

# MATHEMATICS VOCABULARY LIST

## KINDERGARTEN THROUGH

### 6<sup>TH</sup> GRADE LEVELS

An underlying assumption of the mathematics education reform movement is that all children can and will learn mathematics, including children from groups that are traditionally underrepresented in science, technology, engineering and mathematics (STEM) careers. One of the major recommendations of the reform movement is that students are to communicate mathematically using a variety of tools, including written and spoken language (NCTM 1989, 2000).

This vocabulary list is for teachers to help develop children’s mathematics language and covers mathematics words and terms relating to most elementary mathematics curricula including the National Council of Teachers of Mathematics (NCTM) *Curriculum Standards in Mathematics Teaching*, Massachusetts *Curriculum Frameworks* and the United Kingdom’s *Framework for Teaching Mathematics*. It addresses vocabulary needs in mathematics content areas from Kindergarten through sixth grade (age levels 5 years to 11 years). The words and terms included are from mathematics content: *Number sense* (Numbers and the number system), calculations; *mathematics language and solving problems*; *statistics and probability*—handling data and chance; *patterns*—generalizations, relations, functions and algebra; and *spatial sense*—geometry, measures, shape and space.

#### **Organization of the Vocabulary Lists: How can it be used?**

The mathematics vocabulary list was developed on the same principles, manner and for the purpose as most common language word lists—to develop a minimal vocabulary to facilitate participate in communication. The goal of this list is to help teachers introduce appropriate mathematics vocabulary at each grade—from Kindergarten through sixth. Although, we have tried to include most words that are used at these grade levels, these Vocabulary Lists are not intended to be exhaustive, you can add more words as you see fit. It is a dynamic list. It should grow with the curriculum.

#### **Why do have the list only for the grades K through 6?**

This is a minimum vocabulary list of mathematics words and terms at each grade level. If children have learned and mastered the use of these vocabulary words, they are in a good standing to make sense of more advanced mathematics vocabulary. They have the skills and experience to extend their mathematics vocabulary. Moreover, after sixth grade, the mathematics courses become more specialized and content specific and most

teachers should develop and use the vocabulary of the textbook in use. These textbooks have and emphasize development and use of a specific vocabulary pertinent to the topics covered. At these levels, the teachers need to focus on how to develop that specific vocabulary in the context of the content.

### **How to Introduce the Vocabulary?**

A teacher should identify the words and terms from the grade list to generate the vocabulary related to the content of the lesson she is planning. In every lesson, the teacher should make provisions for the introduction of new vocabulary and the consolidation of familiar terms. The teacher should select few words from the grade list relevant to the topic and content being taught and try to develop them during the week. She can ask support staff and parents to use and emphasize this vocabulary with their children for use and mastery.

For students with a history of word recognition difficulties, the Mathematics Graded Word List may provide valuable information as to a student's mathematics difficulties. These Mathematics Graded Word Lists can also be used to estimate the student's grade level as far as the language of mathematics is concerned.

The teacher should introduce the math prefixes and roots first casually and then more formally. The introduction of words, terms and definitions can take place at any level, but the Mathematics Vocabulary List indicates where these specific words should be mastered by children. It is appropriate to point out these words even to younger than K. In a casual manner, parents and teachers can remark, "a tricycle has 3 wheels. Tri- means 3 and cycle means wheels. A triangle has 3 angles because tri- means 3...."

With the introduction of each word, children are exposed to several related words and sentences and concepts that contain or use it . Then children use the word in their own sentences. The words and related concepts are then reviewed with the class as a group, built upon and tied with the new ideas that are introduced. This process is used to forming a working vocabulary.

Teachers should have a flipchart or a mathematics vocabulary wall in the classroom that has a running list of the mathematics vocabulary. The teacher and children should continuously add vocabulary words to this chart and revisit the words they already have on the chart.

## Mastering the Vocabulary:

A child knows a mathematics vocabulary word when he can perform one or more of the following actions:

- define the word using other known words,
- describe the meaning of the word,
- use the word in a sentence or application, and/or
- use the word in a mathematical definition, formula or word.

Apart from the words that need to be learned for the specific mathematics lesson, on a particular day, the teacher should select a key mathematics word for the day which children use or define in the context of mathematics concepts, procedures or skills.

Each quiz or test should have one or more words or mathematical terms included to be defined or described by the student and should have definite credit for this part. We suggest that at least ten to fifteen percent of the test should deal with the linguistic components of mathematics.

While communicating mathematics, the teacher should insist on using the words correctly, precisely and in complete sentences. In no other language class, a teacher will accept poor presentations. The same standard should be adhered to in the mathematics language class. Sloppy language produces sloppy or incomplete ideas.

