DoodleMaths and White Rose Maths Alignment

Year Group Overview Years 1 - 6

doodlelearning
By Discovery Education

Whether you're using Doodle in the classroom or setting homework, this guide shows how you can use DoodleMaths alongside White Rose Maths to boost pupil confidence and understanding.

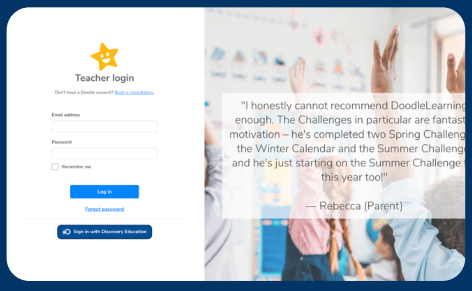
You'll find year-group overviews that show how DoodleMaths lessons complement White Rose Maths small steps, helping learners consolidate key skills through a little-and-often approach. Each lesson includes an ARE code (to show curriculum area) to make assignments easy to find and set.

You can follow quick steps in the dashboard to assign aligned lessons that support fluency, reasoning and problem-solving.

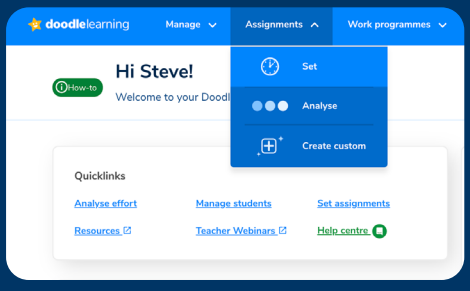
More information can be found here

Contents

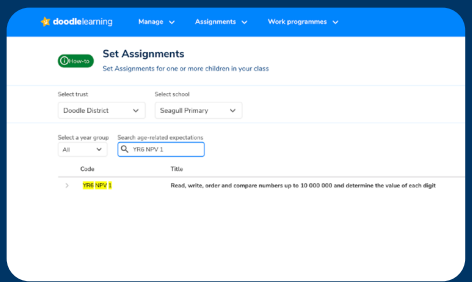
How to Set an Assignment



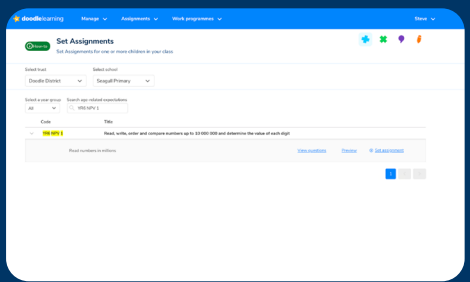
1. Log in to your **Doodle dashboard.**



2. Go to **Assignments** > **Set Assignment.**



3. Enter the **lesson name** or **ARE code** (e.g., YR6 NPV 1).



4. Click **Set Assignment.**

Year 1

Autumn

Curriculum Area: Place Value (within 10)

National Curriculum Links

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number

Compare numbers using <, >. and = signs

Read and write numbers from 1 to 20 in numerals and words

White Rose Maths Small Steps

Sort objects

Count objects

Count objects from a larger group

Represent objects

Recognise numbers as words

Count on from any number

1 more

Count backwards within 10

1 less

Compare groups by matching

Fewer, more, same

Less than, greater than, equal to

Compare numbers

Order objects and numbers

The number line

Suggested Doodle Lessons

EYFS NUM 2	Recognise and count 1-3
EYFS NUM 2	Recognise and count 4-6
EYFS NUM 2	Recognise and count 7-10
EYFS NUM 2	Build numbers to 10 in ten frames
EYFS NUM 5	Find 1 more or less than a given number 0-10
EYFS NUM 4	Compare amounts using more and less
EYFS NUM 4	Compare amounts using most and fewest
EYFS NUM 4	Compare numbers using greater than and less than
EYFS NUM 5	Order numbers 1-10

Curriculum Area: Addition and Subtraction (within 10)

National Curriculum Links

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs

Represent and use number bonds and related subtraction facts within 20

Add and subtract 1-digit and 2-digit numbers to 20, including 0

White Rose Maths Small Steps

Introduce parts and wholes

Part-whole model

Write number sentences

Fact families – addition facts

Number bonds within 10

Systematic number bonds within 10

Number bonds to 10

Addition – add together

Addition – add more

Addition problems

Find a part

Subtraction – find a part

Fact families – the eight facts

Subtraction – take away/cross out (How many left?)

