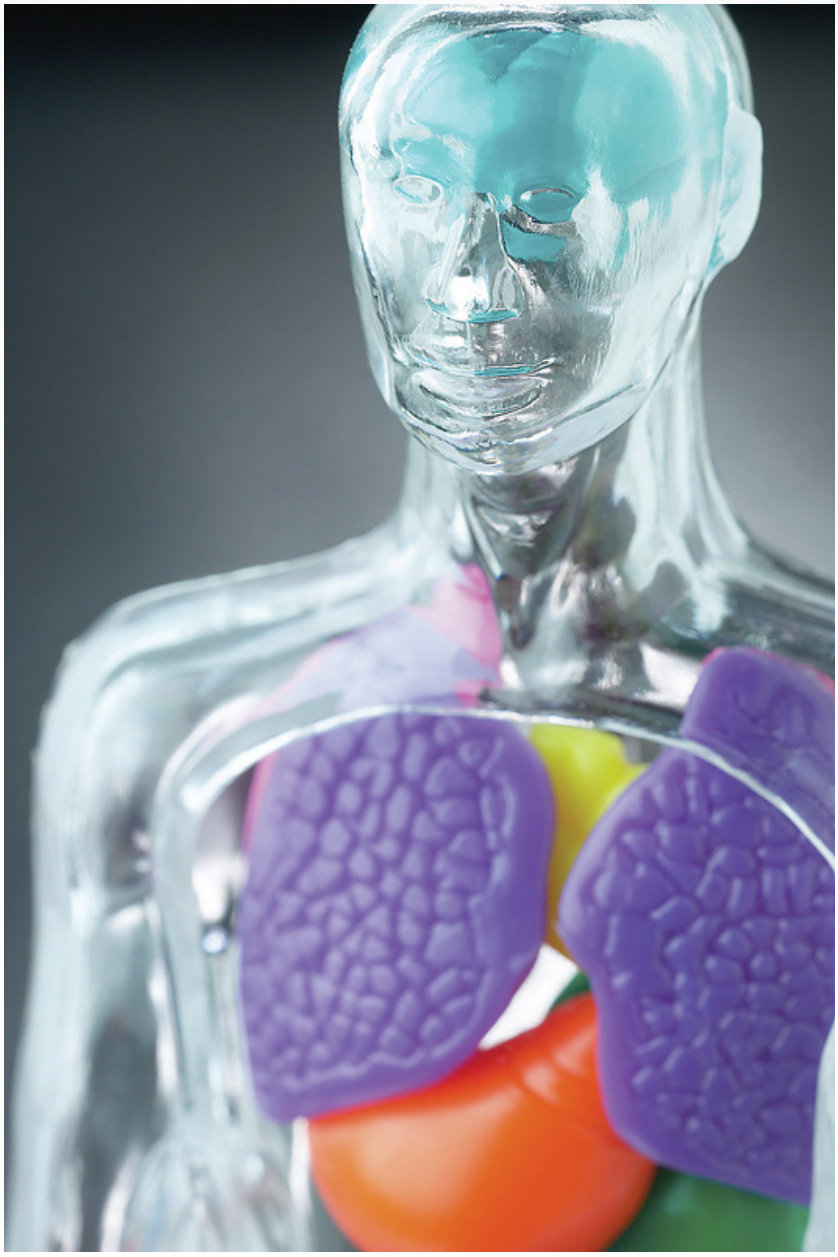
COMMUNICATION



DICHOTOMOUS KEY

EXTERNAL

HIBERNATION



INTERNAL

MIGRATION

REPRODUCTION

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.

