



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

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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

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career

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!

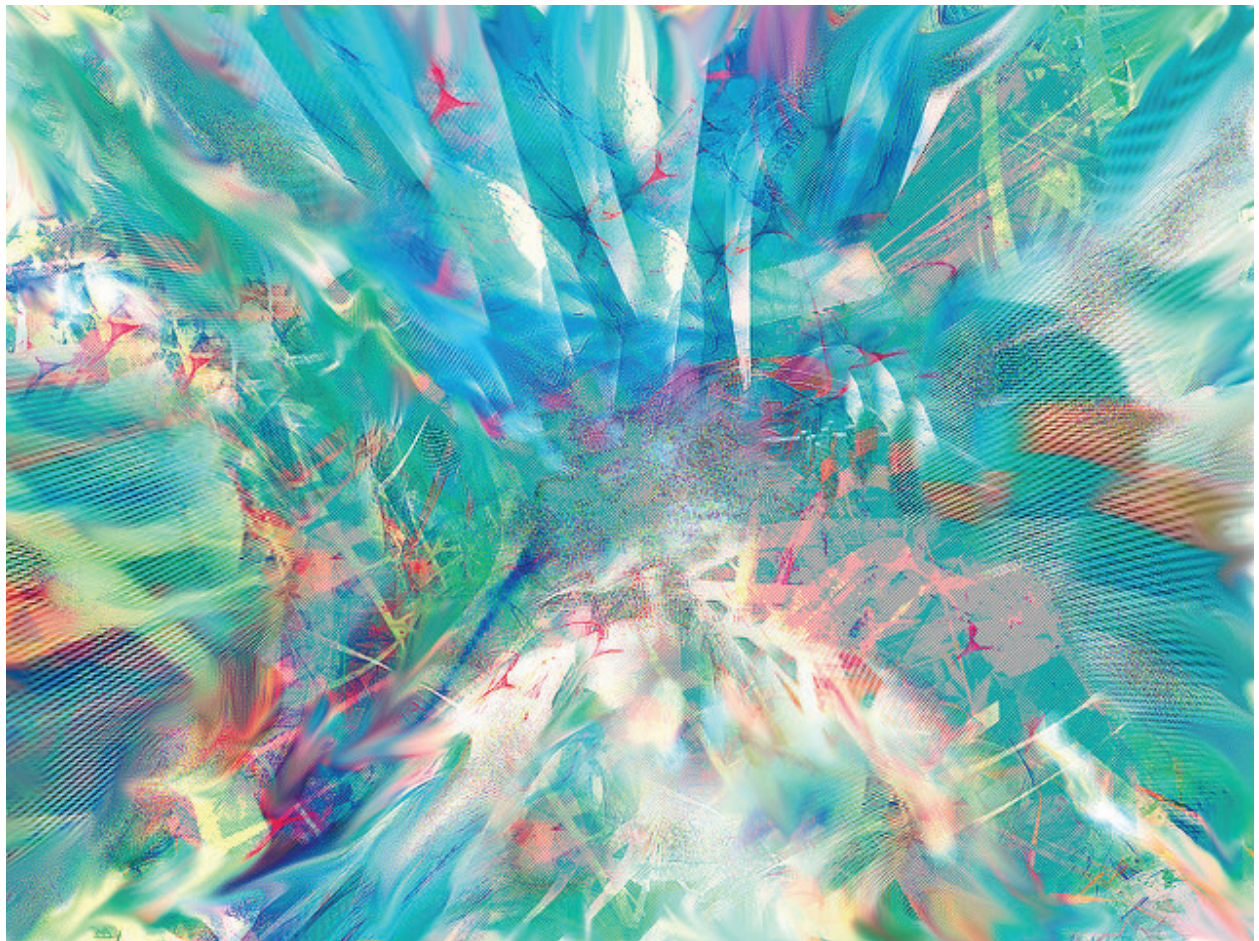


VOCABULARY PICTURES





CONCRETE CONTEXT





ABSTRACT CONTEXT



STRATEGY





VALIDITY





VERIFICATION





HUMANITIES





CAREER



LANGUAGE ACTIVITIES

Language and Skills Development

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.

Balloon Volleyball

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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.

