UNIT 9

E-1: Science and Technology
F-1: Cultural, Social, Personal Perspectives and Science
G-1: History and Nature of Science

KEY VOCABULARY

Culturally Responsive & Place-Based Introduction of Science Vocabulary

DIPLOMATIC

Place-Based Perspective

Split the students into two groups on either side of the room. Each group is to represent a country. Present the scenario that one of the countries has been caught illegally fishing in the waters of the other. Have students from each team present an argument that is likely to further inflame tensions about this issue. Now have them brainstorm a "diplomatic" solution and dialogue between the nations. Explain that diplomatic solutions to problems are important to retain peace and respect.

Heritage Cultural Perspective

While wars have plagued human existence, peace has also been frequently enjoyed too! This is a result of diplomatic relationships and approaches to problem solving. Following the sale of Alaska to the United States by Russia, Tlingit leaders discussed the possibility of war to secure their rights. They instead chose diplomacy — legal and political approaches to land claims rather than bloodshed.

EVIDENCE

Place-Based Perspective

Present the students with the hypothesis that orange juice will catch on fire if Tabasco sauce is added to it. Ask them to tell you what would be needed to convince others that this is true. What types of facts or "evidence" would you need? Why is evidence important in science?

Heritage Cultural Perspective

It is part of human nature to seek evidence that supports answers to life's questions. The Tlingit, Haida, and Tsimshian peoples consistently sought scientific evidence within the natural world. Would the salmon return to the rivers annually and why? Is a plant's root safe to eat? Prove it! Evidence helps us to ground our theories in fact to better understand our surroundings.

DESIGN

Place-Based Perspective

Ask the students to take 5 minutes to come up with an original piece of equipment that would be useful in our daily lives. These can be funny! Have them draw their thoughts on a sheet of paper. Explain that these are "designs" for their inventions. Have the students share their designs with the rest of the class.

Heritage Cultural Perspective

Alaska Native designs are important aspects of their artistic expressions and can be used to identify cultural groups. The Tlingit, Haida, and Tsimshian are famous for their formline designs. Subtle differences in this art exist between the cultures but may not be obvious to the untrained eye.

Culturally Responsive & Place-Based Introduction of Science Vocabulary

DISCOVERY

Place-Based Perspective

Explain to the students that a discovery is new knowledge gained through study or observation. The "discovered" information can be new to an individual, a group, or all of mankind. What are some discoveries that the students have had in their own lives? What are some recent scientific discoveries in science? What types of discoveries would the students like to participate in throughout their lives?

Heritage Cultural Perspective

Discovery of new places and objects is not only a modern phenomenon but was likely exciting for Alaska Native peoples of long ago. Imagine the feeling felt by the first Tlingit to see shiny copper or travel along the beautiful Lynn Canal. Imagine discovering new animals and flowering plants when traveling to trade or hunt. Alaska is a vast land of natural resources and discovering these had to be very exciting!

BREAKTHROUGH

Place-Based Perspective

Explain to the students that a breakthrough is a sudden, dramatic, and/or extremely important discovery. Breakthroughs have been numerous throughout human history and have been especially important in medicine. New vaccines that prevent disease and cures for those who already have a disease have saved many human lives. We hope for breakthroughs in curing or preventing cancer, HIV, and other ailments in the near future.

Heritage Cultural Perspective

Breakthroughs, though often dramatic, can be large or small in scale. From time to time Alaska Native people of long ago would experience a breakthrough that would change their lives. Imagine when people discovered that hooligan oil would burn steady and could be used in lamps. Imagine when herring eggs were determined to be a tasty, healthy, and abundant treat. These breakthroughs improved the lives of Alaskan peoples.

LOCAL KNOWLEDGE

Place-Based Perspective

Draw a rough outline of your community on the board, including any surrounding wetlands. Ask the students where they have seen frogs or salamanders in the vicinity. Explain to them that knowledge of these animals in Alaska is limited and that local knowledge may be very valuable in understanding their lives and locations. If they would like to contribute as "citizen scientists" to the knowledge of amphibians, have them contact the University of Alaska Fairbanks Museum's Aquatics Collection.

Heritage Cultural Perspective

Local knowledge among Alaska peoples was and continues to be incredibly important for human survival. Local knowledge of resources and landscapes allows us to learn about, use, and protect them. Where is the best place to fish for sockeye or harvest berries? When is the best time to travel to Prince of Wales Island? No one can answer these questions better than local people familiar with their community and surroundings.

Culturally Responsive & Place-Based Introduction of Science Vocabulary

SUBSISTENCE

Place-Based Perspective

Ask the students how many of them have eaten local plants and animals that have been harvested by themselves or their families. What types of foods were these? Did they enjoy them? Explain that "subsistence" has always been important for humans in Alaska and that it continues to be the means by which many families obtain food. State and federal laws protect the right to pursue subsistence foods but many believe these laws need to be strengthened even further.