Subtraction – take away (How many left?)

Subtraction on a number line

Add or subtract 1 or 2

Suggested Doodle Lessons

YR1 NAS 2	Number bonds to 4 and 5
YR1 NAS 2	Number bonds to 6 and 7
YR1 NAS 2	Number bonds to 8 and 9
YR1 NAS 2	Number bonds to 10
EYFS NUM 7	Add two 1-digit numbers using objects
YR1 NAS 1	Use ten frames in addition number sentences
YR1 NAS 1	Write and calculate mathematical statements (addition and subtraction)
YR1 NAS 1	Use ten frames for subtraction number sentences
EYFS NUM 7	Subtract using objects

Curriculum Area: Shape

National Curriculum Links	White Rose Maths Small Steps
Recognise and name common 2-D and 3-D shapes, including: • 2-D shapes (e.g. rectangles (including squares), circles, triangles) • 3-D shapes (e.g. cuboids (including cubes), pyramids, spheres)	Recognise and name 3-D shapes Sort 3-D shapes Recognise and name 2-D shapes Sort 2-D shapes Patterns with 2-D and 3-D shapes

Suggested Doodle Lessons

YR1 GEO 2	Recognise, name and describe basic 3D shapes
YR1 GEO 1	Recognise, name and describe basic 2D shapes

Year 1

Spring

Curriculum Area: Shape

National Curriculum Links	White Rose Maths Small Steps
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s Read and write numbers from 1 to 20 in numerals and words Given a number, identify 1 more and 1 less	Count within 20 Understand 10 Understand 11, 12 and 13 Understand 14, 15 and 16 Understand 17, 18 and 19 Understand 20 1 more and 1 less The number line to 20 Use a number line to 20 Estimate on a number line to 20 Compare numbers to 20 Order numbers to 20

Suggested Doodle Lessons

YR1 NPV 1	Recognise and count 11-15
YR1 NPV 1	Recognise and count 16-20
YR1 NPV 1	Count to and across 1-20

YR1 NPV 5	Read and write (in words) numbers from 1-20
YR1 NPV 3	Find 1 more or less than a given number 10-20
YR1 NPV 1	Compare and order numbers 11-20

Curriculum Area: Addition and Subtraction (within 20)

National Curriculum Links

Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs

Add and subtract 1-digit and 2-digit numbers to 20, including 0

Represent and use number bonds and related subtraction facts within 20

Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems

White Rose Maths Small Steps

Add by counting on within 20

Add ones using number bonds

Find and make number bonds to 20

Doubles

Near doubles

Subtract ones using number bonds

Subtraction – counting back

Subtraction – finding the difference

Related facts

Missing number problems

Suggested Doodle Lessons

YR1 NAS 3	Add 1-digit and 2-digit numbers to 20 by counting on
YR1 NAS 2	Number bonds to 20
YR1 NAS 2	Double numbers to 10
YR1 NAS 2	Doubling facts to 20
YR1 NAS 3	Subtract 1-digit numbers from 0 to 20 by counting back
YR1 NAS 3	Subtract 2-digit numbers using 0 to 20
YR1 NAS 4	Solve one-step problems that involve addition
YR1 NAS 4	Solve one-step problems that involve subtraction
YR1 NAS 4	Solve missing number problems using numbers up to 20

Curriculum Area: Place Value (within 50)

National Curriculum Links

Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number

Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s

Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least

Given a number, identify 1 more and 1 less

White Rose Maths Small Steps

Count from 20 to 50

20, 30, 40 and 50

Count by making groups of tens

Groups of tens and ones

Partition into tens and ones

The number line to 50

Estimate on a number line to 50

1 more, 1 less

Suggested Doodle Lessons

YR1 NPV 1	Count to and across 1-50

Curriculum Area: Length and Height

National Curriculum Links

Compare, describe and solve practical problems for: lengths and height; mass/weight; capacity and volume and time

Measure and begin to record the following: lengths and heights; mass/weight; capacity and volume and time

White Rose Maths Small Steps

Compare lengths and heights

Measure length using objects

Measure length in centimetres

Suggested Doodle Lessons

Y1 MEAS 2	Measure and record length and height in centimetres using a ruler
YR1 MEAS 1	Compare, describe and solve practical problems for length and height