The mastery of the mathematics vocabulary lists is reflected in all aspects of reception, comprehension and production of mathematics language in following forms:

- **Receptive** – This means that children can receive the vocabulary word and can act upon it successfully. The teacher should always ask learners to repeat the word or expression that has been used in a presentation of an idea to assure that they have received the idea. I want you to listen to me carefully. What did I just say?
- **Expressive** – This means that the children can express the necessary vocabulary successfully. Example: (a) Put the cube on the box. Turn the box upside down and place the cube under it. Where am I putting the cube? I am putting the cube \_\_\_\_\_. (b) Write the sum of 4 and 6. What did you write? I wrote the \_\_\_\_\_.
- **Word Recognition** – This means that the student can recognize the vocabulary correctly when reading a mathematics passage. In the sentence you just read, what did the word ‘prime number’ mean.

- **Recording** – This means that the student can make the appropriate mathematics symbols and/or expressions associated with the words and expressions and can record the vocabulary word accurately related to mathematics symbols.
- **Instructional** – This means that the student understands the task indicated by the word and can follow the appropriate instructions.
- **Informative** – where the student understands the correct mathematical terminology and can apply that information to the task.
- **Transfer of Vocabulary** – This means that the student can use the vocabulary word in another situation to give a successful explanation.
- **Generalization** – This means that the student can use the language pattern derived from the vocabulary terms sensibly in a variety of contexts.

## VOCABULARY LIST KINDERGARTEN, 1<sup>ST</sup> and 2<sup>ND</sup> GRADE LEVELS

<b>A</b>		
abacus	about the	about
above	Abstract	across
add	Addend	addition
after	Alike	all
altogether	Almost	always
amount	and	answer
around	arrange	anything
as much as	axis	away/from
<b>B</b>		
back	ball	bar
because	before	behind
below	beside	between
big/ger/est	blank(s)	borrow
both	bottom	box
bundle	by	
<b>C</b>		
calendar	can	centimeter
cents	check	circle
circular	coin	color
column	collection	common
complete	compute	connect
copy	corner	correct
cost	count	count down
<b>D</b>		
date	daily	day
different	difference	dime
direct	distance	
dollar	double	down
<b>E</b>		
each	early	eight
eighth	eleven	empty
equals	estimate	everything

<b>F</b>		
fact	false	fast/er/est
few/er/est	fifth	figure
fine/er/est	first	five
fifth	four	fourth
front		
<b>G</b>		
get	give	graph
great/er/est	group	guess
<b>H</b>		
half	has/have	heavy/ier/est
horizontal	hour	hour hand
how long	how many	hundreds
<b>I</b>		
in all	inches	incorrect
include	inside	into
<b>J</b>		
just/right	join	jot down
<b>K</b>		
know	kite	
<b>L</b>		
large/er/est	last	later
least	leave	left
letter		
less	less than	
<b>M</b>		
made/make	many/more	most
mark	match	means
measure	middle	minute
minute hand	missing addend	missing number
money	more than	much
multiplication	multiply	must
<b>N</b>		
never	next	next number
nickel	nine	ninth
no	none	not
no more	nothing	number
number line	number sentence	number story
numeral		

<b>O</b>		
of	on	one
one less	one more	one's
only	open	or
order	outside	over
<b>P</b>		
pair	paper	past
pattern	penny	picture
place	place value	plus
point	problem	put
puzzle		
<b>Q</b>		
quarter	quick	quit
<b>R</b>		
recall	rectangle	recount
regrouping	remove	right
ring	round	row
ruler		
<b>S</b>		
same	same as	same number
sample	second	second hand
sentence	separate	set
seven	sharp/er/est	side
sing	small/er/est	solve
square	straight	straight line
subtraction	sum	symmetrical
<b>T</b>		
table	take	tall/er/est
temperature	triple	tripod
two		
<b>U</b>		
under	underline	up
use		
<b>W</b>		
ways	whole	word problem
<b>Y</b>		
yard	yes	yesterday
<b>Z</b>		
zero		

## VOCABULARY GRADE 3

<b>A</b>		
abacus	about	above
across	add	addend
addition	after	align
alike	all	all
all in all	all together	altogether
almost	always	amount
and	answer	anything
approximate	area	around
arrange	as many as	as much as
average	axis	away
<b>b</b>		
back	balance	ball
bar	bar graph	base
because	before	begin
behind	below/zero	beside
between	big/ger/est	blank(s)
borrow	both	bottom
box	bundle	by
<b>c</b>		
calculator	calendar	can
centimeter	cents	cent sign
challenge	change	chart
check	circle	circular
classify	clock	coin
color	column	collection
common	complete	compare
compute	cone	connect
convert	conversion	copy
corner	correct	cost
count	count down	count by
count up	cube	cup
cylinder		
<b>d</b>		
date	day	decimal notation
decimal	decimeter	degree
denominator	develop	diameter
different	difference	digit
digital	dime	direction/direct



