Integrating culturally responsive place-based content with language skills development for curriculum enrichment

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Contents

Introduction to the Developmental Language Process in Math

OVER THE YEARS, much has been written about the successes and failures of students in schools. There is no end to the solutions offered, particularly for those students who are struggling with academics. For example, there have been efforts to bring local cultures into the classroom, thus providing the students with familiar points of departure for learning.

While the inclusion of Native concepts, values,and traditions into a curriculum provide a valuable foundation for self-identity and cultural pride, they may not, on their own, fully address improved academic achievement.

Through math lessons, students are exposed to new information and to the key vocabulary that represents that information. While the students may acquire, through various processes, the scientific information, the vocabulary is often left at an exposure level and not internalized by the students. Over time, this leads to language delay that impacts negatively on a student's ongoing achievement.

Due to weak language bases, many Native Alaskan high school students struggle with texts that are beyond their comprehension levels and writing assignments that call for language they do not have.

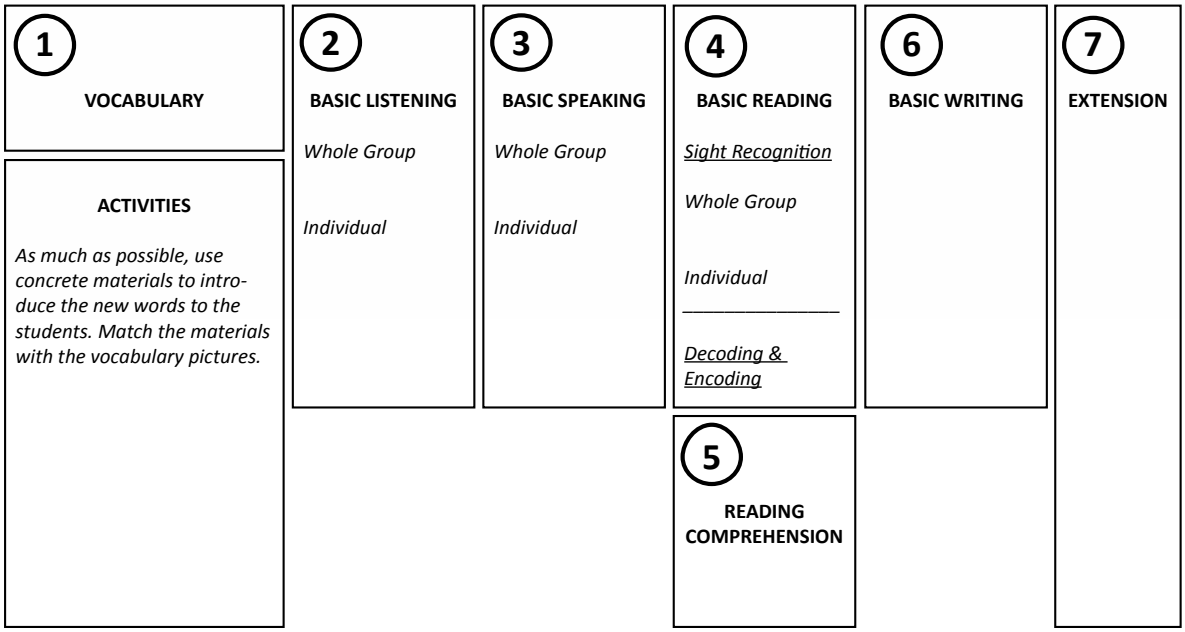
This program is designed to meet the academic realities faced by high school students every day, using a developmental process that integrates culture with skills development.

To this end, each key vocabulary word, in math, is viewed as a concept. The words are introduced concretely, using place-based information and contexts. Whenever possible, the concept is viewed through the Native heritage cultural perspectives. Using this approach, the students have the opportunity to acquire new information in manageable chunks, the sum total of which represent the body of information to be learned in the math program.

When the key vocabulary/concepts have been introduced, the students are then taken through a sequence of listening, speaking, reading, and writing activities designed to instill the vocabulary into their long-term memories.

This is the schema for the Developmental Language Process:

The Developmental Language Process—Math



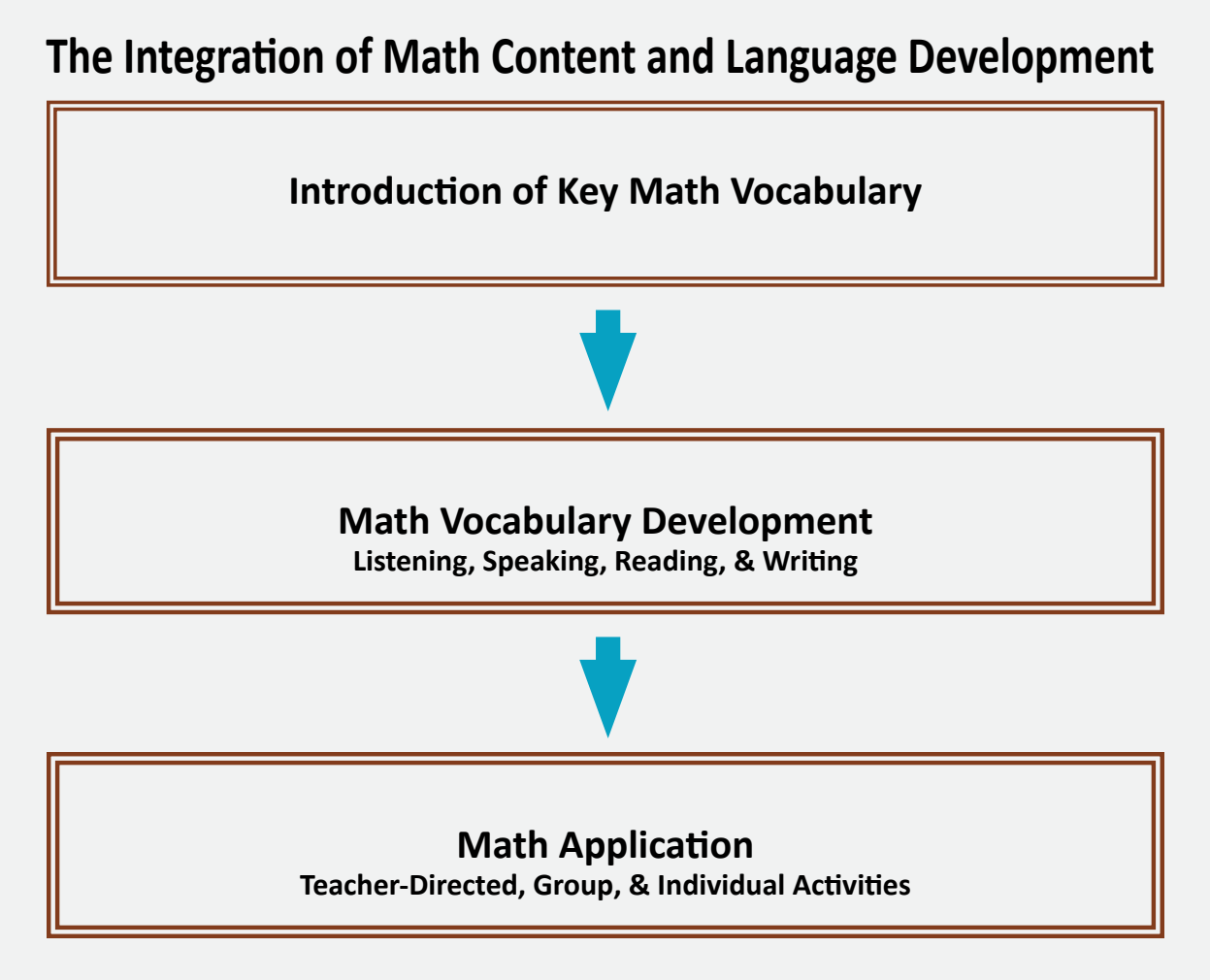
Introduction to the Developmental Language Process in Math

