UNIT 15:
Process Skills & Abilities
Reasoning and Connections

Note: All key terms are based on the Math Standards for Alaska and reflect terms vital to academic achievement in math.
INTRODUCTION OF MATH VOCABULARY
Process Skills

Concrete Introduction of Key Vocabulary
Note: A vocabulary graphic is provided in this unit for each of the key words. Definitions for all of the key words can be found in the glossary at the back of this program.

- **concrete context**
  - Show the students a brick. Explain that it is hard, heavy, red (or whatever color it is), rough, small… It is easy for them to talk about because it is concrete, there in front of their eyes and real. This is a concrete context.

- **abstract context**
  - Ask the students to try to imagine extraterrestrial beings and what they might look like. Ask volunteers to draw some of these on the board. Explain that it is not proven or disproven that life exists on other planets but the topic is abstract, not tangible. Who had the best alien?!

- **strategy**
  - Show the students the football playbook strategy picture on page 1113. What are their dream careers and what strategy do they have for reaching those goals?
Process Skills

Concrete Introduction of Key Vocabulary

Note: A vocabulary graphic is provided in this unit for each of the key words. Definitions for all of the key words can be found in the glossary at the back of this program.

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validity

Ask the students how many of them believe that bigfoot exists. How have people tried to verify that it does? Is validity important?

verification

Ask a student how old he or she is. Tell them that you don’t believe them and ask them to verify it. What types of documentation would suffice?

humanities

Show the students the picture of the Thinking Man on page 1119. What do they “think” about this art form? Explain that subjects related to human thoughts and culture are considered the humanities. Do any of them want to pursue a career in the humanities?
Process Skills

Concrete Introduction of Key Vocabulary

Note: A vocabulary graphic is provided in this unit for each of the key words. Definitions for all of the key words can be found in the glossary at the back of this program.

Ask the students how many of them have had to do a job from time to time. Did they enjoy this? Would they like to do it throughout their lives? Explain that many careers require special training and that there is a whole world of options out there!
CONCRETE CONTEXT
ABSTRACT CONTEXT
STRATEGY
VALIDITY
VERIFICATION
HUMANITIES
CAREER
LANGUAGE ACTIVITIES
LISTENING
Review the key math words introduced in this unit. If the vocabulary pictures were not presented during the introduction, show them to the students at this time.

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.
Language and Skills Development

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.

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.
READING

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

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
Prepare a page that contains large alphabet letters from A to Z. Make five copies for each student. The students should cut out their letters. When all of the letters have been cut out, show a vocabulary picture. The students should then use their letters to spell the word for that picture. Repeat, using the remaining pictures from this unit. Have the students store their cut out letters in individual envelopes.

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

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
Have the students work on the activity pages from the Student Support Materials from this unit. Afterward, review their work.
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.
validity
verification
humanities
STUDENT SUPPORT MATERIALS

Reading • Sight Recognition
Sight Words Activity Page

Have the students circle the word for each picture.

- concrete context
- abstract context
- strategy
- validity
- verification
- humanities
- career

- concrete context
- abstract context
- strategy
- validity
- verification
- humanities
- career

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- humanities
- career
concrete context
abstract context
strategy
validity
verification
humanities
career
Sight Words Activity Page

Write the numbers on their correct vocabulary graphics.

1. concrete context
2. abstract context
3. strategy
4. validity
5. verification
6. humanities
7. career
Sight Words Activity Page

Write the key words from this unit horizontally in the boxes (more than one copy of each word can be written). Fill in all other boxes with any letters. Exchange page with another student. Find key words and circle.
Highlight or circle the words in this word find.

verification  
abstract context  
concrete context  
humanities  
career  
validity  
strategy

axaeductancconcretetecontee 
ticasefiiatsantierrcmude 
srncareracuvificatcbeyd 
ictvernrtyiuxeccttv 
iotvetrrvniosistrattetiiie 
iirrtcabstractcontextanai 
ittdaretioexicttseeamitrct 
orbmeenerraietivtnntcedee 
aonecltvoaarevoiatottxcnan 
tnirutaanahumanitiesncov 
vrnitsrabstractcontextiai 
nexelimehumanitiesatsotr 
careerrn tatetyraieearsn 
haeiaaaedcrressvtttroecc 
ciyctaitconcretextetale 
oxitauityiitcxctfsernitxna 
ottvecrslettasatiaxcacad 
ctdsimrtrriaeaeitycnatgn 
stitcitechotcogyctinaoatge 
enimbtaacrbuecreetitssrrxbn 
nyigyviiernieairtrlafitr 
oareccfverificationrrirr 
rtcmiiitnrcannaxeyssaeeiir 
ahrhdtnfneaelbnmtyeotxteter 
xrctvaliddtddstrategyb 
validitytddstrategyb 
seinnhstedviceessmntnryxe 
nissrrrtannlrorcearxtna 
eueinsrxcnihoffctcaettddot 
usatetercmiditrfsccscfcynneet
STUDENT SUPPORT MATERIALS

Reading • Encoding
Encoding Activity Page

Have the students cut out the word parts and glue them into their correct words.

con________e context

a_________ct context

st________gy

va________y

ver________ation

bstra

cret

lidit

reer

uman
h____________ities

c__________________
Encoding Activity Page

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

con

abstract con

str

val

verif

ategy
text

ities
eer

ication
Encoding Activity Page

human

car

idity

crete context
Encoding Activity Page

Cut out and encode the syllables of the words OR number the syllables in their correct sequence.

con | con | crete | text

_________ ___________ ___________ ___________

text | con | ab | stract

_________ ___________ ___________ ___________

gy | te | stra

_________ ___________ ___________
diversity

ri fi ve tion ca

hu ties ni ma
Encoding Activity Page

reer  ca
What’s the Answer?