distance	divide	division facts
divisor	dollar	double
down		
<b>e</b>		
each	early	earn
eight	eighth	element
eleven	empty	empty
enough	equal(s)	equal parts
equation	equivalent	estimate
even	everything	example
exercise	expanded	explore
<b>f</b>		
fact	false	family of facts
far	farther/er/est	fast/er/est
feet	few/er/est	fifth
figure	fill	find
fine/er/est	first	five
fifth	following	foot
form(s)	four	fourth
fraction/machine	front	full
function		
<b>g</b>		
gallon	get	give/en
graph	great/er/est	group/ing
guess		
<b>h</b>		
half/hour/dollar	has/have	heavy/ier/est
height	hexagon	high/er/est
horizontal	hour	hour hand
how	how long	how many
hundreds	hundredths	
<b>i</b>		
in all	inches	incorrect
include	inside	into
<b>j</b>		
join	jot down	just/right
<b>k</b>		
kilogram/liter/meter	know	

<b>l</b>		
label	large/er/est	last
later	least	leave
left	length	less
less than	letter	light/er/est
like	likelihood	line/graph
little/er/est	long/er/est	looks like/similar
low/er/est		
<b>m</b>		
made/make	many/more/most	mark
match	means	measure
medium	member	meter
metric	middle	mile
minus	minute	minute hand
missing/ addend	missing number	money
month	more than	much
multi/digit	multiple	multiplication/table
multiply	must	
<b>n</b>		
name	nearest/ft/100s/10s/in./1's /1000s	never
next	next number	nickel
nine	ninth	no
none	not	not any
no more	nothing	number
number line	number sentence	number story
numeral		
<b>o</b>		
objects	o'clock	odd
of	on	one
one half	one less	one more
one quarter	one's	only
open	operations	opposites(s)
or	order	ounce
outside	over	
<b>p</b>		
pair	paper	parallel/line
parallelogram	parentheses	part of whole
partial	partial product	past
pattern number/geometrical	penny	perimeter

picture	piece	pint
place	place value	plus
point	polygon	position
possible	pound	practice
predicting	probability	problem
product(s)	put	puzzle
pyramid		
<b>q</b>		
quart	quarter	question
quick	quit	quiz
quotient		
<b>r</b>		
range	rate	recall
rectangle	recount	regrouping
related	relationship	remainder
remove	rename	repeated/addition
replace	review	rhythms
right	ring	Roman numerals
rotate/rotation	rounding	row
round	rule	ruler
<b>s</b>		
same	same as	Same number
same	sample	scale
second	second hand	segment
sentence	separate	series
set	seven	seventh
several	shape(s)	sharp/er/est
side	sign(s)	similar
six/th	size	skill
skip	skip	skip counting
slow/er/est	short/er/est	small/er/est
solve	some	speed
spend	square	speed
standard	straight	straight line
subset	sum	subtract
subtraction	symbol	symmetrical
system		

<b>t</b>		
table	take away	tall/er/est
temperature	tens	tenth(s)
than	then	thermometer
these	third	this
thousand	three	through/thru
time	times	telling time
ton	top	trace
trapezoid	triangle	true
trace	twice	two
two quarters		
<b>u</b>		
under	undo	underline
unit(s)	unit's place	up
use		
<b>w</b>		
ways	whole	word problem
<b>y</b>		
yard	yes	yesterday
<b>z</b>		
zero		

## VOCABULARY GRADE 4

<b>a</b>		
abacus	about	above
above zero	across	acute angle
add	addend	addition
after	align	alike
algorithm	all	all in all
all together	altogether	almost
always	angle	amount
and	answer	anything
approximate	approximation	area
arithmetic mean	around	arrange
as many as	as much as	average
axis/axes	away	
<b>b</b>		
back	balance	ball
bar	bar graph	base
basic	because	before
begin	behind	below
beside	between	big/ger/est
billion(s)	blank(s)	boiling point
borrow	both	bottom
bound	box	bundle
by		
<b>c</b>		
calculator	calendar	can
Celsius	centimeter	center
cents	cent sign	challenge
chance	chart	check
circle	circular	classify
clock	code	coin
color	column	collection
combination	command	common/multiples/factors
commutative property	compare	comparison
complete	computation	compute
computer	cone	congruent/shapes/figures
connect	convert	conversion
coordinate(s)	copy	corner
correct	cost	count
count by	count down	count up

cube	cup	cylinder
<b>d</b>		
date	day/daily	decimal
decimal form	decimal notation	decimeter/liter/gram
degree	denomination	denominator
develop	diameter	difference
different	digit(s)	digital
dime	direction/direct	distance
distributive property	divide	dividend
division	division algorithm	divisor
do	dollar/sign	double
down	dozen	draw
drawing		
<b>e</b>		
each	early	earn
eight	eighth	element
eleven	empty	end point
enough	equal(s)	equal parts
equation	equilateral triangle	equivalent/fractions
estimate/estimation	even	everything
example	exercise	expanded
explore	exponential form	exponents
<b>f</b>		
fact	factor	factor tree
false	family of facts	far
farther/er/est	fast/er/est	feet
few/er/est	fifth	figure
fill	find	fine/er/est
first	five	flipping
following	foot	form
four	fourth	fraction/machine
fraction notation	freezing point	front
full	function machine	
<b>g</b>		
gallon	get	give/en
gram/liter/meter	graph/paper	graphics
great/er/est	greatest common factor	grouping
guess		