Finally, at the end of each unit, the students will participate in enrichment activities based on recognized and research-based best practices. By this time, the math information and vocabulary will be familiar, adding to the students' feelings of confidence and success. These activities will include place-based and heritage culture perspectives of the information learned.

This approach is radically different from current practices in most math classes. Historically, little or no formal vocabulary development takes place. It is assumed that the vocabulary is being internalized during the learning process, which is most often an erroneous assumption.

Increasing the language bases of the students will lead to improved comprehension in listening and reading, and higher levels of production in creative speaking and writing.

This, coupled with the place-based and culturally-responsive content, will provide the students with the foundations necessary for ongoing confidence and achievement.



UNIT 1
Process Skills

Note: All key terms are based on the Math Standards for Alaska and reflect terms vital to academic achievement in math.

Alaskan Math Standards (GLE's) for This Unit

These Alaskan math standards underly the language development of the unit. Many of these standards are addressed during the regular math program and in the concrete introduction of the key vocabulary words for the unit.

The student demonstrates a conceptual understanding of probability and counting techniques by

[7] S&P-4 determining the [experimental] (L) and theoretical probability of a simple event (M6.3.5)

[7] S&P-5 using a systematic approach to finding sample spaces or to making predictions about the probability of independent events (M6.3.5)

[7] S&P-6 designing and conducting a simulation to study a problem and communicate the results (L) (M6.3.6)

The student demonstrates an ability to problem solve by

[7] PS-1 selecting, modifying, and applying a variety of problem-solving strategies (e.g., working backwards, drawing a picture, Venn diagrams and verifying the results) (M7.3.2)

[7] PS-2 evaluating, interpreting, and justifying solutions to problems (M7.3.3)

The student demonstrates an ability to use logic and reason by

[7] PS-4 using informal deductive and inductive reasoning in concrete contexts or stating counterexamples to disprove statements; or justifying and defending the validity of mathematical strategies and solutions using examples (M9.3.1, M9.3.2, & M9.3.3)

The student understands and applies mathematical skills and processes across the content strands by

[7] PS-5 using real-world contexts such as science, humanities, peers, and community (M10.3.1 & M10.3.2)

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.*

SOLVE

Show the students a boxed food item (i.e. a cake mix). Tell the students that you have what you need to make the cake but no cake pan. They should suggest how you can solve this problem. Relate this to solving problems in math. Cite examples.

EXTEND

Show the students an object and an elastic band. Have them demonstrate extending the elastic to fit the object. Use this to introduce extend as it applies to ideas and other situations, such as extended stay hotels, vacations, etc.

ARRANGE

Show the students a variety of spice containers. Have the students suggest how the items might be arranged (i.e. smallest to largest or reverse, alphabetical order, etc.). Show the picture from the end of this unit. Have the students determine how the items in the picture were arranged.

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.*

CALCULATE	***Show the students the photo of the hot dogs on a bbq from the end of this unit. Have them suggest how a person knows the number of food items to prepare for a gathering (i.e. by calculating the food amounts based on the numbers attending). Relate calculating to other situations.***
ILLUSTRATE	***Show the students the picture from the end of this unit that shows a person presenting information using a graph. Use this to introduce illustrating information. Relate this to illustrating the use of something, such as new equipment, using examples to make something clearer, etc.***
RESPOND	***Show the students the picture of a person using a computer from the end of this unit. Have them suggest what the person is doing with the computer. Lead them to suggest that he may be answering a letter. Use this to introduce respond. Have the students cite other methods that can be used to respond to others.***

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.*

CONSIDER

Show the students the picture from the end of this unit that shows a winner. Have the students suggest ways in which he might spend his money. Use this to introduce consider as it relates to the man's options for spending the money.

EVALUATE

Show the students the picture from the end of this unit that shows a person taking an eye test. Use it to introduce evaluate as it relates to the vision test. Have the students cite other examples that involve evaluations, such as academic tests, tasting food, etc.

ACTUAL

On a blank sheet of paper, draw an illustration of a book. Show the students an actual book. Use this to introduce actual as opposed to imagined. Have the students suggest other actual things, such as planning a trip vs. going on the trip, a picture of a car vs. the actual car, etc.

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.*

APPROXIMATELY

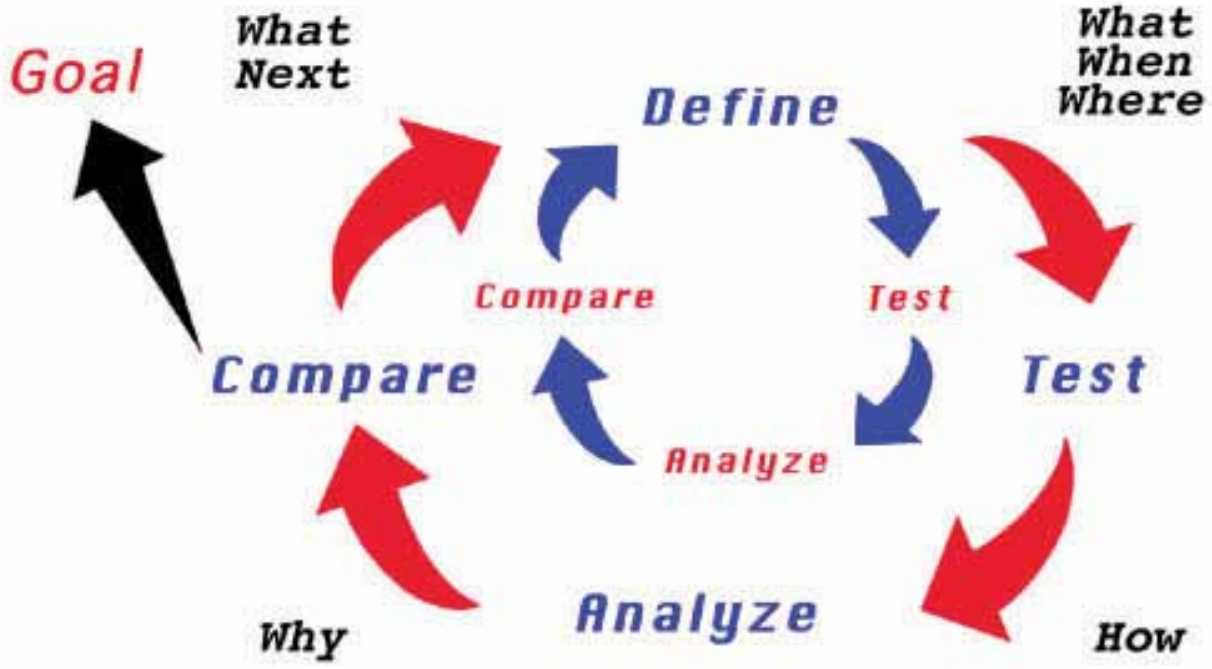
Show the students the picture of the fish from the end of this unit. Ask the students to estimate the number of fish in the picture. Use this to introduce approximately. Cite other examples where numbers are approximate as opposed to actual.