Heritage Cultural Perspective

Subsistence, the harvest of plants and animals for food, clothing, and other valuable objects, has allowed Alaska Native people to live off of the land in the far north. They have a right to these resources as they have utilized them since time immemorial. Subsistence foods have often been determined to be healthier than store-bought items that have more artificial ingredients.

INCONSISTENT

Place-Based Perspective

Show the students the egg carton on page 789. Ask them what is wrong with the contents of the carton. Explain that the product is "inconsistent" because it has all intact eggs except one. Ask the students what inconsistent results of experiments would mean. Perhaps the data is not valid or there is some fluctuation in what is being tested?

Heritage Cultural Perspective

Alaska Native peoples of long ago knew that inconsistencies could have dire consequences. Years of unusually heavy rainfall or droughts can cause the plants and animals on which they depend to change their behavior or availability. What would happen if disease suddenly killed off all of the local deer or if an event prevented salmon from entering the mouth of the river?

EMPIRICAL

Place-Based Perspective

Ask the students to present theories as to whether or not "bigfoot" exists. What evidence do they have to support or reject their hypothesis? Explain that while theories have been incredibly useful to help us understand the world around us, "empirical" evidence, evidence obtained through experiment and observation, is necessary to prove a hypothesis in western science.

Heritage Cultural Perspective

The Tlingit, Haida, and Tsimshian peoples throughout time undertook experimentation and observation. They have empirical evidence to support their claims to the land and their knowledge of local landscapes derived from traditional use and occupation. They knew exactly what size fish would be caught by the size of the halibut hook. Why? Because they experimented and observed the results.

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.

Whisper

Mount the vocabulary pictures on the board. Group the students into two teams. Whisper a vocabulary word to the first player in each team. When you say "Go," the first player in each team must then whisper the same word to the next player in his/her team. The players should continue whispering the vocabulary word in this way until the last player in a team hears the word. When the last player in a team hears the word, he/she must rush to the board and point to the picture for the word. The first player to do this correctly wins the round. Repeat until all players have had an opportunity to identify a vocabulary picture. When a player has identified a vocabulary picture, he/she should rejoin the front of his/her team.

Student Support Materials

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

SPEAKING

Half Match

Before the lesson begins, prepare a photocopy of each of the vocabulary pictures. Cut each of the photocopied pictures in half. Give the picture halves to the students (a student may have more than one picture half). Say one of the vocabulary words. The two students who have the halves of the picture for that word must show their halves and repeat the word orally. Continue in this way until all of the vocabulary words have been reviewed. This activity may be repeated more than once by collecting, mixing, and redistributing the picture halves to the students. This activity may also be adapted for team form. To do this, cut each of the vocabulary pictures in half. Place half of the pictures in one pile and the other halves in another pile (one pile for each team). Say a vocabulary word. When you say "Go," the first player from each team must rush to his/her pile of picture halves. Each player must find the half of the picture for the vocabulary word you said. The first player to correctly identify the picture half and to repeat the vocabulary word for it wins the round. Repeat until all players have played.

Numbered Boxes

Before the activity begins, prepare a page that contains twenty (or more) boxes. Number each of the boxes. Provide each student with a copy of the numbered boxes. Each student should then shade in half of the boxes with a pencil (any ten

SPEAKING (CONTINUED)

boxes). When the students are ready, mount the vocabulary pictures on the board and say the number of a box (between one and twenty) to one of the students. The student should look on his/her form to see if that box number is shaded in. If that box is shaded in, the student may "pass" to another player. However, if the box is not shaded in, he/she should say a complete sentence about a vocabulary picture you point to. The students may exchange pages periodically during this activity. Repeat until many students have responded in this way.

High Card Draw

Give each student in the class a card from a deck of playing cards. Mount the vocabulary pictures on the board and number each one. Call two students' names. Those two students should show their cards. The student who has the highest card (aces can be high or low) should then say a complete sentence about a vocabulary picture you point to. The students may exchange playing cards periodically during the activity. Repeat until many students have responded.

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.

Circle of Words

Before the activity begins, prepare a page that contains the sight words. Provide each student with a copy of the page. The students should cut the sight words from their pages. When a student has cut out the sight words, he/she should lay them on his/her desk in a circle. Then, each student should place a pen or pencil in the center of the circle of sight word cards. Each student should spin the pen/pencil. Say a sight word. Any student or students whose pens/pencils are pointing to the sight word you said, should call "Bingo." The student or students should then remove those sight words from their desks. Continue in this way until a student or students have no sight words left on their desks.