<b>h</b>		
half	has/have	heavy/ier/est
height	hexagon	high/er/est
horizontal	hour	how
how many	hundredths	
<b>i</b>		
in all	inches	incorrect
include	inside	intersection
intersecting lines	interior	into
inverse	Isosceles triangle	
<b>j</b>		
join	jot down	just right
joint		
<b>k</b>		
kilo	kilometer	kiloliter
kilogram	kite	know
<b>l</b>		
label	large/er/est	last
later	least	least common multiple
leave	left	length
less	less than	letter
Light/er/est	like	like denominator
likelihood	like fraction	liter/gram/meter
line/graph	line of symmetry	looks like/similar
little/er/est	long/er/est	
low/er/est	lowest common multiple	lowest term
<b>m</b>		
made/make	many/more/most	mark
mark (check)	match	means/meaning
measure	medium	member
meter/gram/liter	metric	middle
mile	millimeter/liter/gram	minus
minute	minute hand	missing/ addend
missing number	mixed fraction	mixed number
money	month	more than
much	multi/digit	multiple
multiplication/procedure/tables	multiply	must

<b>n</b>		
name	nearest/ft/1/2/100/10s/ in/1s/1000a	never
next	next number	nickel
nine	ninth	no
none/no more	not	not any
nothing	number	number line
number sentence	number story	numeral
numerator		
<b>o</b>		
objects	obtuse angle	o'clock
octagon	odd	of
on	one	one half
one less	one more	one quarter
one's	one tenth	only
open	operations	opposites(s)
or	order/pair	ounce
outcome	outside	over
<b>p</b>		
pair	paper	parallel/line
parallelogram	parentheses	part of whole
partial/answer/product	partial sum	past
pattern	penny	percent
perimeter	period	perpendicular
pictograph	picture	piece
pint	place	place value
plus	point/ on a graph/ of intersection	polygon
position	possible	pound
practice	predicting	prime number/factor
prism	probability	problem
product(s)	put	puzzle
<b>q</b>		
quadrilateral	quart	quarter
question	quick	quit
quiz	quotient	
<b>r</b>		
radius	range	Rate
ray	recall	rectangle
rectangular prism	recount	region
regrouping	related	relationship review



remainder	remove	rename
Repeated/addition	replace	right/angle
rewrite	ring	Roman numerals
rotate	rotation	row
row	round off	rule
ruler		
<b>s</b>		
same	same as	same number
sample	scale	scale drawing
second	second hand	segment
sentence	separate	series
set	seven	shown
seventh	several	shape
shapes	Sharp/er/est	sign(s)
side	similar	six
sixth	size	skill
skip	skip counting	sliding
slow/er/est	short/er/est	small/er/est
solve	some	speed
spend	square	standard
standard form	standard unit	straight
straight line	sum	subtract/ion
symbol	symmetry/trical	system
<b>t</b>		
table	take away	tall/er/est
temperature	ten(s)	tenth(s)
terminate	than	then
thermometer	these	third
this	thousand(s)	three
through/thru	time	times
telling time	today	ton
total	top	trace
trapezoid	triangle	trilateral
triangular prism	trace	true
turning	twice	two
two quarters		

<b>u</b>		
under	undo	underline
unit(s)	unit's place	unit cube
unlike	unlike	unlike denominator
unlike fractions	unlike terms	up
use		
<b>v</b>		
value	variable	vertex/ices
vertical	vertical axis	vertical bar graph
very	very much	volume
<b>w</b>		
watch	ways	weight
whole	which	Wide/er/est
word problem	written form	wrong
<b>y</b>		
yard		
yesterday	yard stick	yes
<b>z</b>		
zero		

## VOCABULARY GRADE 5

<b>a</b>		
abacus	about	above
above zero	across	acute angle
add	addend	addition
after	align	alike
algorithm	all	all in all
all together	altogether	almost
always	angle	amount
and	answer	anything
approximate/mation	area	arithmetic mean
around	arrange/ment	as many as/much
average	axis/axes	away
<b>b</b>		
back	balance	ball
bar	bar graph	base
batting average	because	before
begin	behind	below
beside	between	big/ger/est
billion(s)	blank(s)	boiling point
borrow	both	bottom
bound	box	bundle
by		
<b>c</b>		
calculator	calendar	can
centimeter	center	cents
cent sign	challenge	chance
change	chart	check
circumference	circle	circular
classify	clock	code
coin	color	column
collection	combination	common/multiples/factors
compare	comparison	complete
computation	compute	computer
computer	cone	congruent/angles
connect	convert	conversion
coordinate(s)	copy	corner
correct	cost	count
count down	count by	count up
cube	cubic	cup