Language and Skills Development

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

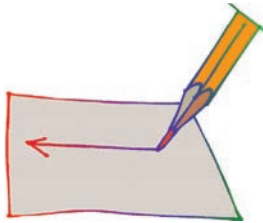
Prepare a page that contains large alphabet letters from A to Z. Make five copies for each student. The students should cut out their letters. When all of the letters have been cut out, show a vocabulary picture. The students should then use their letters to spell the word for that picture. Repeat, using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

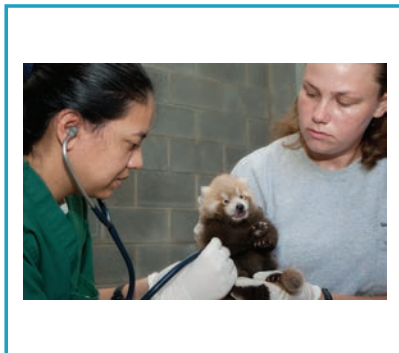
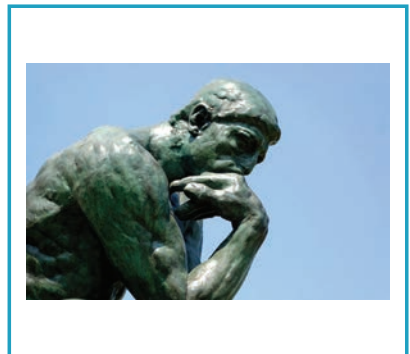
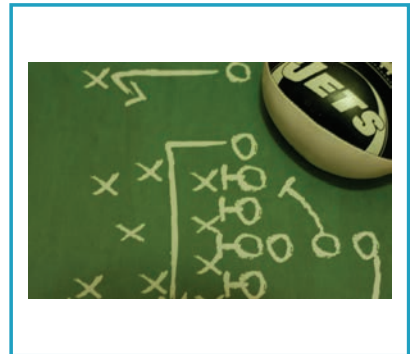


STUDENT SUPPORT MATERIALS

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.





STUDENT SUPPORT MATERIALS

Sight Words

concrete context

abstract context

strategy





validity

verification

humanities



career





STUDENT SUPPORT MATERIALS

Reading • Sight Recognition

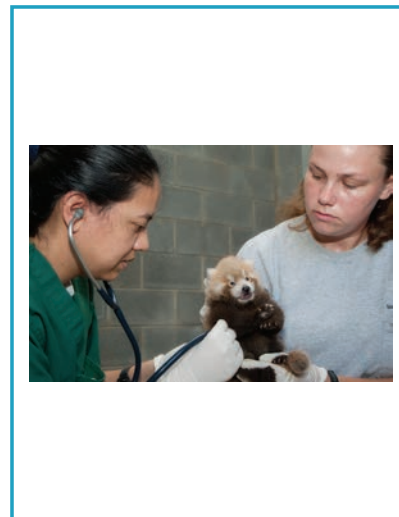
Sight Words Activity Page



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



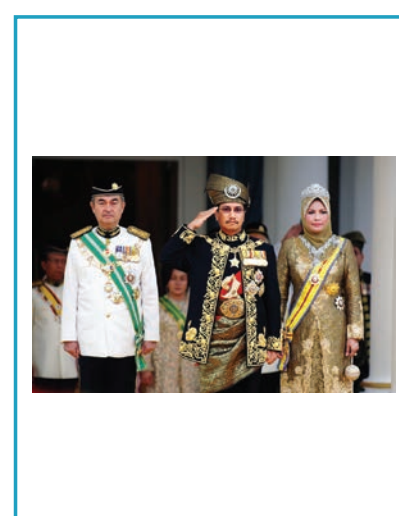
concrete context
abstract context
strategy
validity
verification
humanities
career



concrete context
abstract context
strategy
validity
verification
humanities
career



concrete context
abstract context
strategy
validity
verification
humanities
career



concrete context
abstract context
strategy
validity
verification
humanities
career

Sight Words Activity Page



concrete context

abstract context

strategy

validity

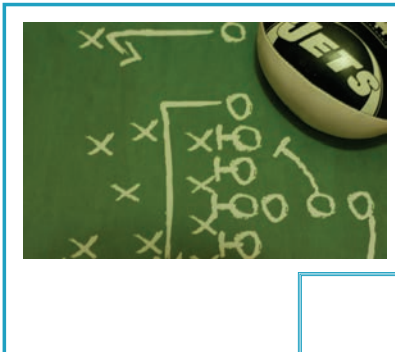
verification

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



Highlight or circle the words in this word find.