Listening: Mini Pictures

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. Reproduction can happen with humans, plants, and animals. **True** **False**

2. Adapting to an environment means to classify matter by its heat. **True** **False**

3. The fins of a fish are external. **True** **False**

4. Internal body parts are located outside of the body and can be identified. **True** **False**

5. A dichotomous key is a tool to help us collect data. **True** **False**

6. A migration is when a state of matter changes because of chemical forces. **True** **False**

7. Sign language is an example of a form of communication. **True** **False**

8. Hibernation is the time when all matter is in a liquid state. **True** **False**

STUDENT SUPPORT MATERIALS

Sight Words

external

adapt

reproduction

dichotomous key

internal

hibernation

communication

migration

STUDENT SUPPORT MATERIALS

Basic Reading • Sight Recognition

Sight Words Activity Page

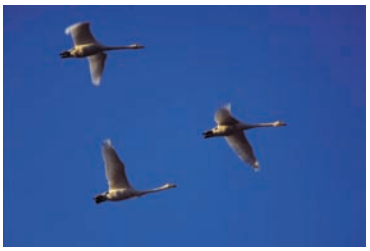
Have the students highlight or circle the words in this word find. Words appear horizontally.

migration
adapt
external
communication
internal
reproduction
hibernation
dichotomous key

e n e a a o o r i b a r r t h r k n
d t c l o a a t i t a a o n a r n u
i d y h d i c h o t o m o u s k e y
c a n t r n t r t e x t e r n a l o
a n r u c o m m u n i c a t i m t o
i o i n t e r n a t o t e n n d c n
d t y a o o r e p r o d u c t i o n
g t i c o m m u n i c a t i o n t t
n a n n t h m o m i g r a t i r i n
i r o n t e l i n t e r n a l i o e
h i b e r n a t i o n a u o o a m a
o e h i b e r n a t r e i b a a t k
o n o a a u i t d n t o l t i r p r
r i n u x i a d a p t o t i t h a d
i o t d o e e x t e r n m i o i y i
k g e n n o c d r e p r o d u c t e
i d i c h o t o m o u s k e t t l o
c a a l t k d h l a d m s c i r n n
c m i g r a t i o n n c c t r y b k
m l n o x s n i m r o n c r d r m e

Sight Words Activity Page

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



reproduction	adapt	external	internal
dichotomous key	migration	hibernation	communication

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.

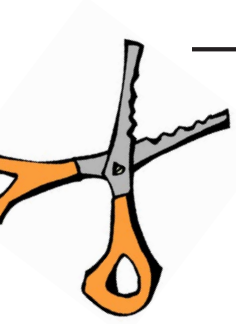
STUDENT SUPPORT MATERIALS

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.

pro	tion	re	duc
nal	ex	ter	
ter	nal	in	
to	di	mous	cho



Encoding Activity Page

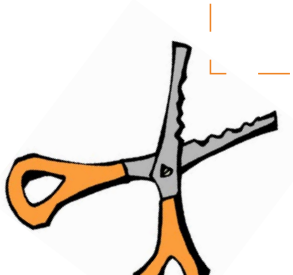
Have the students cut out and encode the syllables of the words, OR number the syllables in their correct sequence.

tion	mi	gra		
_____	_____	_____		
com	ni	ca	mu	tion
_____	_____	_____	_____	_____
ber	tion	na	hi	
_____	_____	_____	_____	

Encoding Activity Page

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

hiber	gration
communi	nal
mi	ternal
dichoto	nation
inter	duction
ex	dapt
repro	cation
a	mous key



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 What is reproduction?

- ❍ It is the making of more of the same species.
- ❍ It is the data that is collected about matter.
- ❍ It is the making of a model.
- ❍ It is the use of gravity to change substances.

2 What is one thing that can cause plants and animals to adapt?

- ❍ gases that are exerted on the environment
- ❍ chemicals that are used for data
- ❍ the environment
- ❍ mechanical reproduction of tools

3 How would you describe a person's hair?

- ❍ It is data collected in a chemical environment.
- ❍ It is an external body part.
- ❍ It is an internal body part.
- ❍ It is a force affected by gravity.

4 What is an example of an internal thing?

- ❍ a hand
- ❍ a foot
- ❍ a nose
- ❍ a stomach

5 What is a dichotomous key?

- ❍ a tool to help identify plants, animals, rocks and other things
- ❍ a tool to measure the heat in an environment
- ❍ a tool to predict weather
- ❍ a tool to measure the energy found in a liquid

Reading Comprehension Activity Page

6 What is one cause of migration?

- ❍ solids
- ❍ gases
- ❍ climate
- ❍ substances

7 Which of these is a form of communication?

- ❍ writing the data found from measuring substances
- ❍ thinking about what you will say next
- ❍ sleeping in a dry environment because of heat
- ❍ sitting still until the state of matter changes

8 Hibernation is

- ❍ when a plant or animal changes from liquid to solid.
- ❍ when a plant or animal identifies gases in the environment.
- ❍ when a plant or animal exerts a force in a room.
- ❍ when a plant or animal is in a sleeping state.

