R

Getting Ready to Read: Extending Vocabulary (Creating a Word Wall)
MATHEMATICS

Students are required to learn, on average, over 2000 words each year in various subject areas. Those who have trouble learning new words will struggle with the increasingly complex texts that they encounter in the middle and senior school years. A word wall is a wall, chalkboard or bulletin board listing key words that will appear often in a new unit of study, printed on card stock and taped or pinned to the wall/board. The word wall is usually organized alphabetically.

Purpose
> Identify unfamiliar vocabulary and create a visible reference in the classroom for words that will appear often in a topic or unit of study.

Payoff
Students will:
> practise skimming and scanning an assigned reading before dealing with the content in an intensive way. Students will have some familiarity with the location of information and with various elements of the text.
> develop some sense of the meaning of key words before actually reading and using the words in context.
> improve comprehension and spelling because key words remain posted in the classroom.

Tips and Resources
> *Skimming* means to read quickly – horizontally – through the text to get a general understanding of the content and its usefulness
> *Scanning* means to read quickly – vertically or diagonally – to find single words, facts, or details.
> For directions, see Student Resource, *Skimming and Scanning to Preview text*. Direct students to scan texts for unfamiliar words/symbols at the beginning of a unit and before starting activities that have written instructions.
> Before building the word wall, consider ***using Analyzing the Features of Text*** to help students become familiar with the text.
> Consider posting certain words for longer periods (for example: words that occur frequently in the unit, words that are difficult to spell, words that students should learn to recognize on sight, and words like *justify* that are used in all strands).
> Have students refer to the word wall to support their understanding and spelling of the words.
> Consider using a vocabulary organizer on the back of the word wall card, see *Getting Ready to Read: Extending Vocabulary – The Frayer Model.*
> Include symbols on a mathematics word wall.
> Use word wall cards for word sort activities. Direct students to place cards into assigned categories (e.g., angles, shapes) or ask students to choose their own categories for a given set of cards. This helps students develop classifying skills.
> Select about 4 word wall cards (e.g. triangle, square, rhombus, parallelogram) and ask students to determine which word does not belong, giving reasons for their answers.
> See Student/Teacher Resource, *Creating a Word Wall- Sample Word Wall Cards.*
> See Teacher Resource, *Creating a Word Wall – Terminology.*
> See Student/Teacher Resource, *Creating a Word Wall- Words with Multiple Meanings.*

Further Support
> Add a picture to the cards, as a support for ESL students and struggling readers.
> Provide each student with a recording sheet (or recipe cards) so they can make their own record.
> If it appears that students will need additional support, review the terminology on the word wall in the two classes following the activity.
> Consider differentiating instruction and assessment for some students by allowing more time for scanning text for unfamiliar words as well as an opportunity for clarification before starting tasks. A personal copy of the task can be highlighted as the student scans the text.

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What teachers do	What students do
Before Preview a unit of study for key vocabulary (including both words and symbols). Make a list of words/symbols that you anticipate students will identify as unfamiliar. Reflect on: - which words are critical for developing understanding of the concepts in this unit; - which words should be familiar to students from prior learning but will likely need review; - which words will be unfamiliar to most students. Prepare strips of card stock (approximately 4" by 10" for words). Have recipe cards available for student records. Distribute the Student Resource, *Skimming and Scanning to Preview Text*, and read and clarify the techniques with the students. Choose a text (e.g., chapter in a textbook, instructions for an activity) for students to scan for unfamiliar words or symbols.	Follow along on the handout as the teacher reviews skimming and scanning.
During Direct students to independently scan the text for unfamiliar words or symbols. Ask students to create a personal list of unfamiliar words and symbols. Direct students to small groups and ask the groups to compare personal lists and create a group master list as well as print the key vocabulary word in large letters on card stock. Assign each group a location to post their words.	Scan the text for words/symbols they do not know, making a personal list of the words/symbols. Compare personal lists. Choose the words for a group master list. In each group, print the key vocabulary words in large letters on card stock and post in assigned location.
After Lead some discussion of the words and ask students to speculate on their meaning. If appropriate, describe prefixes (e.g., hex, quad) and suffixes (e.g., lateral) common to mathematical terms. Pose questions to assess students' understanding of words that appeared on your list but are not identified on student lists. Consolidate the lists of key words/symbols from each group to create a class list of words. Have the students complete their own word lists with the word on the front of a recipe card and a vocabulary organizer on the back (e.g., definition and picture, Frayer Model). Throughout the unit/activity refer to the word wall when necessary to support students' understanding.	Contribute to class discussion. Use a textbook glossary or mathematics dictionary to find the meaning of unfamiliar words.