verification
abstract context
concrete context

humanities
career
validity

strategy

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

Sight Words Activity Page

ANSWER KEY



verification
abstract context
concrete context

humanities
career
validity

strategy

a x a e d c t a n c c c o n c r e t e c o n t e e
t i c a s e f i i a t y s a n t i e r r c m u d e
s r n c a r e r a c u v e r i f i c a t c b e y d
i t c v e t a r n r i e r r t y i u x e c c t v
i o t v e t r r v n o i i s t r a t t e t i i e
i i r r t c **a b s t r a c t c o n t e x t** a n a i
i t t d a r e t i o e x i c t t s e a a m i t r c
o r b m e e n e r r a i e t i v t n t c t e d e e
a o n e c l t v o a a r e v o i a t o t t x c n a
t n i r u t a a n a r h u m a n i t i e s n c o y
v r r n i t s r a b s t r a c t c o n t e t i a i
n a e x c e l i m **h u m a n i t i e s** a t s o t r
c **c a r e e r** e r n t a t e t y r a i e e a r s n
h a e e i a a a e d c r r e s s v t t r o t e c c
c i y c t a i t **c o n c r e t e c o n t e x t** t e
o x i t a u i t y i t c x c t f s e r n i t x n a
o t v y c e s r t t e t t a s a t i a r x c c a d
c t d s i m r t r r i a e e a i t y c n a t g n n
s t i t c i t e c o t c o y c g t i n a o a t g e
e n i m b t a c r b e u c r e e t i t s r r x b n
n v y i g y v i i e r n i e a i r t r l a f i t r
o a r e c c f **v e r i f i c a t i o n** r t r i r s
r t c m i i i t n r c a n n a x e y s a a e i i r
a r h d t i f n e a a l b n m t y t e o t x t e r
x x r c t **v a l i d i t y** t d t **s t r a t e g y** b
v a l i d i t v c r i y i n g e c d r e e e a v t
s e i n a n h s t e d v i c e e s t m n n y r x e
n n i i s t r r r t a n n l r o r c e a r x t n a
e u e i n s r x c n i h o n f c t c a e t t d o t
u a t e t r c m d i t r f s c c s c f y n e e e t



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
------	------



Encoding Activity Page



h _____ **ities**

ca _____

ific	rate
-------------	-------------

Encoding Activity Page



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

con

ategy

abstract con

text

str

ities

val

eer

verif

ication



Encoding Activity Page



human

idity

car

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

Encoding Activity Page



di || va || li || ty

ri || fi || ve || tion || ca

hu || ties || ni || ma

Encoding Activity Page



reer || ca



STUDENT SUPPORT MATERIALS

Reading Comprehension

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:
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 - Concrete Context
 - Ignorant Context
 - Limited Context

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 - Humanities
- ⑦ Which of the following is NOT a career?
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 - 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 | Ⓐ 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 | Ⓒ if one wants to order an alcoholic beverage. |
| ④ The validity of a contract | Ⓓ make their desired careers a reality. |
| ⑤ Many restaurants and bars need verification of age | Ⓔ is to spend more time studying at home. |
| ⑥ The study of human thought and culture is a part | Ⓕ concept in a concrete context. |
| ⑦ Doctors and lawyers had to study hard to | Ⓖ 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 | ① is putting the concept in an abstract context. |
| ② Describing the importance of another culture to another group of people | ② can be called into question if both parties did not sign. |
| ③ One strategy for getting better grades | ③ if one wants to order an alcoholic beverage. |
| ④ The validity of a contract | ④ make their desired careers a reality. |
| ⑤ Many restaurants and bars need verification of age | ⑤ is to spend more time studying at home. |
| ⑥ The study of human thought and culture is a part | ⑥ concept in a concrete context. |
| ⑦ Doctors and lawyers had to study hard to | ⑦ of the humanities. |

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.