cylinder		
<b>d</b>		
date	day/daily	decimal notation
decimeter/liter/gram	degree	denomination
denominator	develop	diagonal
diagram	diameter	difference
different	digit/digital	dime
dimension	direction/direct	distance
divide	dividend	division algorithm
divisor	do	dollar/sign
double	down	dozen
drawing		
<b>e</b>		
each	early	earn
eight	eighth	element
eleven	eliminate	empty
enough	equal(s)	equal parts
equation	equilateral triangle	equivalent/ fractions
estimate/estimation	even	everything
example	exercise	expanded
explore		
<b>f</b>		
fact	factor	factor tree
false	family of facts	far
far	farther/er/est	fast/er/est
feet	few/er/est	fifth
figure	fill	find
fine/er/est	first	five
flipping	flowchart	following
foot	form	four
fourth	fraction/machine	fraction notation
freezing point	front	full
function machine		
<b>g</b>		
gallon	geometry	get
give/en	gram/liter/meter	graph/paper
great/er/est	greatest common factor	group/ing
guess		

<b>h</b>		
half	has/have	heavy/ier/est
height	hexagon	high/er/est
horizontal	hour	hour hand
How/long/many	hundreds	hundredths
<b>i</b>		
in all	inches	incorrect
include	inside	intersect/ion
intersecting lines	interior	interest
into	inverse	isosceles triangles
<b>j</b>		
join	jot down	just/right
<b>k</b>		
kilogram/liter/meter	kite	know
<b>l</b>		
label	large/er/est	last
later	least	least common multiple/denominator
leave	left	length
less	less than	letter
light/er/est	like	likelihood
like fraction	like denominator	line/graph
line of symmetry	liter/gram/meter	little/er/est
long/er/est	looks	like/similar
low/er/est	lowest common multiple	lowest term
<b>m</b>		
made/make	many/more/most	mark
match	mean/meaning	measure
median	medium	member
meter/gram/liter	metric	middle
mile	millimeter/liter/gram	millions
millionths	minus	minute
minute hand	missing/addend	missing number
mixed fraction	mixed number	mode
money	month	more than
much	multi/digit	multiple
multiplication/tables	multiply	must

<b>n</b>		
name	nearest/foot/half/hundreds /tens/inch/ones/thousand	never
next	next number	nickel
nine	ninth	no
none/no more	not	not any
nothing	number	number line
number sentence	number story	numeral
numerator		
<b>o</b>		
objects	obtuse angle	o'clock
octagon	odd	of
on	one/half/less/more	one/quarter
one's	one tenth	only
open	operation	opposite
or	order/pair	ounce
outcome	outside	over
<b>p</b>		
pair	paper	parallel/line
parallelogram	parentheses	part of whole
partial/answer/product	partial sum	past
pattern	penny	perimeter
period	perpendicular	pi
pictograph	picture	piece
pint	place	place value
plus	point/on a graph/of intersection	polygon
position	possible	pound
practice	predicting	prime number/factor
probability	problem	product(s)
proportion	put	puzzle
pyramid		
<b>q</b>		
quadrilateral	quart	question
quick	quit	quiz
quotient		
<b>r</b>		
radius	range	rate
ratio	ray	reasonable
recall	reciprocal	rectangle
rectangle prism	recount	region

regrouping	related	relationship
remainder	remove	rename
repeated addition	replace	review
rewrite	right/angle	ring
Roman numeral	rotate	round/off
row	rule	ruler
<b>s</b>		
same	same as	same number
sample	scale	scale drawing
second	second hand	segment
sentence	separate	series
set	seven	seventh
several	shape(s)	sharp/er/est
shown	side	sign(s)
similar	six	sixth
size	skill	skip
skip counting	sliding	slow/er/est
short/er/est	small/er/est	solve
some	speed	square
standard form/unit	straight	straight line
subset	sum	subtract
subtraction	symbol	symmetrical
system		
<b>t</b>		
table	take away	tall/er/est
temperature	ten(s)	these
third	this	thousands
three	through/thru	time(s)/ telling time
today	ton	total
top	trace	trapezoid
triangle	triangular prism	trace
true	turning	twice
two	two quarters	
<b>u</b>		
under	undo	underline
unit(s)	unit cube	unit's place
unlike denominator	unlike fraction	up
use		

<b>v</b>		
value	variable	vertical/axis
vertical bar graph	very	volume
<b>w</b>		
watch	ways	weight
whole	which	wide/er/est/width
word problem	written form	wrong
<b>y</b>		
yard/stick	yes	yesterday
<b>z</b>		
zero		