Notes

Creating a Word Wall – Sample Word Wall Cards (Grade 7)

Front of Card

Back of Card
Frayer Model

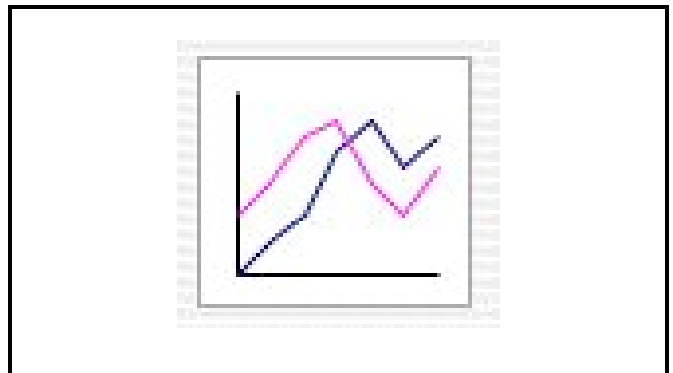|	
Definition An integer is a positive or negative counting number, or zero.	Characteristics has no decimal part has no fractional part
Examples -2 0 325	Non-examples 0.5 -1.2 $\dfrac{2}{3}$

integer

Front of Card

Back of Card
Verbal and Visual Word Association

Vocabulary Term octagon	Visual Representation
Student Definition A polygon with 8 sides	Personal Association A stop sign is a *regular* octagon

octagon

Front of Card

Back of Card
Picture

broken-line graph

Creating a Word Wall – Terminology   (Grades 7 & 8)

The columns for grades 7 and 8 show examples of terminology that may be included in a word wall.

	Grade 7	Grade 8
All Strands	calculate, compare, conclude, conjecture, create, demonstrate, describe, develop, estimate, evaluate, explain, explore, generate, hypothesis, justify, list, model, represent,	
Number Sense and Numeration	algorithm, ascending order, composite number, consecutive numbers, descending order, difference, equivalent, exponent, greatest common factor, integer, lowest common multiple, order of operations, percent, perfect square, place value, power, prime factorization, prime number, product, rate, ratio, repeating decimal, scientific calculator, square root, terminating decimal, whole number	rational numbers, scientific notation, $\cong, \sqrt{}$
Measurement	altitude, dimensions, equilateral triangle, kite, parallelogram, pentagon, prefixes (e.g., bi-, tri-, quad-, penta-, hex-, sept-, etc.), prism, pyramid, quadrilateral, regular polygon, rhombus, suffixes (e.g., -gon, -lateral), surface area, three-dimensional, trapezoid, two-dimensional, m(AB) i.e., *the length of line segment AB as used in Geometer's Sketchpad*	arc, chord, circumference, diameter, radius, sector, segment, π
Geometry and Spatial Sense	acute, angle bisector, congruent, isosceles, midpoint, net, obtuse, reflection, reflex angle, rotation, scalene translation, triangle	alternate angles, complementary angles, corresponding angles, interior angles, opposite angles, parallel lines, perpendicular lines, Pythagorean Theorem, supplementary angles, transversal, $\perp, \parallel$
Patterning and Algebra	algebraic expression, equation, expression, formula, inspection (*a method for solving equations*), numerical coefficient, trial and error, variable	inequality, inequation
Data Management and Probability	average, bar graph, bias, box and whisker plot, broken line graph, census, circle graph, data, database, histogram, mean, measure of central tendency, median, mode, outcome, primary data, probability, range, scatter plots, secondary data, spreadsheet, frequency,	

Creating a Word Wall – Words with Multiple Meanings

"Double-Think" Words

angle
base
chord
common
complex
degree
difference
fair
irrational
kite
mean
median
mode
net
obtuse
pentagon
plane
power
prime
quarters
range
rational
real
regular
right
root
scale
sign
similar
slope
term
unit
unknown
variable