Letter Encode

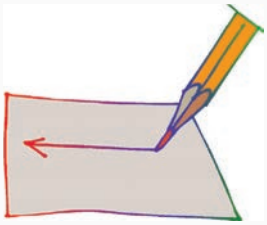
Give each student his/her envelope that contains the alphabet letters. Mount one of the science pictures on the board. The students must use the cut-out letters to spell the word. Review the students' work. Repeat, until all of the words have been spelled in this way.

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

WRITING



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).

Overhead Configurations

Before the activity begins, write the sight words on an overhead transparency sheet. Place an overhead projector on the floor, facing the board. Lay the overhead transparency sheet on the screen of the projector and turn the projector on. The sight words should be projected onto the board. Then, use chalk to draw configurations around each of the sight words. When a configuration has been drawn for each sight word, turn the overhead projector off. Call upon a student to use chalk to fill in one of the configurations with its sight word. You may wish to have more than one student participating in this process at the same time.

This activity may also be conducted in team form. In this case, when you say "Go," the first player in each team must rush to the configurations. Each player must attempt to fill in one of the configurations with its correct sight word. The first player to do this correctly wins the round. Repeat until all configurations have been filled in 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.

VOCABULARY PICTURES

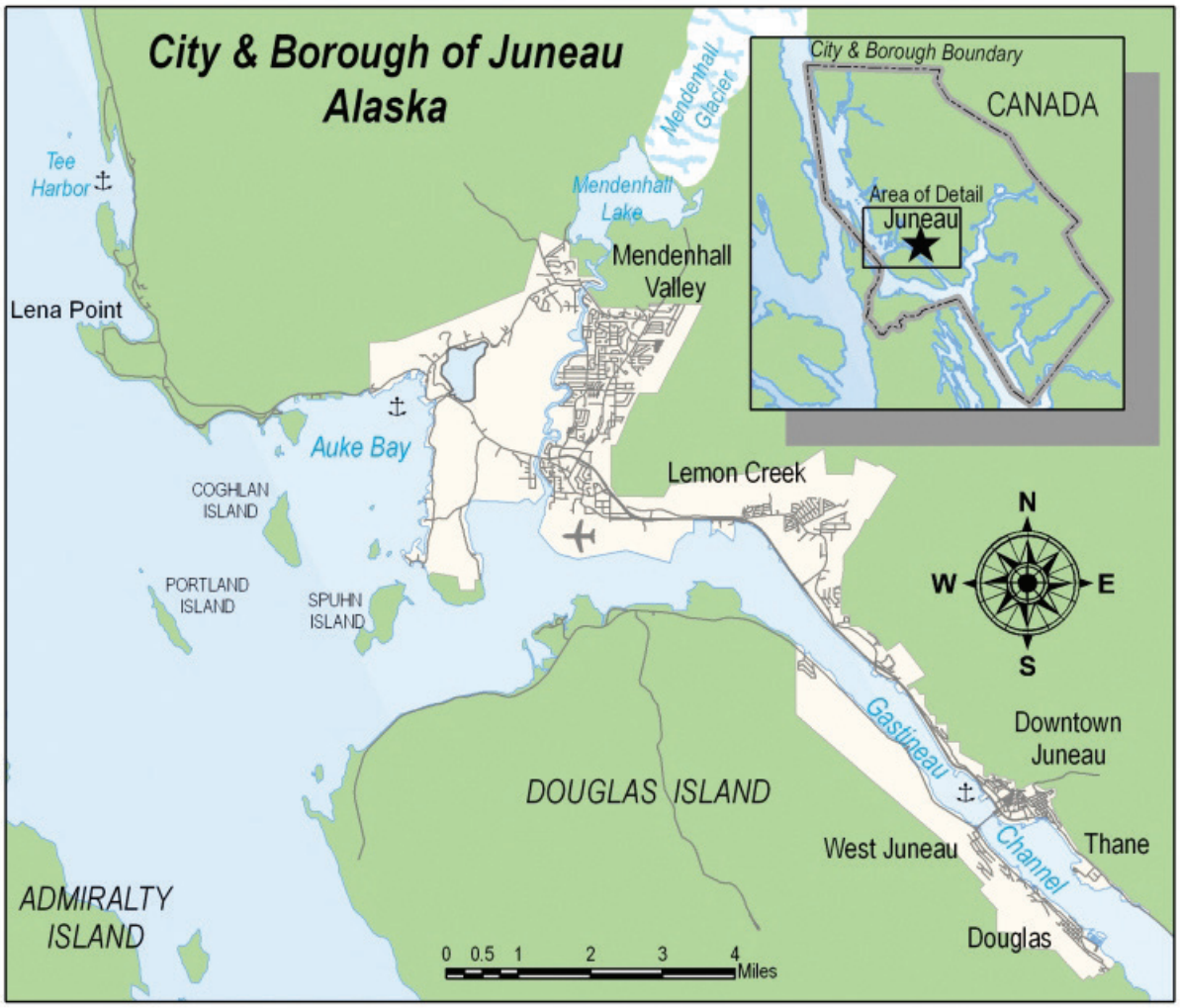
DIPLOMATIC

EVIDENCE

DESIGN

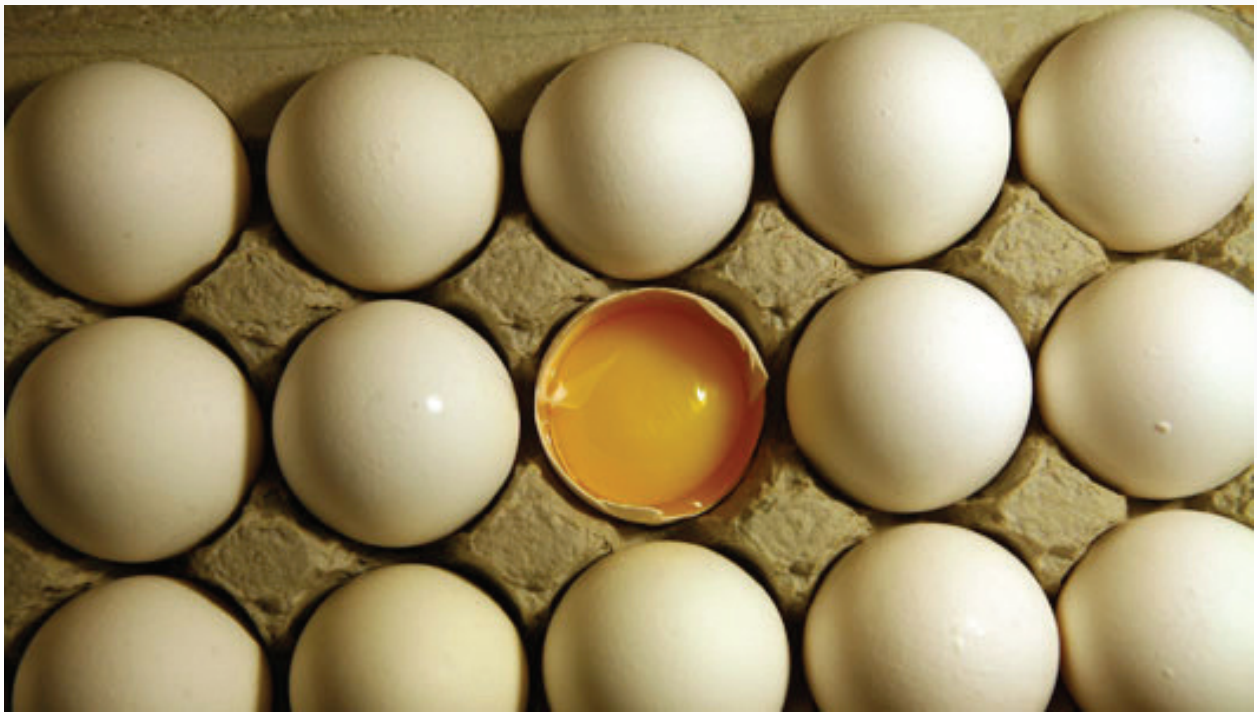
DISCOVERY

BREAKTHROUGH


City & Borough of Juneau
Alaska
City & Borough Boundary
CANADA
Area of Detail
Juneau
Mendenhall Glacier
Mendenhall Lake
Mendenhall Valley
Tee Harbor
Lena Point
Auke Bay
COGHLAN ISLAND
PORTLAND ISLAND
SPUHN ISLAND
Lemon Creek
N
W
E
S
Gastineau Channel
Downtown Juneau
DOUGLAS ISLAND
West Juneau
Thane
Douglas
ADMIRALTY ISLAND
0 0.5 1 2 3 4 Miles

LOCAL KNOWLEDGE

SUBSISTENCE



INCONSISTENT

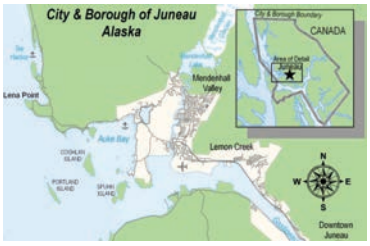
EMPIRICAL

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.