Curriculum Area: Mass and Volume

National Curriculum Links	White Rose Maths Small Steps
Compare, describe and solve practical problems for: lengths and heights; mass/weight; capacity and volume and time Measure and begin to record the following: lengths and heights; mass/weight; capacity and volume and time	Heavier and lighter Measure mass Compare mass Full and empty Compare volume Measure capacity Compare capacity

Suggested Doodle Lessons

EYFS SSM 1	Use everyday language to talk about size, weight and capacity
YR1 MEAS 2	Measure mass and weight
YR1 MEAS 1	Compare, describe and solve practical problems for mass, capacity and volume

Year 1

Summer

Curriculum Area: Multiplication and Division

National Curriculum Links	White Rose Maths Small Steps
Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	Count in 2s Count in 10s Count in 5s Recognise equal groups Add equal groups Make arrays Make doubles Make equal groups – grouping Make equal groups – sharing

Suggested Doodle Lessons

YR1 NPV 2	Count in 2s
YR1 NPV 2	Count in 10s
YR1 NPV 2	Count in 5s

EYFS NUM 1	Identify groups with the same or an equal number of things
YR1 NPV 2	Recognise odd and even numbers
YR1 NMD 1	Solve one-step multiplication problems using pictures and arrays
YR1 NAS 2	Double numbers to 10
YR1 NAS 2	Doubling facts to 20
YR1 NMD 1	Solve one-step division problems using pictures and arrays
YR1 NAS 2	Recall halving facts up to 20
YR1 NAS 2	Solve problems up to 20 using halving

Curriculum Area: Fractions

National Curriculum Links

Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity

Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity

White Rose Maths Small Steps

Recognise a half of an object or a shape

Find a half of an object or a shape

Recognise a half of a quantity

Find a half of a quantity

Recognise a quarter of an object or a shape

Find a quarter of an object or a shape

Recognise a quarter of a quantity

Find a quarter of a quantity

Suggested Doodle Lessons

YR1 NFRA 1	Recognise, find and name a half or ½
YR1 NFRA 2	Recognise, find and name a quarter or ¼

Curriculum Area: Geometry (Position and Direction)

National Curriculum Links

Describe position, direction and movement, including whole, half, quarter and three-quarter turns

Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside (non-statutory guidance)

Practise counting (1, 2, 3...), ordering (for example, 1st, 2nd, 3rd...) (*non-statutory guidance*)

White Rose Maths Small Steps

Describe turns

Describe position – left and right

Describe position – forwards and backwards

Describe position – above and below

Ordinal numbers

Suggested Doodle Lessons	
YR1 GEOPD 1	Describe position, direction and movement including whole, ½, ¼ and ¾ turns
YR1 GEOPD 1	Use left, middle, right to describe position
EYFS SSM 2	Use above, below, top and bottom and other positional language
YR1 NPV 1	Recognise and use ordinal numbers

Curriculum Area: Place Value (within 100)

National Curriculum Links	White Rose Maths Small Steps
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	Count from 50 to 100 Tens to 100 Partition into tens and ones The number line to 100 1 more, 1 less Compare numbers with the same number of tens Compare any two numbers

Suggested Doodle Lessons	
YR1 NPV 1	Count to and across 1-100
YR1 NPV 2	Count in 10s
YR1 NPV 4	Identify and represent numbers using objects and number lines up to 100
YR1 NPV 2	Read and write numbers to 100 in numerals
YR1 NPV 3	Find 1 more or less than a given number 1-100
YR1 NPV 4	Use comparative mathematical language

Curriculum Area: Money

National Curriculum Links	White Rose Maths Small Steps
Recognise and know the value of different denominations of coins and notes Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s	Unitising Recognise coins Recognise notes Count in coins

Suggested Doodle Lessons

YR1 MEAS 3	Recognise and know the value of different coins: 1p, 2p, 5p, 10p
YR1 MEAS 3	Recognise and know the value of different coins: 20p, 50p, £1, £2
YR1 MEAS 3	Recognise and know the value of different notes: £5, £10, £20, £50

Curriculum Area: Time

National Curriculum Links

Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening)

Recognise and use language relating to dates, including days of the week, weeks, months and years

Compare, describe and solve practical problems for time

Compare, describe and solve practical problems for: lengths and heights; mass/weight; capacity and volume and time

Measure and begin to record the following: lengths and heights, mass/weight, capacity and volume and time.