Read the text and then select the correct answer for it. Fill in the bullet beside the answer of your choice.

1. Describing a halibut hook in terms of its dimensions and material is explaining it in a:
   - Abstract Context
   - Concrete Context
   - Ignorant Context
   - Limited Context

2. Describing a halibut hook in terms of a carved crest's ability to aid in the capture of fish is explaining it in a
   - Abstract Context
   - Concrete Context
   - Ignorant Context
   - Limited Context

3. Elizabeth Peratrovich's ______________ for promoting civil rights for Alaska Natives was peaceful and political.
   - Spare Time
   - Reason
   - Lesson
   - Strategy

4. The ____________ of a congressional election is sometimes called into question when the vote counts are very close.
   - Strength
   - Support
   - Cost
   - Validity

5. Some tribes require member ______________ to vote in tribal elections.
   - Assistance
   - Advancement
   - Verification
   - Dancing
What’s the Answer?

6. The study of human thought and culture is part of the
   - Landscape
   - Biology
   - Aroma
   - Humanities

7. Which of the following is NOT a career?
   - Sleeping
   - Veterinarian
   - Fisherman
   - Politician
What’s the Answer?

ANSWER KEY

1. Describing a halibut hook in terms of its dimensions and material is explaining it in a:
   - Abstract Context
   - Concrete Context
   - Ignorant Context
   - Limited Context

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The study of human thought and culture is part of the
- Landscape
- Biology
- Aroma
- Humanities

Which of the following is NOT a career?
- Sleeping
- Veterinarian
- Fisherman
- Politician
Reading Comprehension Activity Page

Write the numbers/letters for sentence halves that match.

1. Describing the importance of culture in one's own life is putting the ____________
2. Describing the importance of another culture to another group of people ____________
3. One strategy for getting better grades ____________
4. The validity of a contract ____________
5. Many restaurants and bars need verification of age ____________
6. The study of human thought and culture is a part ____________
7. Doctors and lawyers had to study hard to ____________

A. is putting the concept in an abstract context.
B. can be called into question if both parties did not sign.
C. if one wants to order an alcoholic beverage.
D. make their desired careers a reality.
E. is to spend more time studying at home.
F. concept in a concrete context.
G. of the humanities.

1→___________  2→___________  3→___________  4→___________
5→___________  6→___________  7→___________
Reading Comprehension Activity Page

ANSWER KEY

1. Describing the importance of culture in one’s own life is putting the concept in an abstract context.

2. Describing the importance of another culture to another group of people can be called into question if both parties did not sign.

3. One strategy for getting better grades is to spend more time studying at home.

4. The validity of a contract can be called into question if both parties did not sign.

5. Many restaurants and bars need verification of age if one wants to order an alcoholic beverage.

6. The study of human thought and culture is a part of the humanities.

7. Doctors and lawyers had to study hard to make their desired careers a reality.

1→______F______  2→______A______  3→______E______  4→______B______
5→______C______  6→______G______  7→______D______
### Reading Comprehension Activity Page

Cut out the words and glue them under their definitions.

<table>
<thead>
<tr>
<th>Process of establishing truth</th>
<th>Soundness</th>
<th>Representing an actual substance or thing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation or profession</td>
<td>Human thought and culture</td>
<td>Apart from concrete realities</td>
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</tbody>
</table>

Plan of action

- concrete context
- abstract context
- strategy
- validity
- verification
- humanities
- career
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</tr>
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<td>humanities</td>
<td>abstract context</td>
</tr>
</tbody>
</table>

Plan of action

strategy
STUDENT SUPPORT MATERIALS

Writing
Have the students complete the writing of the key math words.

con_______te con_______t
ab_______act c_______text
str_______y
v_______dity
ver_______ation
hu_______ities
c______re______r
Have the students complete the writing of the key math words.

c_________ c_________t
a___________ c_________t
s___________________y
v___________________y
v___________________n
h___________________s
c____________________r
Basic Writing Activity Page

Have the students write the word for each picture.
Crossword Puzzle

Across
1. Plan of action
5. Occupation or profession
6. Soundness
7. Representing an actual substance or thing (2 Words)

Down
2. Apart from concrete realities (2 Words)
3. Process of establishing truth
4. Human thought and culture
Crossword Puzzle Answers

Across
1. Plan of action
5. Occupation or profession
6. Soundness
7. Representing an actual substance or thing (2 Words)

Down
2. Apart from concrete realities (2 Words)
3. Process of establishing truth
4. Human thought and culture
UNIT ASSESSMENT
Reasoning and Connections

Unit Assessment Teacher’s Notes
Grade 8 • Unit 15
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 CONCRETE CONTEXT.
2. Write the number 2 by the picture for ABSTRACT CONTEXT.
3. Write the number 3 by the picture for STRATEGY.
4. Write the number 4 by the picture for VALIDITY.
5. Write the number 5 by the picture for VERIFICATION.
6. Write the number 6 by the picture for HUMANITIES.
7. Write the number 7 by the picture for CAREER.

SIGHT RECOGNITION
Turn to page 2 in your test. Look at the pictures in the boxes. Circle the word for each picture.

DECODING/ENCODING
Turn to page 3 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 4 in your test. Write each word under its definition. Refer to Student Support Materials for answer key.

BASIC WRITING
Turn to page 5 in your test. Look at the pictures in the boxes. Write the word for each picture.
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.
<table>
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<tr>
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<th>Abstract Context</th>
<th>Strategy</th>
<th>Validity</th>
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Process of establishing truth

Soundness

Representing an actual substance or thing

Occupation or profession

Human thought and culture

Apart from concrete realities

Plan of action

concrete context  abstract context  strategy  validity

verification  humanities  career