## VOCABULARY GRADE 6

<b>a</b>		
abacus	about	above
abstract/symbols/signs/	account	across
action	activity	acute angle/triangle
add/addend/addition	after	algebra
align	alike	algorithm
all/all in all	all together	altogether
almost	always	angle/angular
amount	and	annexing
answer	any/anything	apart
approach/ing		
approximate/close to	approximation/numerical/ round up/round down/round to	arc/arc degree/sector/section
arrange/ment	area/surface area	around/perimeter
art/article/artist	as few as/fewer as	as long/high/wide/ as
as many as	as much as	assess
assessment	associate/associative property	average/mean
axis/axes/x-axis/y-axis		
<b>b</b>		
back/count backwards	balance/balancing equation	ball/sphere/spherical
bar/standard/code	bar graph	base(s)
basic/arithmetic facts	because	before/after
begin/start/	behind	below
beside/next to	between/among	big/ger/est
billion(s)	bisect/bisect/or	blank(s)/missing
block/block play		
boiling/freezing/melting point	borrow/borrowing/regrou ping/renaming	both/pair/double/two at a time
bottom/base	bound/boundary	Box/rectangular solid
bundle	by	
<b>c</b>		
calculate/calculator/calcul ation	calendar/time line/chronology of events	can/cylindrical
carrying/borrowing/regro uping/	cardinal number/cardinality	Celsius/centigrade
centimeter/liter/gram	center	cents
cent sign	challenge	chance

change	chart	check
circle	circular	classify
clock	code/symbols	coin
color	column	collection
combination	common/multiples/factors /form	communicate/communica tion
compare /comparison	complete/completion	computation
compute	computer/software	cone/conic/pyramid
congruent/angles/triangle s/shapes	connect/ion	construct/construction
continue/keep on		convention
convert/ing/conversion	coordinate(s)/coordinatin g/coordination	copy/duplicate/triplicate
corner	correct	cost
count	count up/down	count by
counting continuously	course/ of action	cross product
cube/cubic/cubical	cull/ing	cup/measure
curriculum	curve/open/closed	cylinder/cylindrical
<b>d</b>		
data/handling	date/chronology	day
decimal notation	decimal point	decimeter/liter/gram
degree	decameter/liter/gram	denomination
denominator/numerator	demonstrate	derive
describe	develop	diagram/graph
diameter	difference	different
difficult/y	digit/s/digital	dime/coin
dimension/s	direct/direction	display/show/demonstrate /notice board
distance	disjoint/sets	distributive property
divide/division	dividend	division/divisible/test
division algorithm	divisor	do
dollar/sign	double	down
dozen	drawing	
<b>e</b>		
each	early	earn
edge	eight	eighth
element	eleven/th	emerging/pattern
	environment/mathematica l	empty/set/null set
enough	equal(s)	equal parts
equation	equiangular triangle	equilateral triangle
equivalent/fractions	equivalent ratios	error/of measurement

estimate	estimation	even
everything	example	exercise
expanded/notation	explore/ation	exponent/exponential/powers
expressions	evaluate	evaluation
ever	every/one/thing	exemplar
example/model/counter		
<b>f</b>		
faces/solid	fact/ual	factor/ing
factor tree/prime factors	false/not true/incorrect	family of facts
far	farther/er/est	fast/er/est
feet/measurement	few/er/est	fifth
figure	fill/empty	find
fine/er/est	first	five/fifth
flipping	flow chart	
focus	following/ directions	foot/measurement
formula	foundation	four/fourth
fraction/part to whole/ machine/notation	free /play	
freezing point	frequency	frequency graph/table
front/face	full/er/est	function machine
<b>g</b>		
gallon		
general	geometry/geoboard	geometrical
get/ting the result	give/en	gram/liter/meter
graph/ic/ing/paper/chart	great circle	greater than
great/er/est	greatest common factor	group/ing
guess		
<b>h</b>		
half	has/have	heavy/ier/est
hectometer/liter/gram	height	hemisphere
hexagon	high/er/est	horizontal/axis
hour	hour hand	how
how long	how many in all	how many more
how much change	how much faster	hundreds
hundredths		
<b>i</b>		
identity/element	improper fraction	
imply/ing	in all	
inches	incorrect	include/inclusion
inequality	inside	integers/integrate
interest	inter/intra/interior	intersect/ion

intersecting lines	into	inverse/additive/multiplicative/invert
intuitive	involve	
isosceles triangles	irrational numbers	
<b>j</b>		
join	jot down/jottings/graphical marks	just/right
juxta-position		
<b>k</b>		
kilogram/liter/meter	know	kite
<b>l</b>		
label	large/er/est	last
later	least	least common multiple/denominator
leave	left	length
less	less than	letter
light/er/est	like	like denominator
likelihood	line/graph/segment	line of symmetry
liter/gram/meter	literal translation	little/er/est
logic	long/er/est	looks like/similar
low/er/est	lowest common multiple	lowest term
<b>m</b>		
made/make	many/more/most	mark/s/ing/s/down/up
match/up/ing	means/meaning	measure
median	medium	member
meter/gram/liter	metric/ton	middle/term
mile	millenium	millimeter/liter/gram
millions	millionths	minus
minute	minute hand	missing/addend
missing number	mixed fraction/number	mode
money	month	more than
much	multi/digit	multiple/s
multiplication/tables	multiply	must
<b>n</b>		
name/ing	nearest/foot/half/hundreds/tens/inch/ones/thousand	negation
negative number/ integer	never	next
network		
next number	nickel	nine
ninth	no	none/no more
not	not any	nothing