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. Diplomatic discussions are usually the best approach — **True** / **False**
2. Scientists only depend on theory and do not seek evidence. — **True** / **False**
3. It is important for communities to design solutions for local problems. — **True** / **False**
4. It is important to consider the possible effects of a new discovery. — **True** / **False**
5. Scientific breakthroughs have helped to advance technology and medicine for mankind. — **True** / **False**
6. Local knowledge of landscapes can be a valuable source of information for scientists. — **True** / **False**
7. Subsistence is not an important life for indigenous peoples in Alaska. — **True** / **False**
8. Salmon runs are always inconsistent, you never know if they will return to the rivers each year. — **True** / **False**
9. Empirical data can be used to support a theory. — **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. Diplomatic discussions are usually the best approach — **True** / False
2. Scientists only depend on theory and do not seek evidence. — True / **False**
3. It is important for communities to design solutions for local problems. — **True** / False
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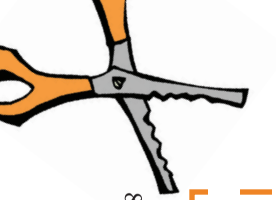
STUDENT SUPPORT MATERIALS

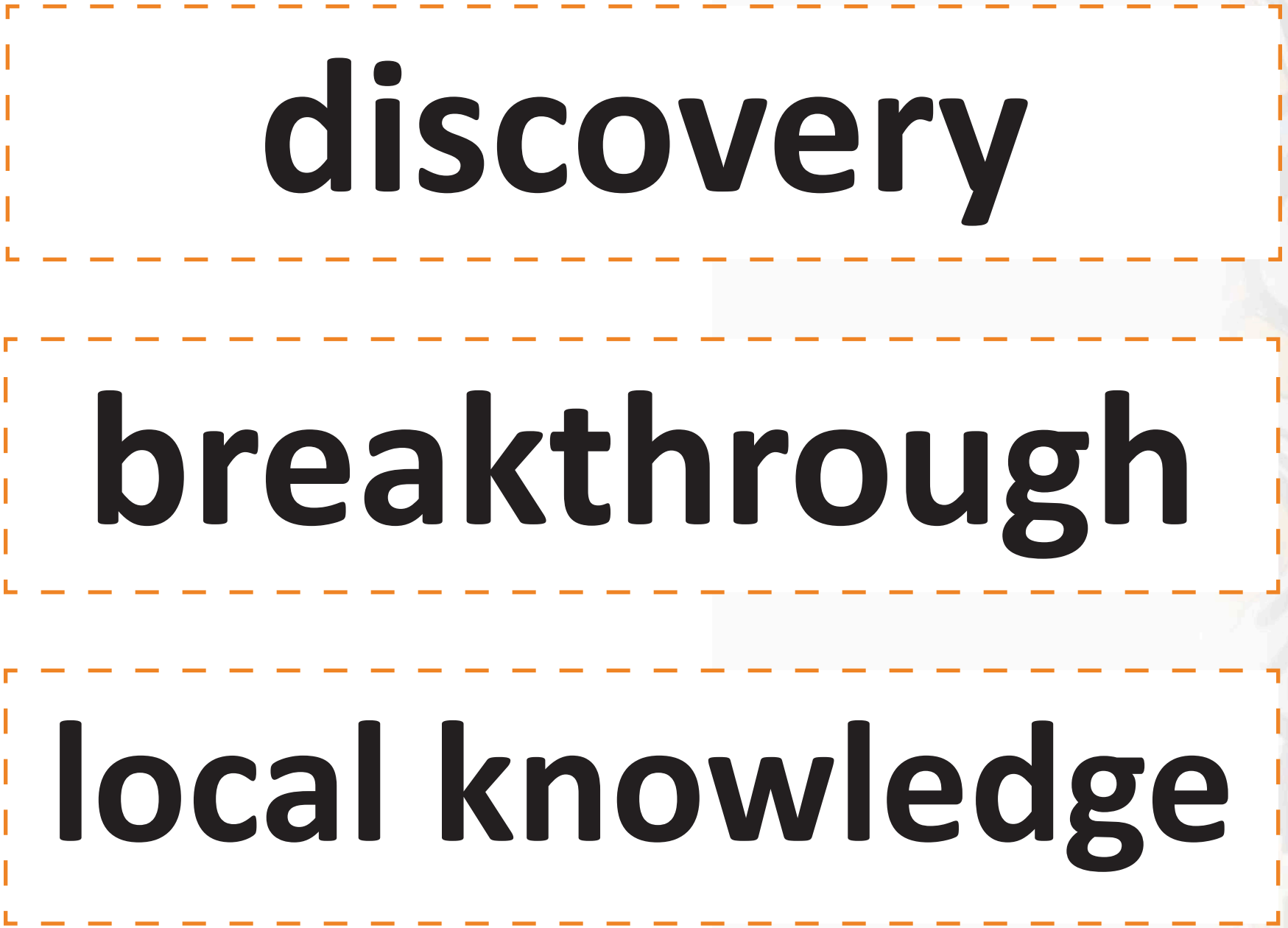
Sight Words



diplomatic

evidence

design


discovery
breakthrough
local knowledge

subsistence

inconsistent

empirical

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.