Reading Comprehension Activity Page

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

1	Reproduction makes	A	an internal body part.
2	Animals can adapt	B	used to identify things in nature.
3	The fins of a fish	C	to share information with others.
4	A person's stomach is	D	babies.
5	A dichotomous key is a tool	E	during the winter.
6	Migration can be	F	to their environments.
7	Communication is important	G	are external body parts.
8	Some wildlife hibernate	H	caused by climate changes.

1→_____ 2→ _____ 3→ _____ 4→ _____

5→ _____ 6→ _____ 7→ _____ 8→ _____

Reading Comprehension Activity Page

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

This makes more of the same plant or animal.	**This is change.**	**This is on the outside.**
This is on the inside.	**This is a tool.**	**This means that things move from one place to another.**
This can be the sharing of information with others.	**This is a state that some plants and animals go into in the winter.**	

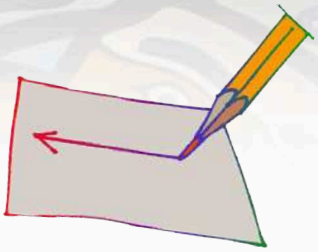
hibernation **migration** **dichotomous key** **internal**

external **adapt** **reproduction** **communication**

STUDENT SUPPORT MATERIALS

Basic Writing

Basic Writing Activity Page



Have the students write in the missing letters.

hi_____n

com_____n

mig_____n

dich_____key

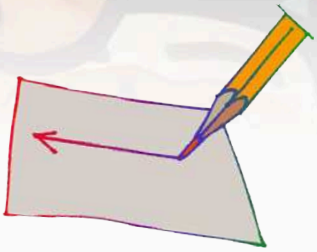
in_____l

ex_____l

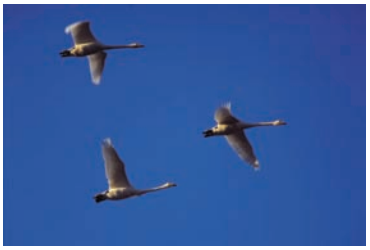
ad_____

repro_____

Basic Writing Activity Page



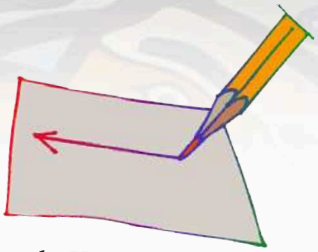
Have the students write the word for each picture.



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.

HIBERNATION

_____

COMMUNICATION

_____

MIGRATION

_____

DICHOTOMOUS KEY

_____

INTERNAL

_____

EXTERNAL

_____

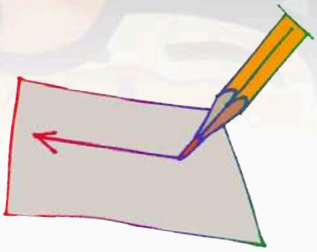
ADAPT

_____

REPRODUCTION

_____

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

C–1: Concepts of Life Science

SCIENCE PROGRAM

Unit Assessment Teacher's Notes
Grade 6 • Unit 5 (C–1)
Theme: Concepts of Life 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 1–2 in your test. Look at the pictures in the boxes.

1. Write the number 1 on top of the picture for **REPRODUCTION**.
2. Write the number 2 on top of the picture for **ADAPT**.
3. Write the number 3 on top of the picture for **EXTERNAL**.
4. Write the number 4 on top of the picture for **INTERNAL**.
5. Write the number 5 on top of the picture for **DICHOTOMOUS KEY**.
6. Write the number 6 on top of the picture for **MIGRATION**.
7. Write the number 7 on top of the picture for **COMMUNICATION**.
8. Write the number 8 on top of the picture for **HIBERNATION**.