SELECT

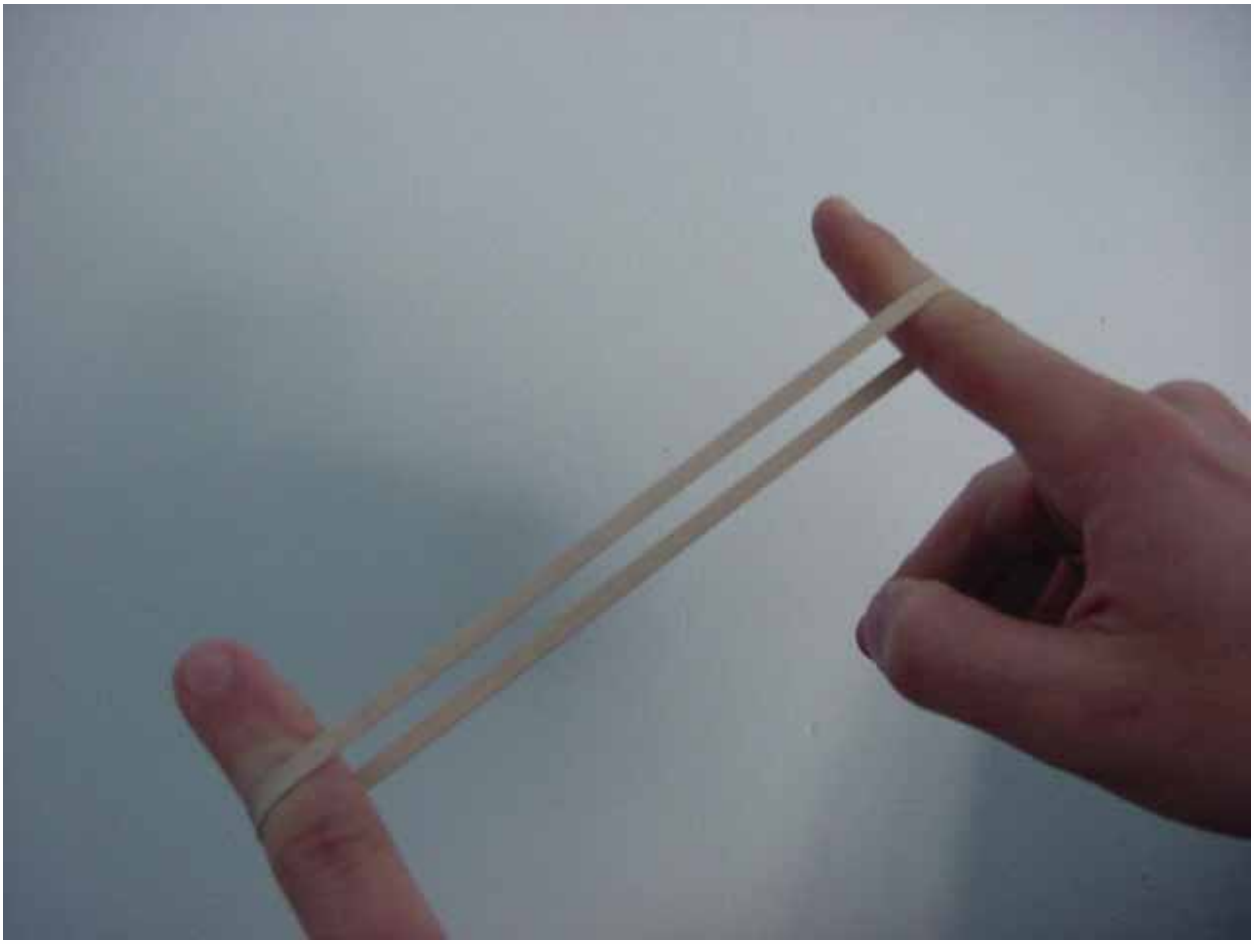
Show the students the picture of jars of food from the end of this unit. Use the jars to introduce the concept of selecting. Cite other examples in which people have to select, such as soda machines and clothing.