design
discovery
evidence

inconsistent
subsistence
diplomatic

empirical
breakthrough
local knowledge

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

Sight Words Activity Page

Answer Key

design
discovery
evidence

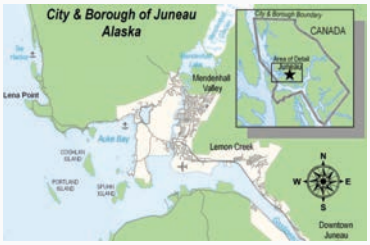
inconsistent
subsistence
diplomatic

empirical
breakthrough
local knowledge

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

Sight Words Activity Page

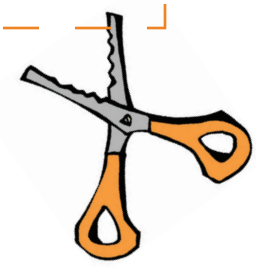
Have the students cut out the key words and glue them at the bottom of their pictures.



diplomatic | evidence | design | discovery

breakthrough | local knowledge | subsistence | inconsistent

empirical



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.

mat **lo** **dip** **ic**

_____ _____ _____ _____

ev **dence** **i**

_____ _____ _____

sign **de**

_____ _____

Encoding Activity Page

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

cov ery dis

_____ _____ _____

through break

_____ _____

cal lo edge knowl

_____ _____ _____ _____

Encoding Activity Page

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

tence	sis	sub
_____	_____	_____

in	tent	sis	con
_____	_____	_____	_____

i	em	pir	cal
_____	_____	_____	_____

Encoding Activity Page

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

dip	overy
evid	ign
des	through
disc	wledge
break	lomatic

Encoding Activity Page

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

local kno	sistent
subsi	ence
incon	stence
empi	rical

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 an example of a diplomatic argument?
   - ❍ Though I understand your theory, the evidence doesn't seem to support it.
   - ❍ Your argument has no basis and should not even be considered.
   - ❍ We are looking for facts, not undeveloped theories such as yours.
   - ❍ Please come back when you have something valuable to say.

2. There is sufficient evidence to suggest that:
   - ❍ trees need sunlight to grow
   - ❍ Pacific salmon return to their rivers of birth to spawn
   - ❍ there are other planets in the solar-system besides our own
   - ❍ all of the above

3. It is important to pay attention to the design of scientific experiments.
   - ❍ never
   - ❍ always
   - ❍ sometimes
   - ❍ rarely

4. Knowledge gained through observation, study, or research, especially concerning novel information, is a:
   - ❍ insult
   - ❍ failure
   - ❍ discovery
   - ❍ treasure

5. Which of the following is an example of a breakthrough?
   - ❍ the creation of polio vaccines
   - ❍ the ability to clone animals
   - ❍ space travel
   - ❍ all of the above

Reading Comprehension Activity Page

6 Local knowledge may help scientists with which of the following?

- ❍ Identify where local animals live.
- ❍ Identify areas where contaminants may have been spilled.
- ❍ Identify natural resources that are important to their community.
- ❍ all of the above

7 Which of the following is typically harvested as a subsistence food in Southeast Alaska?

- ❍ coal
- ❍ gold
- ❍ deer
- ❍ freshwater

8 Inconsistent weather patterns are those that:

- ❍ can be easily predicted
- ❍ do not have a pattern and are thus difficult to predict
- ❍ dump massive amounts of snow on a landscape
- ❍ none of the above

9 Data derived from experiment and observation rather than theory is _____.

- ❍ actual
- ❍ consequential
- ❍ empirical
- ❍ theoretical

Reading Comprehension Activity Page

ANSWER KEY

1. Which of the following is an example of a diplomatic argument?
   - ● Though I understand your theory, the evidence doesn't seem to support it.
   - ❍ Your argument has no basis and should not even be considered.
   - ❍ We are looking for facts, not undeveloped theories such as yours.
   - ❍ Please come back when you have something valuable to say.

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   - ❍ there are other planets in the solar-system besides our own
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- ● empirical
- ❍ theoretical

Reading Comprehension Activity Page

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

1	A diplomatic response is one that is	A	results are to be considered valid.
2	There is not sufficient evidence to conclude	B	find the best fishing holes.
3	The design of an experiment is critical if its	C	that life exists on other planets.
4	A novel piece of information obtained through	D	through the harsh Alaska winters.
5	Medical breakthroughs have helped people to	E	an experiment is a discovery.
6	Fishermen may utilize local knowledge to	F	both sensitive and effective.
7	Subsistence foods were critical to surviving	G	make predictions difficult.
8	Inconsistent patterns in nature	H	live longer healthier lives.
9	Data obtained through experiment and	I	observation is considered empirical.

