

Appendix 2

Vocabulary checklist

This vocabulary checklist is reproduced from the *Framework for teaching mathematics: Years 7, 8 and 9*, section 5, pages 2–9.

Vocabulary checklist

Year 7

This list contains the key words used in the Year 7 teaching programme and supplement of examples. Some words will be familiar to pupils in Year 7 from earlier work. For definitions of the words you will need to refer to a mathematical dictionary or to the National Curriculum glossary on the QCA website at www.qca.org.uk.

Applying mathematics and solving problems

answer
evidence
explain
explore
investigate
method
problem
reason, reasons
results
solution (of a problem)
solve
true, false

Numbers and the number system

Place value, ordering and rounding

approximate, approximately
approximately equal to (\approx)
between
compare
decimal number
decimal place
digit
equals (=)
greater than (>), less than (<)
greatest value, least value
most/least significant digit
nearest
order
place value
round
tenth, hundredth, thousandth
to one decimal place (to 1 d.p.)
value
zero place holder

Integers, powers and roots

classify
common factor
consecutive
divisible, divisibility
divisor
factor
factorise
highest common factor (HCF)
integer
lowest common multiple (LCM)
multiple
negative (e.g. -6)
plus, minus
positive (e.g. $+6$)
prime
prime factor
property
sign
square number, squared
square root
triangular number

Fractions, decimals, percentages, ratio and proportion

cancel, cancellation
convert
decimal fraction
equivalent, equivalence
fraction
lowest terms
mixed number
numerator, denominator
percentage (%)
proper/improper fraction
proportion
ratio, including notation 3 : 2
simplest form

Calculations

add, addition
amount
brackets
calculate, calculation
calculator: clear, display, enter,
key, memory,
change (money)
commutative
complements (in 10, 100)
currency
difference
discount
divide, division
double, halve
estimate
exact, exactly
exchange rate
factor
increase, decrease
inverse
multiply, multiplication
nearly
operation
order of operations
partition
product
quotient
remainder
rough, roughly
sale price
sign
subtract, subtraction
sum
total

Algebra

Equations, formulae and identities

algebra
brackets
commutative
equals (=)
equation
expression
evaluate
prove
simplify, simplest form
solution (of an equation)
solve (an equation)
squared
substitute
symbol
term
therefore (∴)
unknown
value
variable
verify

Sequences, functions and graphs

axis, axes
consecutive
continue
coordinate pair
coordinate point
coordinates
equation (of a graph)
finite, infinite
function
function machine
generate
graph
increase, decrease
input, output
mapping
 n th term
origin
predict
relationship, rule
sequence
straight-line graph
term
 x -axis, y -axis
 x -coordinate, y -coordinate

Shape, space and measures

Geometrical reasoning: lines, angles and shapes

adjacent (side)
angle: acute, obtuse, right, reflex
angles at a point
angles on a straight line
base (of plane shape or solid)
base angles
centre
circle
concave, convex
degree ($^{\circ}$)
diagonal
diagram
edge (of solid)
equal (sides, angles)
face
horizontal, vertical
identical (shapes)
intersect, intersection
line, line segment
opposite (sides, angles)
parallel
perpendicular
plane
point
polygon: pentagon, hexagon, octagon
quadrilateral: arrowhead, delta, kite, parallelogram, rectangle, rhombus, square, trapezium
regular, irregular
shape
side (of 2-D shape)
solid (3-D) shape: cube, cuboid, cylinder, hemisphere, prism, pyramid, square-based pyramid, sphere, tetrahedron
three-dimensional (3-D)
triangle: equilateral, isosceles, scalene, right-angled
two-dimensional (2-D)
vertex, vertices
vertically opposite angles

Transformations

axis of symmetry
centre of rotation
congruent
line of symmetry
line symmetry
mirror line
object, image
order of rotation symmetry
reflect, reflection
reflection symmetry
rotate, rotation
rotation symmetry
symmetrical
transformation
translate, translation

Coordinates

axis, axes
coordinates
direction
grid
intersecting, intersection
origin
position
quadrant
row, column
x-axis, y-axis
x-coordinate, y-coordinate

Construction and loci

construct
draw
measure
net
perpendicular
protractor (angle measurer)
ruler
set square
sketch

Measures and mensuration

area: square millimetre, square centimetre, square metre, square kilometre
capacity: millilitre, centilitre, litre; pint, gallon
length: millimetre, centimetre, metre, kilometre; mile
mass: gram, kilogram; ounce, pound
time: second, minute, hour, day, week, month, year, decade, century, millennium
temperature: degrees Celsius, degrees Fahrenheit
depth
distance
height, high
perimeter
surface, surface area
width

Handling data

average
bar chart
bar-line graph
class interval
data, grouped data
data collection sheet
database
experiment
frequency
frequency chart
frequency diagram
interpret
interval
label
mean
median
mode, modal class/group
pie chart
questionnaire
range
represent
statistic, statistics
survey
table
tally
title

Probability

certain, uncertain
chance, no chance, good chance, poor chance, fifty-fifty chance, even chance
dice
doubt
equally likely
fair, unfair
likelihood
likely, unlikely
outcome
possible, impossible
probability
probability scale
probable
random
risk
spin, spinner

Year 8

This list contains the new key words introduced in the Year 8 teaching programme and supplement of examples. Words from earlier years are also used. For definitions, refer to a mathematical dictionary or to QCA's glossary at www.qca.org.uk.