VOCABULARY PICTURES

Problem Solving Process



SOLVE



EXTEND


Ground
Cloves
Turmeric Powder
PAPRIK

ARRANGE

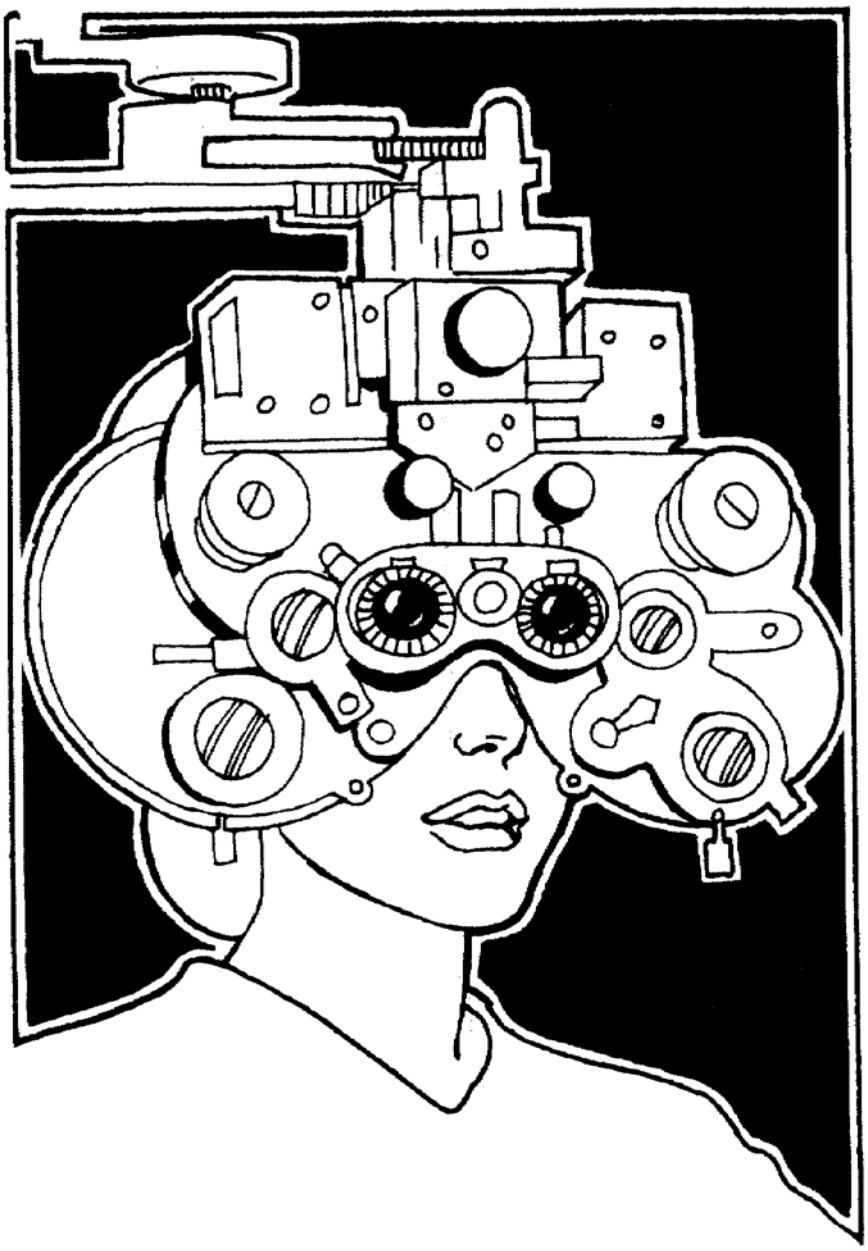
CALCULATE

ILLUSTRATE

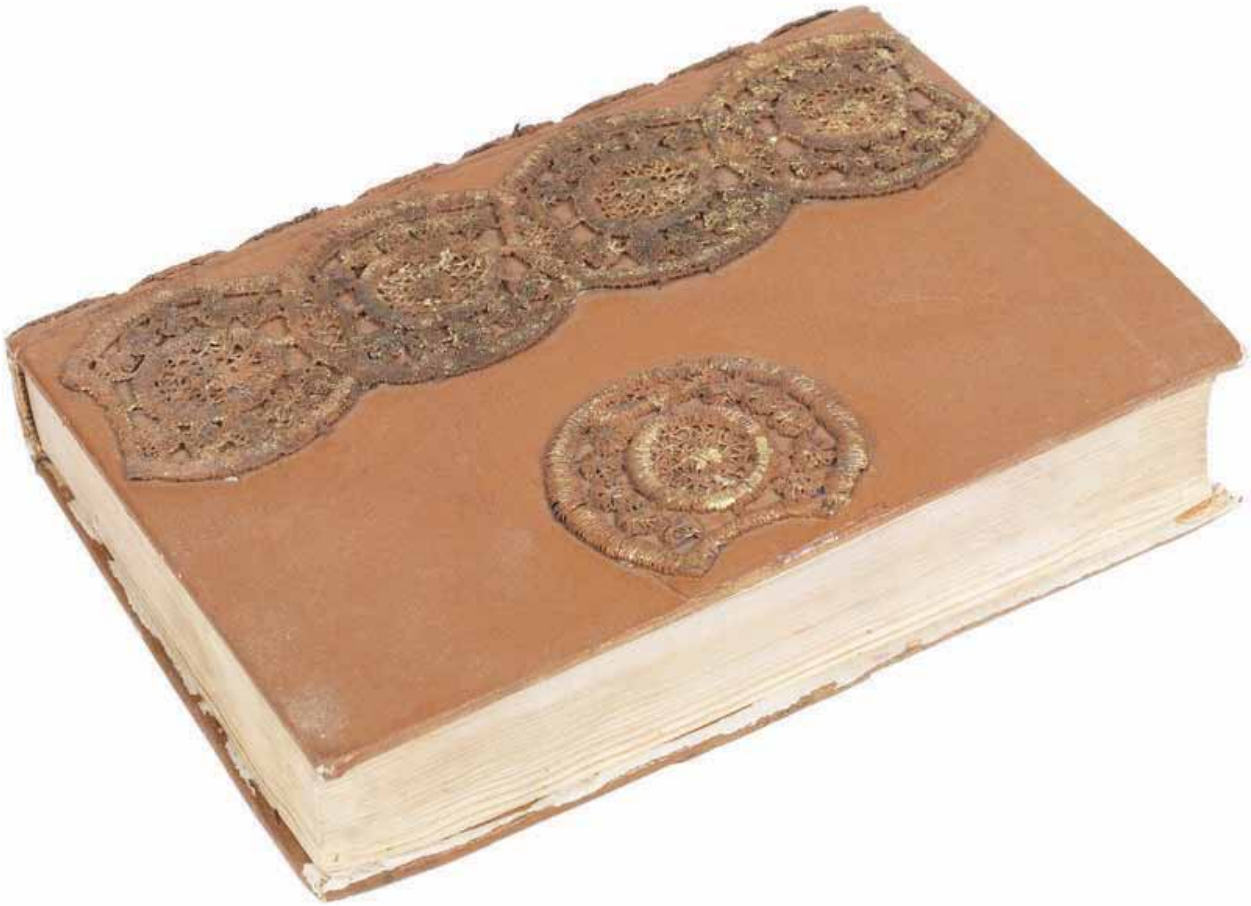
RESPOND


INSTANT WIN!
LOTTERY
$10,000.00

CONSIDER



EVALUATE



ACTUAL

APPROXIMATELY

SELECT

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.

Mini Pictures

Provide each student with a copy of the mini-pictures page from the Student Support Materials. When you say the key words, the students must find the pictures for them. Then, have the students cut out the pictures. Say the keywords and the students should hold up the pictures for them.

Tissue Drop

Group the students in a circle. Stand in the center of the circle with a small piece of tissue paper or an inflated balloon. Give the vocabulary illustration to the students. The students should pass the illustration around the circle in a clockwise direction until you clap your hands. Then, the students should stop passing around the illustration. Toss something like a tissue paper or ball into the center and say a vocabulary word. The student who has the illustration for that word must rush into the circle to catch the object before it hits the floor.

Over and Under

Group the students into two teams. Mount the vocabulary pictures on the board. Give the first player in each team a ball. When you say, "Go," the first player in each team must pass the ball to the next player, over his/her head. The next player must then pass the ball to the third player, between his/her legs. The players should continue with this over/under sequence until the last player in a team receives the ball. When the last player receives the ball, he/she must rush to the board and identify a picture for a vocabulary word that you say. The first player to do this successfully wins the round. Repeat until all players in each team have had a chance to respond in this way.