1→_____ 2→ _____ 3→ _____ 4→ _____

5→ _____ 6→ _____ 7→ _____ 8→ _____

9→ _____

Reading Comprehension Activity Page

ANSWER KEY

1	A diplomatic response is one that is	A	results are to be considered valid.
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8	Inconsistent patterns in nature	H	live longer healthier lives.
9	Data obtained through experiment and	I	observation is considered empirical.

1→ F 2→ C 3→ A 4→ E

5→ H 6→ B 7→ D 8→ G

9→ I

Reading Comprehension Activity Page

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

To do or plan with a specific purpose or intention in mind	**Statements or conditions that are incompatible or contradictory**	**A sudden, dramatic, and important discovery or development**
Long-standing bodies of knowledge derived from a particular place	**Derived from experiment or observation rather than theory**	**Facts indicating whether a proposition is true or valid**
Dealing with people in a sensitive and effective manner	**Harvest of plants and animals for food**	**Novel information gained through observation, study or search**

diplomatic **evidence** **design** **discovery**

breakthrough **local knowledge** **subsistence** **inconsistent**

empirical

Reading Comprehension Activity Page

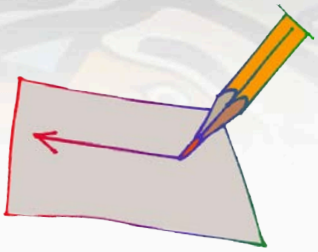
ANSWER KEY

To do or plan with a specific purpose or intention in mind design	**Statements or conditions that are incompatible or contradictory** inconsistent	**A sudden, dramatic, and important discovery or development** breakthrough
Long-standing bodies of knowledge derived from a particular place local knowledge	**Derived from experiment or observation rather than theory** empirical	**Facts indicating whether a proposition is true or valid** evidence
Dealing with people in a sensitive and effective manner diplomatic	**Harvest of plants and animals for food** subsistence	**Novel information gained through observation, study or search** discovery

STUDENT SUPPORT MATERIALS

Basic Writing

Basic Writing Activity Page



Have the students write in the missing letters.

diplo_____c

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dis_____y

brea_____gh

local kn_____ge

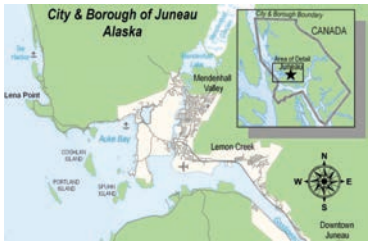
sub_____tence

in_____tent

em_____ical

Basic Writing Activity Page

Have the students write the word for each picture.



Basic Writing Activity Page

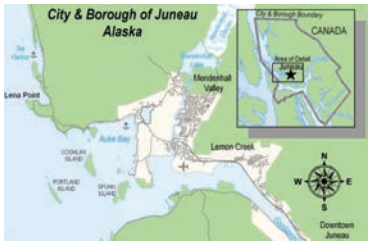
ANSWER KEY

design

inconsistent

discovery

evidence



local knowledge

breakthrough

diplomatic

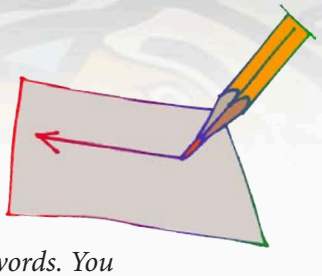
empirical

subsistence

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.

DIPLOMATIC

_____

EVIDENCE

_____

DESIGN

_____

DISCOVERY

_____

BREAKTHROUGH

_____

LOCAL KNOWLEDGE

_____

SUBSISTENCE

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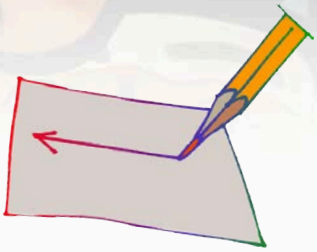
INCONSISTENT

_____

EMPIRICAL

_____

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

E-1: Science and Technology
F-1: Cultural, Social, Personal Perspectives and Science
G-1: History and Nature of Science

SCIENCE PROGRAM

Unit Assessment Teacher's Notes
Grade 8 • Unit 9 (E-1, F-1, G-1)
Science and Technology
Cultural, Social, Personal Perspectives and Science
History and Nature of 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 **DIPLOMATIC**.
2. Write the number 2 by the picture for **EVIDENCE**.
3. Write the number 3 by he picture for **DESIGN**.
4. Write the number 4 by the picture for **DISCOVERY**.
5. Write the number 5 by the picture for **BREAKTHROUGH**.
6. Write the number 6 by the picture for **LOCAL KNOWLEDGE**.
7. Write the number 7 by the picture for **SUBSISTENCE**.
8. Write the number 8 by the picture for **INCONSISTENT**.
9. Write the number 9 by the picture for **EMPIRICAL**.