**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**



Reading Comprehension Activity Page

ANSWER KEY



Process of establishing truth

verification

Soundness

validity

Representing an actual substance or thing

concrete context

Occupation or profession

career

Human thought and culture

humanities

Apart from concrete realities

abstract context

Plan of action

strategy

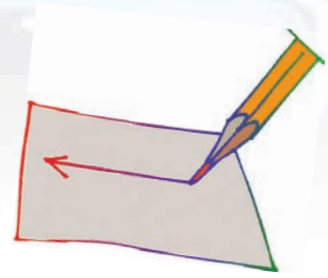


STUDENT SUPPORT MATERIALS

Writing

Writing Activity Page

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



con_____te con_____t

ab_____act c_____text

str_____y

v_____dity

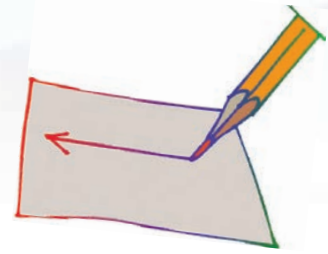
ver_____ation

hu_____ities

c_____re_____r

Writing Activity Page

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



c _____ **c** _____ **t**

a _____ **c** _____ **t**

s _____ **y**

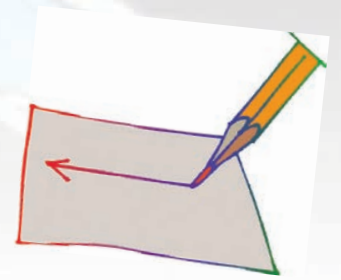
v _____ **y**

v _____ **n**

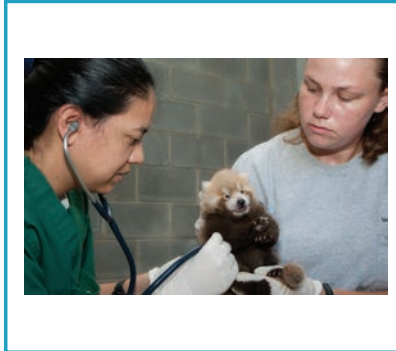
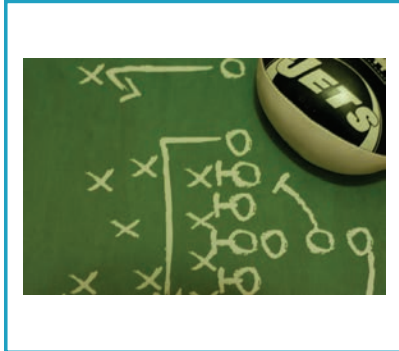
h _____ **s**

c _____ **r**

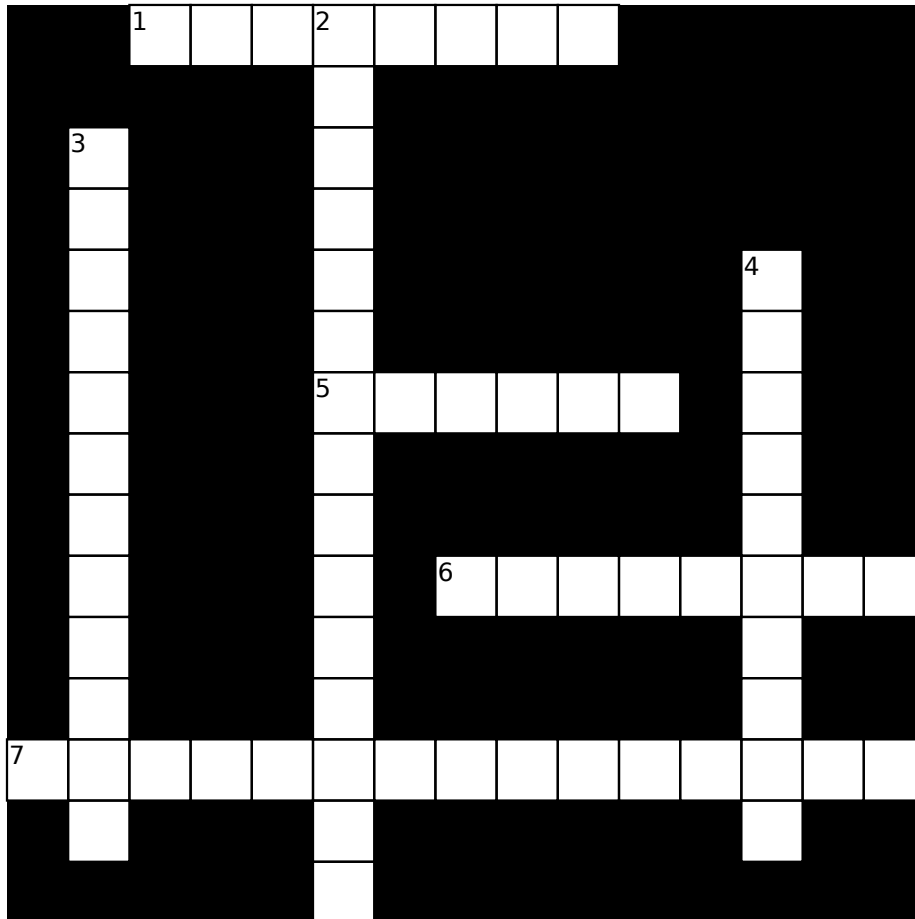
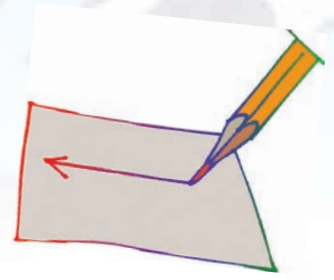
Basic Writing Activity Page