number	number line	number sentence
number story	numeral/Roman/Hindu-Arabic	numerator/denominator
<b>o</b>		
objects	obtuse angle triangle	o'clock
octagon	odd	of/off
on	one	one half
one less	one more	one quarter
one's	one tenth	only
open sentence	operations	opposites(s)
or	order/pair	order of operations
ordinal number	ounce	outcome
output	outside	over
overlapping		
<b>p</b>		
pair	paper	parallel
parallel lines	parallelogram	parentheses
part of a whole	partial	partial answer
partial product	partial sum	past
pattern	penny	pentagon
perimeter	period	period
perpendicular	pictograph	picture
piece	pint	place
place value	plane	plane-surface
plot	plus	point
point on a graph	point of intersection	polygon
polyhedron	position	positive integer
possible	pound	practice
precision	predict	prediction
prime number	prime factor	prism
probability	problem	problem solving
product(s)	proper fraction	proportion/ proportional
protractor	power/exponent	put
powers of ten	puzzle	pyramid
<b>q</b>		
quadrilateral	quart	quarter
question	quick	quit
quiz	quotient	
<b>r</b>		
Radius	range	rate
Ratio	rational number	ray

Recall	reciprocal	rectangle
Rectangular prism	recount	region
regrouping	related	relationship
remainder	remove	rename
repeat	repeated addition	repeated decimal
replace	replacement set	review
rewrite	rhombus	right
right angle	right triangle	ring
Roman numeral	rotate	rotation
round off	row	rule
rule		
<b>s</b>		
same	same as	same number
sample	scale	scale drawing
scalene triangle	second	second hand
segment	Semi-circle	sentence
separate	sequence	series
set	seventh	several
shape (s)	sharp/er/est	short/er/est
shown	side	sign(s)
similar	six	sixth
size	skill	skip
skip counting	sliding	slow/er/st
small circle	solve	some
space	space figure	speed
spend	sphere	square
square root	standard	standard form/unit
standard numeral	straight	straight line
straight edge	strategy	Stem and leaf graph
subscript		
subset	sum	subtract
subtraction	surface	surface area
symbol	symmetrical	system
<b>t</b>		
table	tables	take away
tall/er/est	temperature	ten
tens	tenth(s)	terminate/ terminating decimal
than	then	thermometer
these	third	this
thousands	thousandths	three

through/thru	times/telling time/chronology	tip/ping
today/tomorrow	ton	top/bottom
total	trace	translate
trapezoid	triangle	triangular prism
true	turning	twice
two	two qualifiers/quarters	turning
<b>u</b>		
under	undo	underline
unit(s)	unit circle	unit cube
units' place	unit space	unlike denominator
unlike value	unlike fraction	up
use		
<b>v</b>		
value	variable	vertex
vertices	vertical/vertical angle	vertical axis
vertical bar graph	volume	
<b>w</b>		
watch	ways	weight
whole	whole number	which
wide/er/est/width	word/problem	written/symbolic form
wrong/incorrect		
<b>y</b>		
yard/stick	yes	yesterday
<b>z</b>		
zenith	zero	

## DATA, PROBABILITY AND STATISTICS

<b>Analyze</b>	to study the data in order to determine a solution or outcome
<b>Bar Graph</b>	a graph that uses vertical or horizontal bars to show quantities/data
<b>Circle Graph</b>	uses sections/sectors of a circle to represent percentages of the data being shown
<b>Table/Chart</b>	an organized data involving two or more variables organized in a table form
<b>Data</b>	a group of facts, numbers, information
<b>Diagram</b>	a figure with geometrical and quantitative information
<b>Graph</b>	a picture that shows information in an organized way
<b>Graphing</b>	presentation of information in a pictorial way
<b>Interpret</b>	to explain or tell the meaning of the data presented
<b>Line Graph</b>	points are plotted on a grid to show two related pieces of data and then a line is drawn connecting consecutive points
<b>Mean</b>	the average or normal data for a given situation, divide the sum of the measure by the number of measures
<b>Median</b>	the middle number in a group of numbers listed in order from to largest
<b>Mode</b>	is the most frequently occurring data
<b>Picture Graph</b>	use pictures or drawings to represent the data that is being graphed
<b>Predict</b>	tell beforehand
<b>Probability</b>	the numerical measure of the number of times something can occur over the number of events that could possibly occur, represented in ratio form
<b>Ratio</b>	a comparison of two numbers or measures using division 2:4, 2 to 4, $\frac{2}{4}$
<b>Stem and Leaf</b>	best for data with a range of several decades, the plot is most frequently organized by tens, the tens become the “stem” of the plot, the units are the “leaves”
<b>Table</b>	a chart representing data
<b>Tally Chart</b>	a chart using notches, tallies