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. Diplomatic relations between countries is important to avoid conflict and war.
2. There is ample evidence to conclude that intelligent life exists on other planets.
3. The design of an experiment is relatively unimportant.
4. A discovery is typically just the validation of previously known information.
5. Polio vaccines were a medical and scientific breakthrough.
6. Local knowledge is unimportant and should never be pursued or utilized in science.
7. Harvesting plants and animals for food is the definition of subsistence.
8. Inconsistent patterns in nature are easily predictable.
9. Empirical information helps to support and reject scientific theories.

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.

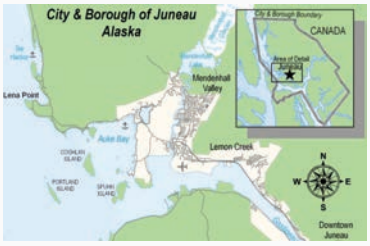
SCIENCE PROGRAM

Unit Assessment Student Pages
Grade 8 • Unit 9 (E-1, F-1, G-1)

Science and Technology
Cultural, Social, Personal Perspectives and Science
History and Nature of Science

Date:_____ Student's Name:_____

Number Correct:_____ Percent Correct:_____


City & Borough of Juneau
Alaska
CANADA
Mendenhall Valley
Lena Point
Auke Bay
Lemon Creek
Downtown Juneau

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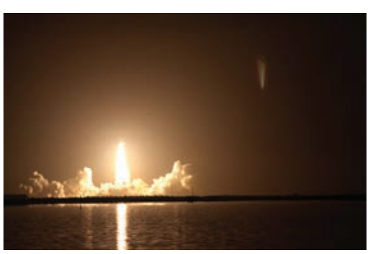

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1. To be diplomatic is to be _____ and _____ in dealing with people.
   - ❍ firm and effective
   - ❍ sensitive and ineffective
   - ❍ sensitive and effective

2. There is currently sufficient evidence to support which of the following statements?
   - ❍ intelligent life exists on other planets
   - ❍ big foot is a real creature that lives in remote areas
   - ❍ there is an obesity problem in America

3. When is an experiment's design important?
   - ❍ When there is limited funding to do it properly
   - ❍ When the results are unlikely to be positive
   - ❍ always

4. What type of knowledge is gained from a scientific discovery?
   - ❍ valuable
   - ❍ new
   - ❍ old

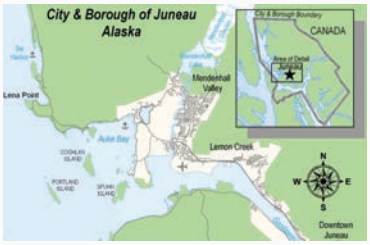
5. A discovery that is sudden, dramatic and important is considered a:
   - ❍ hazard
   - ❍ surprise
   - ❍ breakthrough

6. Local knowledge is derived from members of:
   - ❍ scientific communities
   - ❍ local communities
   - ❍ political communities

7. Subsistence is the harvest of plants and animals for:
   - ❍ food
   - ❍ pets
   - ❍ sale

8. Two statements that are incompatible or contradictory are:
   - ❍ irrelevant
   - ❍ consistent
   - ❍ inconsistent

9. Data used to support or reject theories in science is usually:
   - ❍ costly
   - ❍ empirical
   - ❍ theoretical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Lena Point
Auke Bay
Lemon Creek
Downtown Juneau
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DIPLOMATIC

EVIDENCE

DESIGN

DISCOVERY

BREAKTHROUGH

LOCAL KNOWLEDGE

SUBSISTENCE

INCONSISTENT

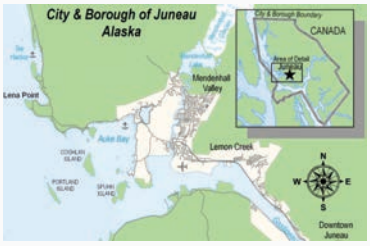
EMPIRICAL

SCIENCE PROGRAM

Unit Assessment ANSWER KEY
Grade 8 • Unit 9 (E-1, F-1, G-1)

Science and Technology
Cultural, Social, Personal Perspectives and Science
History and Nature of Science

3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Lemon Creek
Downtown Juneau

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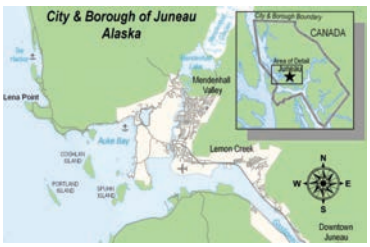

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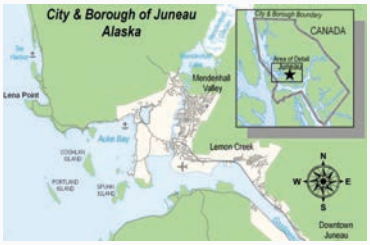

local knowledge

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