LISTENING COMPREHENSION

Turn to page 3 in your test. Listen to the sentences I say. Circle "T" for true and "F" for false sentences."

1. Reproduction is a gas exerted by solids.
2. Animals and plants adapt to their environments.
3. External things are on the outside.
4. Our stomachs are internal organs.
5. The dichotomous key helps us to collect data.
6. Migration is when liquids move from one place to another.
7. Reading is a form of communication.
8. Hibernation is when data measures a solid.

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 page 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 word parts in the boxes. Circle the other half or part of each word.

READING COMPREHENSION

Turn to page 6 in your test. Read the sentence part and fill in the bullet for the correct sentence ending.

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 6 • Unit 5 (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

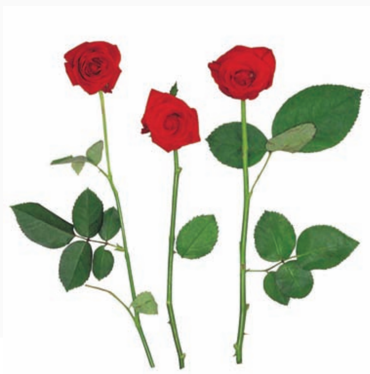
6. T F

7. T F

8. T F

reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation

reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation

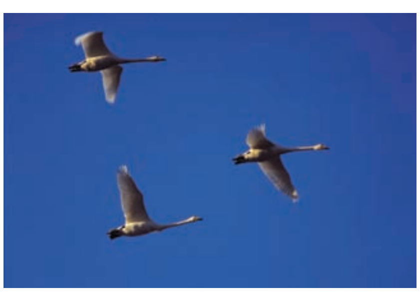


reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation

reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation

reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation

reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation



reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation

reproduction
adapt
external
internal
dichotomous key
migration
communication
hibernation

re

product
production
roduction
duction
protion
duct
tion
pruduction
preduction

a

dept
daff
daft
dupt
dipt
deft
dapt
dap
daap

ex

termal
tirmal
turmal
ernal
ternal
timnal
tarnal
nal
al

dichoto

mess key
mass key
moes key
muus key
muos key
miss key
maes key
meas key
mous key

mi

grution
grition
gretion
gration
ration
tion
graetion
ution
greption

commu

nacation
nucation
necation
cation'
tion
nication
unication
munication
ation

in

tustinal
ternal
tanal
einal
tinal
tunal
teres
nternal
al

hi

barnation
burnation
dirnation
birnation
irnation
nation
tion
bernation
buernation

1. Reproduction is when
   - ❍ new living things are made.
   - ❍ data measures matter.
   - ❍ liquids are found in an environment.

2. Animals can adapt to
   - ❍ data.
   - ❍ their environment.
   - ❍ gravity.

3. External things are
   - ❍ on the inside.
   - ❍ on the outside.
   - ❍ on both the inside and the outside.

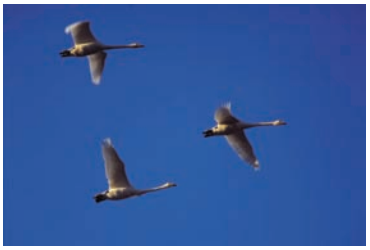
4. Our livers are
   - ❍ internal.
   - ❍ external.
   - ❍ mechanical.

5. The dichotomous key helps us to
   - ❍ adapt to new data.
   - ❍ identify things in the environment.
   - ❍ communicate with electrical energy.

6. Migration is when living things
   - ❍ use the Dichotomous Key.
   - ❍ exert gravity on matter.
   - ❍ move from one place to another.

7. A computer can be one form of
   - ❍ chemical energy.
   - ❍ gravity.
   - ❍ communication.

8. Hibernation happens during the
   - ❍ winter.
   - ❍ summer.
   - ❍ migration.



REPRODUCTION

_____

ADAPT

_____

EXTERNAL

_____

INTERNAL

_____

DICHOTOMOUS KEY

_____

MIGRATION

_____

COMMUNICATION

_____

HIBERNATION

_____