Foundation Mathematics Five Year Learning Journey

WGSA
WEST GRANTHAM
Church of England Secondary Academy

Year 11

Autumn
- Area and volumes of solids.
- Trigonometry and Pythagoras
- Transformations
- Venn diagrams
- Vectors

Spring
- Sequences
- Equations and identities
- Ratio and proportion
- Probability
- Bespoke revision lessons

- A-level/BTEC/Other L3 at College or Sixth Form
- GCSE/Foundation Learning
- Apprenticeship
- Employment with Training

$$\frac{3}{4} : \frac{5}{8} : \frac{1}{2}$$

SOH CAH TOA

$x^2 + 5x + 4$

2n: 2 4 6 8 10 — 2n + 1

Year 10

AQA

Autumn
- Roots, indices, standard form, and inequalities.
- Plans and elevations
- Factorising and expanding quadratics

Spring
- Sequences: nth term
- Solving equations
- Calculating area
- Conjecturing with angles
- Graphs: y=mx+c

Summer
- Simultaneous equations.
- Probability: tree diagrams
- Line and bar graphs

$$2x + y = 12$$
$$6x + 5y = 40$$

$4x + 1 < 13$
$4x < 12$
$x < 3$

$y \propto \frac{1}{x}$
$y = k\left(\frac{1}{x}\right)$
$y = \frac{k}{x}$, for a constant k

Summer
- Solving linear simultaneous equations
- Probability—tree diagrams

Spring
- Sequences
- Solving linear inequalities
- Congruence
- Quadratic and cubic graphs

- Quadratics
- Direct and inverse proportion

Year 9

Autumn
- Indices, standard form and rounding.
- Constructions and loci

radius r
$C = 2\pi r$
$A = \pi r^2$

$a^m \times a^n = a^{m+n}$
$a^m \div a^n = a^{m-n}$
$(a^m)^n = a^{m \times n}$

Summer
- Circumference and area of circles
- Compound shapes
- Graphs

- Venn diagrams and frequency trees
- Histograms and scatter diagrams

What is the nth term?
1, 7 , 13, 19, 25,
6n -5

North
45°
A
B P 260°

percentage	fraction	decimal
30%	$\frac{3}{10}$	0.3

to go from a fraction to a percentage we can convert to a decimal first
3/5 → 0.6 → 60%

Summer
- Investigating angles
- Percentage change
- Solving linear equations

Spring
- Fractions, decimals and percentages
- Problems involving ratio
- Finding the nth term

- Enlargements and scales
- Plans, elevations ,bearings
- Introduction to probability
- Algebra—simplifying and factorising

- Highest common factor
- Lowest common multiple
- Significant figures
- Standard form

Year 8

$n < 2$
-1 0 1 2 3 4 5 n

(1,5)
y=5
(3,1)
y=1
x=3

a
a
Area = a x a

Find the HCF and LCM of 60 and 7?
2. HCF is made by multiplying all the 'pairs'
HCF = 2 X 2 X 3
60 = 2 X 2 X 3 X 5

Autumn

Summer
- Measuring shape
- Investigating angles
- Calculating with FDP

- Solving equations
- Calculating area and volume
- graph skills

- Presenting data
- Mode, Medium, mean and range

Year 7

19, 15, 11, 7, 3

5 x 4 = 20
factor of 20   factor of 20   multiple of 5
multiple of 4

5,734.912
hundreds ones tenths thousandths
thousands tens decimal point hundredths

1st significant figure
0.0701
2nd significant figure

Spring
- Introduction to algebra
- Fractions decimals and percentages
- Sequences and patterns

- Factors and multiples
- Primes, powers and patterns
- Calculating with integers and decimals

Autumn
- Place value
- Rounding and estimating
- Shape

50°
70°   x   120°

$2x + 4$

put over 100
$\frac{50}{100}$ ½ 50% 0.5
FRACTION PERCENTAGE DECIMAL
x top by 100, ÷ bottom

30
2   15
3   5

Declarative
I know that…

Procedural
I know how…

Conditional
I know when…