Applying mathematics and solving problems

conclude, conclusion
counter-example
deduce
exceptional case
justify
prove, proof

Numbers and the number system

Place value, ordering and rounding

ascending, descending
billion
index
power

Integers, powers and roots

cube, cube number
cube root (e.g. $\sqrt[3]{8}$)
cubed (e.g. 2^3)
prime factor decomposition
to the power of n (e.g. 6^4)

Fractions, decimals, percentages, ratio and proportion

direct proportion
recurring decimal
terminating decimal
unit fraction
unitary method

Calculations

associative
best estimate
degree of accuracy
distributive
interest
profit, loss
service charge
sign change key
tax
value added tax (VAT)

Algebra

Equations, formulae and identities

algebraic expression
collect like terms
formula, formulae
linear equation
linear expression
multiply out (expressions)
prove, proof
transform
verify

Sequences, functions and graphs

arithmetic sequence
difference pattern
flow chart
general term
gradient
intercept
linear function
linear relationship
linear sequence
notation $T(n)$
slope
steepness

Shape, space and measures

Geometrical reasoning: lines, angles and shapes

alternate angles
bisect, bisector
complementary angles
congruent, congruence
corresponding angles
elevation
equidistant
exterior angle
heptagon
interior angle
isometric
mid-point
plan view
prove, proof
supplementary angles
tessellate, tessellation
triangular prism
view

Transformations

centre of enlargement
enlarge, enlargement
map
plan
scale, scale factor
scale drawing

Construction and loci

compasses
construction lines
locus, loci
perpendicular bisector
straight edge

Measures and mensuration

bearing, three-figure bearing
displacement
foot, yard
hectare
tonne
volume: cubic millimetre,
cubic centimetre, cubic metre

Handling data

continuous
data log
discrete
distance–time graph
distribution
interrogate
line graph
population pyramid
primary source
sample
scatter graph
secondary source
stem-and-leaf diagram
two-way table

Probability

biased
event
experimental probability
sample
sample space
theoretical probability
theory

Year 9

This list contains the new key words introduced in the Year 9 teaching programme and supplement of examples. Words from earlier years are also used. For definitions, refer to a mathematical dictionary or to QCA's glossary at www.qca.org.uk.

Applying mathematics and solving problems

generalise
trial and improvement

Numbers and the number system

Place value, ordering and rounding

exponent
greater than or equal to (\geq)
less than or equal to (\leq)
significant figures
standard (index) form
upper bound, lower bound

Integers, powers and roots

index, indices
index law
index notation

Fractions, decimals, percentages, ratio and proportion

proportional to (\propto)
proportionality

Calculations

compound interest
constant
cost price, selling price
reciprocal

Algebra

Equations, formulae and identities

and, or
common factor
cubic equation
cubic expression
expand the product (of two linear expressions)
factorise
identically equal to (\equiv)
identity
index law
inequality
quadratic equation
quadratic expression
region
simultaneous equations
subject of the formula
take out common factors

Sequences, functions and graphs

cubic function
curve
first/second difference
identity function
inverse function
inverse mapping
quadratic function
quadratic sequence
maximum/minimum point
maximum/minimum value
self-inverse

Shape, space and measures

Geometrical reasoning: lines, angles and shapes

arc
centre (of circle)
chord
circumference
convention
cross-section
definition
derived property
diameter
hypotenuse
pi (π)
plane
projection
Pythagoras' theorem
similar, similarity
region
radius
region
section
sector
segment
similar, similarity
tangent (to a curve)

Transformations

axis of rotation symmetry
plane symmetry
plane of symmetry

Construction and loci

circumcentre
circumcircle
circumscribed
inscribed

Measure and mensuration

adjacent, opposite, hypotenuse
angle of depression
angle of elevation
density
pressure
sine (sin), cosine (cos), tangent (tan)
speed: miles per hour, metres per second

Handling data

bias
census
cumulative frequency
estimate of the mean/median
interquartile range
line of best fit
quartiles
raw data
representative (sample)

Probability

exhaustive
independent
limit
mutually exclusive
notation: $p(n)$ for probability of event n
relative frequency
tree diagram