Roll 'Em Again Sam

Provide each student with two flashcards. Each student should then write a number between 1 and 6 on each of his/her cards — one number per card. When the students' number cards are ready, toss two dice. Call the two numbers showing on the dice. Any student or students who have those two numbers on their number cards must then find a vocabulary graphic you name (you may wish to have the vocabulary graphics mounted on the board and numbered, for easy identification). The students may change number cards after each round of the activity.

Language and Skills Development

Knock Knees

Mount the vocabulary pictures on the board. Group the students into two teams. Give a small, hard ball to the first player in each team. The first player in each team must place the ball between his/her knees. Say a vocabulary word. When you say "Go," the two players must then walk to the pictures without losing the balls. The first player to reach the vocabulary pictures and identify the picture for the word you said wins the round. If a player loses his/her ball, he/she must return to his/her team and begin again. Repeat until all players have played.

Toothpick Pass

Mount the vocabulary graphics on the board and number each graphic. Group the students in a circle. Give each student a toothpick. Place a lifesaver over one or more of the toothpicks. When you say "Go," the students should pass the lifesaver(s) around the circle in a clockwise direction. When you clap your hands, the students should stop passing the lifesaver(s). Say a vocabulary word. The student or students who have the lifesavers must identify the NUMBER of a graphic that describes the word you named. Repeat until many students have responded in this way.

All in Knots

Group the students into two teams. Tie two lengths of rope in a knot (use the same knot for each rope). Skipping ropes are ideal for this activity. Mount the vocabulary graphics on the board. Give a knotted rope to the first player in each team. Say a vocabulary word. When you say "Go," the first player in each team must then attempt to untie the knot he/she has. The first player who unties his/her knot, rushes to the board, and identifies the vocabulary graphic for the word you said, wins the round. Repeat until all players have participated.

Language and Skills Development

SPEAKING

Right or Wrong?

Mount the vocabulary pictures on the board. Point to one of the pictures and say its vocabulary word. The students should repeat the vocabulary word for that picture. However, when you point to a picture and say an incorrect vocabulary word for it, the students should remain silent. Repeat this process until the students have responded a number of times to the different vocabulary pictures.

The Disappearing Pictures

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

Picture Jigsaw

Cut each of the vocabulary pictures into four pieces. Mix the cut out pieces together and distribute them to the students (a student may have more than one picture section). When you say "Go," the students should attempt to match the jigsaw sections they have to reproduce the original vocabulary pictures. When the students put the necessary pieces of a picture together, they should identify the picture by its vocabulary word. Continue until all vocabulary pictures have been put together and named in this way.

Collander

Before the activity begins, obtain a sheet of construction paper equal in size to the size of your vocabulary pictures. Use a single hole punch to punch holes in the sheet. Place the sheet over one of the vocabulary pictures. Hold the sheet and vocabulary picture up so that the students can see them. The students should attempt to identify the vocabulary picture from the parts they can see through the holes in the construction paper. The first student to do this correctly wins the round. This activity may also be done in team form. In this case, the first player to correctly identify the vocabulary picture wins the round.

Language and Skills Development

Illustration Build-Up

Mount the vocabulary illustrations on the chalkboard. Point to two of the illustrations. The students should then say the vocabulary words for those two illustrations. Then, point to another illustration. The students should repeat the first two vocabulary words and then say the vocabulary word for the third illustration you pointed to. Continue in this way until the students lose the sequence of words.

Flip of the Coin

Provide each student with a penny. Keep one penny for yourself. Mount the vocabulary pictures on the board. Have the students (gently) toss their pennies into the air. Each student should look to see which side of his/her penny is face-up. Toss your penny into the air in the same way. Call the side of your penny that is face-up. The students who have the same side of coin face up must then identify (orally) a vocabulary picture you point to. For example, if the heads side of your coin is face up, the students who have heads showing on their coins must then orally identify the vocabulary picture you point to. Repeat this process a number of times.

Number Draw

Provide each student with a blank flashcard. Say a number to each student (between one and the number of students in your class). Each student should write his/her number on his/her number card. Prepare a matching set of number cards and place the cards in a container. Reach into the container and remove one of the number cards. Call the number showing on it. The student who has that number must identify a vocabulary picture on the board (or repeat a sentence that you said at the beginning of the round). Repeat this process until all students have responded.

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.

Sight Recognition

Face

Mount the sight words around the classroom on the walls, board, and windows. Group the students into two teams. Give the first player in each team a flashlight. Darken the classroom, if possible. Say one of the sight words. When you say "Go," the students should turn their flashlights on and attempt to locate the sight word you said. The first player to do this correctly wins the round. Repeat until all players in each team have participated.

String Along

Join all of the students together with string (the students do not need to move from their seats). Before tying the ends of the string together, insert a roll of tape over one of the ends of the string. Tie the ends of the string together. Turn your back to the students. The students should pass the roll of tape along the string as quickly as possible. When you clap your hands, the student left holding the tape must then identify a sight word you show him. Repeat this process until many students have responded and until all of the sight words have been correctly identified a number of times.

Student Support Materials

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

Decoding/Encoding

Letter Encode

Provide each student with four copies of the Alphabet Page, found on page 72 in the Student Support Materials. The students should cut out their letters and place them in individual envelopes. These cut-out letters will be used throughout the program for letter encode activities. You may wish to have the students write their names on their envelopes. Then, show a picture from this unit. The students must use the cut- out letters to spell the word for the picture. Review the students' work. Repeat, until all of the words have been spelled.

Language and Skills Development

Flashlight Encode
Cut each of the sight words in half. Mount all of the word halves in a scattered form on the chalkboard. Stand in front of the chalkboard with two flashlights. Shine the light of one flashlight on a word half. Then, shine the light of the other flashlight on its matching half. The students should say the sight word. However, when the lights of the two flashlights are shining on word halves that do not go together, the students should remain silent. If four flashlights are available, this activity may be done in team form. In this case, give the first player in each team two flashlights. Say a sight word. The first player in each team must then use his/her two flashlights to illuminate the word halves for the sight word you said. The first player to do this correctly wins the round.

The Lost Syllable
Say a syllable from one of the sight words. Call upon the students to identify the sight word (or words) that contain that syllable. Depending upon the syllable you say, more than one sight word may be the correct answer. This activity may also be done in team form. In this case, lay the sight word cards on the floor. Group the students into two teams. Say a syllable from one of the sight words. When you say "Go," the first player in each team must rush to the sight word cards and find the sight word that contains the syllable you said.

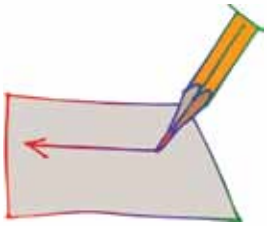
Student Support Materials
Have the students complete the sight recognition and encoding activities in the Student Support Materials. When finished, review their work.