## GEOMETRY VOCABULARY LIST

<b>Angle</b>	two line segments that have the same endpoint
<b>Area</b>	the measure of a region, expressed in square units
<b>Capacity</b>	the amount of space that can be filled in a container; the measure of content
<b>Circle</b>	a plane figure in which all the points are the same distance for a point called the center.
<b>Circumference</b>	the perimeter of a circle
<b>Cone</b>	a 3-dimensional figure with one curved surface, one flat surface, one curved edge and one vertex
<b>Congruent</b>	two figures are congruent if they are identical
<b>Corner</b>	the point or place where converging lines, edges, or sides meet.
<b>Cube</b>	a space figure that has squares for all of its faces.
<b>Cylinder</b>	a space figure that has congruent circles for 2 faces.
<b>Degree</b>	a unit for measuring angles
<b>Diameter</b>	a chord that goes through the center of a circle
<b>Dimensions</b>	the lengths of sides of a geometric figure, the number of ways a figure can be measured
<b>Edge</b>	the line where two faces of a solid meet
<b>Endpoint</b>	a point marking either end of a line segment
<b>Equilateral</b>	a triangle with all sides the same length
<b>Face</b>	the name given to the flat surface of a solid or polyhedron
<b>Figure</b>	a closed shape in 2 or 3 dimensions
<b>Flat Face</b>	a level, unbroken surface
<b>Geometry</b>	the mathematics of the properties and relationships of points, lines, angles, surfaces, and solids
<b>Hexagon</b>	a shape with 6 straight sides and 6 angles, a regular hexagon has all its sides and angles the same size

<b>Intersecting lines</b>	two lines that have exactly one point in common
<b>Isosceles</b>	a triangle with two sides of equal length and two equal angles
<b>Line</b>	a straight path that is endless in both directions
<b>Line of symmetry</b>	a line on which a figure can be folded so that the two parts fit exactly
<b>Midpoint</b>	the point on a line segment that divides it into two congruent segments
<b>Octagon</b>	a polygon with 8 straight edges and 8 angles
<b>Obtuse</b>	an angle with a measure greater than 90 degrees and less than 180 degrees
<b>Parallel</b>	always the same distance apart
<b>Parallelogram</b>	a quadrilateral with two pairs of parallel and congruent sides
<b>Parallel Lines</b>	lines in the same plane that do not intersect
<b>Pentagon</b>	a polygon that has five sides
<b>Perimeter</b>	the distance around a figure
<b>Perpendicular</b>	forming right angles
<b>Plane figures</b>	figures that lie on a flat surface i.e.: square, circle, triangle
<b>Point</b>	a single exact location, often represented by a dot
<b>Polygon</b>	a closed figure consisting of straight line segments joined end to end
<b>Polyhedron</b>	a 3 dimensional figure in which all surfaces are polygons
<b>Prism</b>	a polyhedron with two ends exactly the same shape and size and parallel to each other
<b>Quadrilateral</b>	a four sided polygon, its four angles add up to 360 degrees
<b>Rectangle</b>	a plane figure with 4 sides and 4 right angles
<b>Rectangle Prism</b>	a space figure with six faces, it has a shape of a box
<b>Rhombus</b>	a quadrilateral which has four sides of equal length and whose opposite sides are parallel
<b>Right angles</b>	an angle that has the same shape as the corner of a square
<b>Scalene</b>	a triangle with no congruent sides

<b>Segment</b>	a straight path from one point to another
<b>Side</b>	a line segment connected to other segments to form a polygon, an edge of a polyhedron
<b>Space Figure</b>	a figure that is not flat but that has volume
<b>Sphere</b>	a space figure that has the shape of a round ball
<b>Square</b>	a plane figure that has four equal sides and four equal corners
<b>Symmetry</b>	a shape may have none, one, two or more lines of symmetry, this means there is a line that divides them into 2 equal parallel
<b>Trapezoid</b>	a quadrilateral with exactly two parallel sides
<b>Triangle</b>	a plane figure with three segments as sides
<b>Vertex</b>	the corner or point where three or more edges meet
<b>Volume</b>	the number of cubic units it takes to fill a figure

## Forming Symbols

In teaching any language to children, there is a great deal of emphasis placed on how to form the letters of the alphabet of that language. Strategies are taught to children how to remember efficiently, say them properly, identify them and then use them correctly. Since mathematics is a language, we should adopt the same care and methodology in forming the mathematics symbols and their representations. We should use sound and ergonomically accurate methods of writing mathematical symbols, letters, numbers and operational symbols. Today, there are many teachers at the early education (pre- and kindergarten level) who themselves were never taught to form letters, numbers and symbols correctly and therefore, they are neither interested nor able to teach the correct way of forming letters, symbols, and numbers.