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 | | Down | |
|--------|---|------|---|
| 1 | Plan of action | 2 | Apart from concrete realities (2 Words) |
| 5 | Occupation or profession | 3 | Process of establishing truth |
| 6 | Soundness | 4 | Human thought and culture |
| 7 | Representing an actual substance or thing (2 Words) | | |



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.





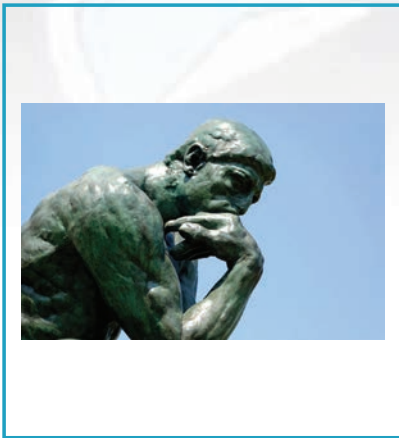
MATH PROGRAM

Unit Assessment Student Pages
Grade 8 • Unit 15

Date: _____ Student's Name: _____

Number Correct: _____ Percent Correct: _____





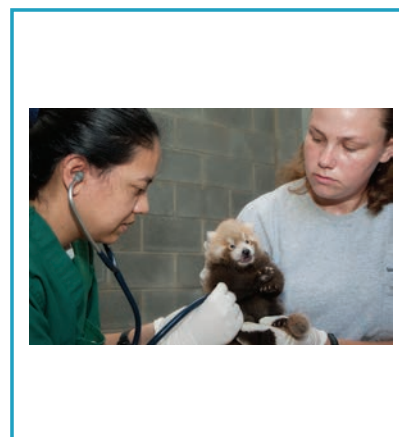
concrete context
 abstract context
 strategy
 validity
 verification
 humanities
 career



concrete context
 abstract context
 strategy
 validity
 verification
 humanities
 career



concrete context
 abstract context
 strategy
 validity
 verification
 humanities
 career



concrete context
 abstract context
 strategy
 validity
 verification
 humanities
 career



concrete context
 abstract context
 strategy
 validity
 verification
 humanities
 career



concrete context
 abstract context
 strategy
 validity
 verification
 humanities
 career



concrete context
 abstract context
 strategy
 validity
 verification
 humanities
 career

conc____
context

ate
ete
ite
ote
ute
rate
rete
rite
rote

abst____
context

rakt
rekt
rikt
rokt
rukt
ract
rect
rikt
roct

stra_____

dagy
degy
digy
dogy
dugy
tagy
tegy
tigy
togy

vali_____

dady
dedy
didy
dody
dudy
daty
dety
dity
doty

verifica_____

chin
chen
chan
chon
chun
tian
tien
tion
tiun

humani_____

taas
tees
tiis
toos
tuus
tias
ties
tiis
tios

ca_____

rare
rere
rire
rore
rure
rear
reer
reir
reor



**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