Reading Comprehension

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



Word Build

Provide each student with writing paper and a pen. Cut each of the sight words into its individual letters. Give each student one of the cut out letters. Each student should then glue the cut out letter onto his/her sheet of writing paper. Then, each student should add the missing letters to complete the original sight word. Afterwards, review the students' responses. You may wish to provide each student with more than one cut out letter so that he/she writes a number of the sight words.

Backwards Spell

Provide each student with writing paper and a pen. Spell one of the sight words, backwards. When you have completed the spelling of the word in this way, each student should then write the word you spelled on his/her sheet of paper, writing the letters of the word in their correct order. The students should not begin to write the word until AFTER you have completed the backwards spelling of the word. Repeat this process with other sight words. This activity may also be done in team form. In this case, group the students into two teams. Spell one of the sight words backwards. When you say "Go," the first player from each team must rush to the chalkboard and write the word that you said - writing the letters of the word in their correct sequence. The first player to do this correctly wins the round. Repeat until all players have participated.

What's Missing?

Before the activity begins, prepare a page that contains clozure sentences - the sight words having been left out. Provide each student with a copy of the page. The students should read the clozure sentences carefully and then each student should write the vocabulary words in the sentences. This activity may also be done in team form. In this case, write a clozure sentence on the chalkboard (omitting the sight word or words). Group the students into two teams. When you say "Go," the first player from each team must rush to the chalkboard and write the sight word(s) on the chalkboard that complete the sentence correctly. The first player to do this wins the round. Repeat until all players have had a chance to participate.

Language and Skills Development

Word Descriptions

Mount the sight words on the chalkboard. Provide the students with writing paper and pens. Then, describe the features of one of the sight words. This may include the number of letters, syllables, etc. After describing the features of the sight word, each student should write the sight word he/she feels fits the description you gave. Repeat this process with other sight words. Afterwards, review the students' responses.

Student Support Materials

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

STUDENT SUPPORT MATERIALS

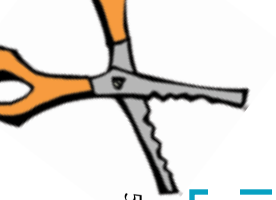
Listening • Mini Pictures

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



solve

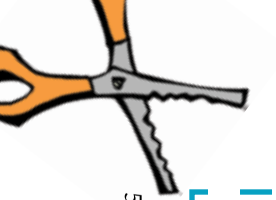
extend

arrange

consider

evaluate

actual



calculate

illustrate

respond

approximately

select

STUDENT SUPPORT MATERIALS

Reading • Sight Recognition

Sight Words Activity Page

Have the students circle the word for each picture.

solve
extend
arrange
calculate
illustrate
respond
consider
evaluate
actual
approximately
select

solve
extend
arrange
calculate
illustrate
respond
consider
evaluate
actual
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Sight Words Activity Page

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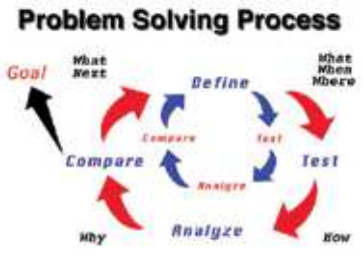

solve
extend
arrange
calculate
illustrate
respond
consider
evaluate
actual
approximately
select

Sight Words Activity Page

Write the numbers on their correct vocabulary graphics.

1. **select**
2. **extend**
3. **evaluate**
4. **calculate**
5. **illustrate**
6. **approximately**
7. **respond**
8. **consider**
9. **actual**
10. **arrange**
11. **solve**

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.

Sight Words Activity Page

Highlight or circle the words in this word find.

select
illustrate
arrange
extend

respond
consider
approximately
actual

evaluate
calculate
solve

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

Sight Words Activity Page

ANSWER KEY

select	respond	evaluate
illustrate	consider	calculate
arrange	approximately	solve
extend	actual	

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

STUDENT SUPPORT MATERIALS

Reading • Encoding

Encoding Activity Page

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

sol_____

_____tend

cal_____late

_____spond

con_____der

ge	**cu**	**ve**
tr	**ex**	

Encoding Activity Page

e_____uate

ac_____al

app_____imately

_____lect

si	se	val
tu	rox	re

Encoding Activity Page

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

sol	**range**
ex	**trate**
ar	**tend**
calcu	**uate**
illus	**lect**

Encoding Activity Page

re	mately
consi	ve
eval	tual
ac	late
approxi	spond
approxi	der

Encoding Activity Page

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

ma	ap	i	prox
_____	_____	_____	_____

ly	te
_____	_____

cu	late	cal
_____	_____	_____

Encoding Activity Page

trate	lus	il
_____	_____	_____

val	u	e	ate
_____	_____	_____	_____

Alphabet Page Letter Encode

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

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. To solve a problem is to
   - ❍ create an axis for a polygon.
   - ❍ calculate the ordered pair in a set of triangles.
   - ❍ get its answer.
   - ❍ use a protractor to find prime numbers.

2. When something is extended, it is
   - ❍ congruent.
   - ❍ the median.
   - ❍ made shorter.
   - ❍ made longer.

3. Which one of these can be used to arrange things?
   - ❍ exponent
   - ❍ protractor
   - ❍ size
   - ❍ scalene

4. Which one of these can be used to calculate a value?
   - ❍ product
   - ❍ 10
   - ❍ 6x9
   - ❍ isosceles

5. When we illustrate something, we try to
   - ❍ make it clear.
   - ❍ leave out data.
   - ❍ keep it secret.
   - ❍ find an exponent.

6. When we respond we
   - ❍ scale.
   - ❍ answer.
   - ❍ function.
   - ❍ dilation.

What's the Answer?

7 When we consider something we

- ❍ answer without thinking.
- ❍ don't answer a problem.
- ❍ ask someone else to solve a problem.
- ❍ think carefully.

8 To evaluate something is to

- ❍ draw a polyhedron.
- ❍ calculate the value of something.
- ❍ use a protractor to draw a circle.
- ❍ leave out the value of something.

9 Actual is the opposite of

- ❍ vertex.
- ❍ mode.
- ❍ real.
- ❍ pretend.

10 Which of these words is close to approximately?

- ❍ exact
- ❍ almost
- ❍ actual
- ❍ dimensions

11 Which of these words goes with select?

- ❍ choose
- ❍ extend
- ❍ calculate
- ❍ find an exponent.

What's the Answer?

ANSWER KEY

1. To solve a problem is to
   - ❍ create an axis for a polygon.
   - ❍ calculate the ordered pair in a set of triangles.
   - ● get its answer.
   - ❍ use a protractor to find prime numbers.

2. When something is extended, it is
   - ❍ congruent.
   - ❍ the median.
   - ❍ made shorter.
   - ● made longer.

3. Which one of these can be used to arrange things?
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   - ❍ protractor
   - ● size
   - ❍ scalene

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- ❍ actual
- ❍ dimensions

11 Which of these words goes with select?

- ● choose
- ❍ extend
- ❍ calculate
- ❍ find an exponent.

Reading Comprehension Activity Page

Write the numbers/letters for sentence halves that match.

1	When we 1 solve something we	A	find values.
2	To extend something is to	B	that is almost exact.
3	Things can be arranged	C	make it longer.
4	We calculate to	D	we calculate its value.
5	When a person illustrates something	E	by their values.
6	When we respond we	F	a pretend thing.
7	When we consider we	G	get the answer.
8	When we evaluate something	H	answer something.
9	An actual thing is the opposite of	I	he/she tries to make it clearer.
10	Approximately relates to something	J	choose it.
11	When we select something we	K	think carefully about something.

1→_____ 2→ _____ 3→ _____ 4→ _____

5→ _____ 6→ _____ 7→ _____ 8→ _____

9→ _____ 10→ _____ 11→ _____

Reading Comprehension Activity Page

ANSWER KEY

1	When we 1 solve something we	A	find values.
2	To extend something is to	B	that is almost exact.
3	Things can be arranged	C	make it longer.
4	We calculate to	D	we calculate its value.
5	When a person illustrates something	E	by their values.
6	When we respond we	F	a pretend thing.
7	When we consider we	G	get the answer.
8	When we evaluate something	H	answer something.
9	An actual thing is the opposite of	I	he/she tries to make it clearer.
10	Approximately relates to something	J	choose it.
11	When we select something we	K	think carefully about something.

1→ G 2→ C 3→ E 4→ A

5→ I 6→ H 7→ K 8→ D

9→ F 10→ B 11→ J

Reading Comprehension Activity Page

Cut out the words and glue them under their definitions.

To work out a correct way to solve a problem.	**To make longer.**	**To organize things.**
To find the answer to something.	**To explain something.**	**To answer.**
To think carefully about something.	**To calculate the value of something.**	**The real thing.**
Almost exact.	**To choose something**	

extend **calculate** **evaluate** **consider**

arrange **respond** **select** **solve**

illustrate **actual** **approximately**

Reading Comprehension Activity Page

ANSWER KEY

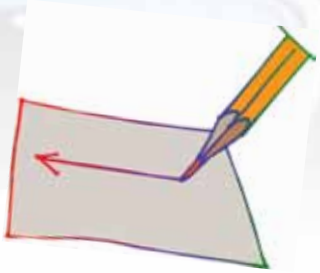
To work out a correct way to solve a problem. solve	**To make longer.** extend	**To organize things.** arrange
To find the answer to something. calculate	**To explain something.** illustrate	**To answer.** respond
To think carefully about something. consider	**To calculate the value of something.** evaluate	**The real thing.** actual
Almost exact. approximately	**To choose something** select	

STUDENT SUPPORT MATERIALS

Writing

Writing Activity Page

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



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_____ tend

_____ range

calcu_____ late

i_____ trate

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con_____ der

e_____ uate

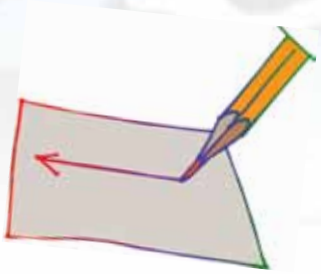
ac_____ al

app_____ imately

_____ lect

Writing Activity Page

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



s_____e

ex_____d

ar_____e

ca_____e

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re_____d

co_____r

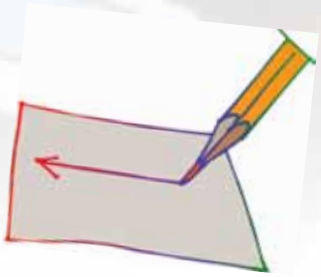
ev_____e

ac_____l

ap_____ly

s_____t

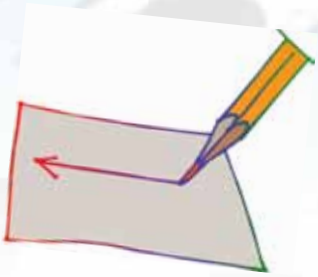
Basic Writing Activity Page



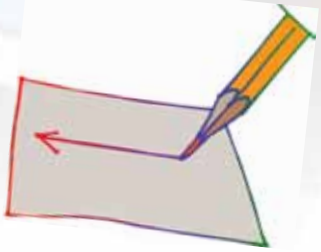
Have the students write the word for each picture.

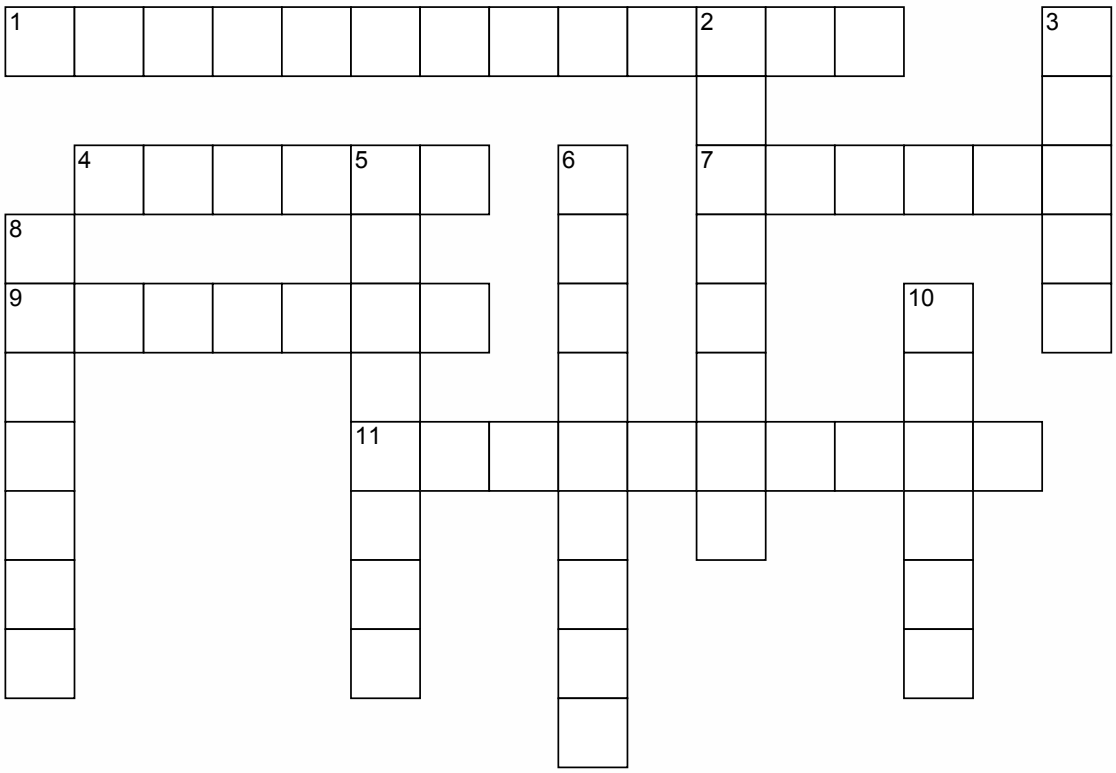
Basic Writing Activity Page

Have the students write the word for each picture.



Crossword Puzzle





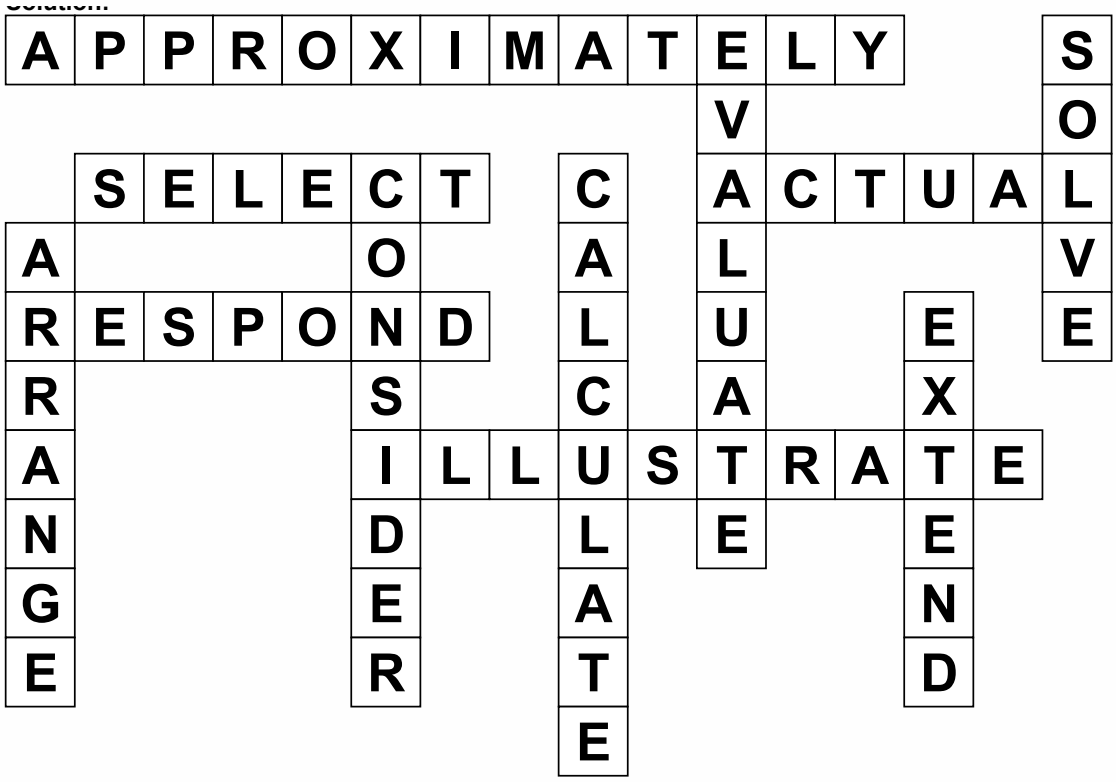
ACROSS

1 almost exact
4 To choose something.
7 the real thing
9 To answer.
11 To explain something.

DOWN

2 To calculate the value of something.
3 To work out a correct way to solve a problem.
5 To think carefully about something.
6 To Find the answer to something.
8 To organize things.
10 To make longer.

Crossword Puzzle Answers



UNIT ASSESSMENT

PROCESS SKILLS

Unit Assessment Teacher's Notes
Grade 7 • Unit 1

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 **SOLVE**.
2. Write the number 2 by the picture for **EXTEND**.
3. Write the number 3 by the picture for **ARRANGE**.
4. Write the number 4 by the picture for **CALCULATE**.
5. Write the number 5 by the picture for **ILLUSTRATE**.
6. Write the number 6 by the picture for **RESPOND**.
7. Write the number 7 by the picture for **CONSIDER**.
8. Write the number 8 by the picture for **EVALUATE**.
9. Write the number 9 by the picture for **ACTUAL**.
10. Write the number 10 by the picture for **APPROXIMATELY**.
11. Write the number 11 by the picture for **SELECT**.

SIGHT RECOGNITION

Turn to pages 2 and 3 in your test. Look at the pictures in the boxes. Circle the word for each picture.

DECODING/ENCODING

Turn to pages 4 and 5 in your test. Look at the word parts in the boxes. Circle the other half or part of each word.

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.

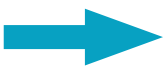
READING COMPREHENSION

Turn to page 6 in your test. Write each word under its definition.
Refer to Student Support Materials for answer key.

BASIC WRITING

Turn to page 7 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.

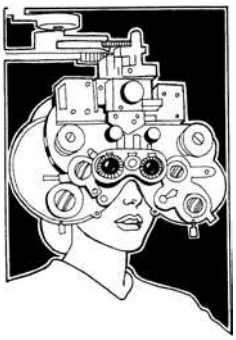


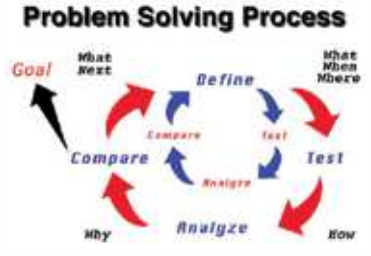
MATH PROGRAM

Unit Assessment Student Pages
Grade 7 • Unit 1

Date:_____ **Student's Name:_____**

Number Correct:_____ **Percent Correct:_____**




Problem Solving Process
Goal
What Next
Define
What When Where
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Why
How


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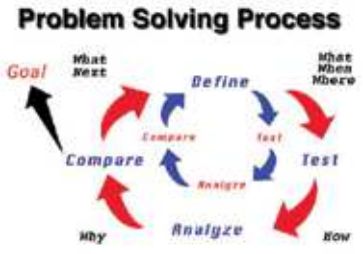

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calcu	ve tend range late trate spond sider uate tual imately lect
con	ve tend range late trate spond sider uate tual imately lect
se	ve tend range late trate spond sider uate tual imately lect
ac	ve tend range late trate spond sider uate tual imately lect

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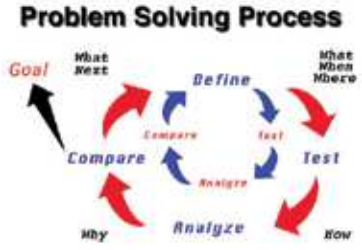
extend	calculate	evaluate	consider
arrange	respond	select	solve
illustrate	actual	approximately	


Problem Solving Process
Goal
What Next
Define
What When Where
Compare
Test
Analyze
Why
How


INSTANT WIN!
LOTTERY
$10,000.00