Tell the time to the hour and half past the hour and draw the hands on a clockface to show these times

White Rose Maths Small Steps

Before and after

Days of the week

Months of the year

Hours, minutes and seconds

Tell the time to the hour

Tell the time to the half hour

Suggested Doodle Lessons

YR1 MEAS 4	Sequence events in order
YR1 MEAS 5	Recognise and use language relating to days of the week
YR1 MEAS 5	Recognise and use language relating to months of the year
YR1 MEAS 6	Tell the time: o'clock
YR1 MEAS 6	Tell the time: half past
YR1 MEAS 6	Tell the time: o'clock and half past

Year 2

Autumn

Curriculum Area: Place Value

National Curriculum Links

Read and write numbers from 1 to 20 in numerals and words (Year 1)

Read and write numbers to at least 100 in numerals and in words

Identify, represent and estimate numbers using different representations, including the number line

Recognise the place value of each digit in a 2-digit number (tens, ones)

Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward

Compare and order numbers from 0 up to 100; use <, > and = signs

White Rose Maths Small Steps

Numbers to 20

Count objects to 100 by making 10s

Recognise tens and ones

Use a place value chart

Partition numbers to 100

Write numbers to 100 in words

Flexibly partition numbers to 100

Write numbers to 100 in expanded form

10s on the number line to 100

10s and 1s on the number line to 100

Estimate numbers on a number line

Compare objects

Compare numbers

Order objects and numbers

Count in 2s, 5s and 10s

Count in 3s

Suggested Doodle Lessons

YR1 NPV 1	Count to and across 1-20
YR1 NPV 5	Read and write (in words) numbers from 1-20
YR2 NPV 2	Partition numbers to 100
YR2 NPV 5	Read and write numbers to at least 100
YR2 NPV 3	Identify, represent and estimate numbers up to 100
YR2 NPV 4	Compare and order numbers from 0 to 100
YR2 NPV 6	Use place value and number facts to solve problems
YR1 NPV 2	Count in 2s
YR1 NPV 2	Count in 5s
YR1 NPV 2	Count in 10s
YR2 NPV 1	Count in 3s

Curriculum Area: Addition and Subtraction

National Curriculum Links

Represent and use number bonds and related subtraction facts within 20 (Year 1)

Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100

Add and subtract numbers using concrete objects, pictorial representations, and mentally, including:

- a 2-digit number and 1s
- a 2-digit number and 10s
- two 2-digit numbers
- adding three 1-digit numbers

Compare and order numbers from 0 up to 100; use <, > and = signs

White Rose Maths Small Steps

Bonds to 10

Fact families – addition and subtraction bonds within 20

Related facts

Bonds to 100 (tens)

Add and subtract 1s

Add by making 10

Add three 1-digit numbers

Add to the next 10

Add across a 10

Subtract across 10

Subtract from a 10

Subtract a 1-digit number from a 2-digit number (across a 10)

10 more, 10 less

Add and subtract 10s

Add two 2-digit numbers (not across a 10)

Add two 2-digit numbers (across a 10)

Subtract two 2-digit numbers (not across a 10)

Subtract two 2-digit numbers (across a 10)

Mixed addition and subtraction

Compare number sentences

Missing number problems

Suggested Doodle Lessons

YR1 NAS 2	Number bonds to 10
YR1 NAS 2	Number bonds to 20
YR2 NAS 2	Recall addition and subtraction facts within 20 fluently
YR2 NAS 2	Use related addition and subtraction facts within 100
YR2 NAS 2	Bonds to 100 (multiples of 10)
YR2 NAS 1	Use calculation strategies: add 9
YR2 NAS 1	Use calculation strategies: subtract 9
YR2 NAS 1	Calculation strategies: add 3 numbers using bonds to 10
YR2 NAS 1	Calculate using near doubles to 20
YR2 NAS 3	Add a 2-digit number and a 1-digit number by adding to and across 10

YR2 NAS 3	Subtract a 1-digit number from a 2-digit number across a 10
YR2 NAS 3	Add a multiple of 10 to a 2-digit number
YR2 NAS 3	Subtract a multiple of 10 from a 2-digit number
YR2 NPV 1	Count in 10s from any number, forwards and backwards
YR2 NAS 3	Add two 2-digit numbers
YR2 NAS 3	Subtract two 2-digit numbers
YR2 NAS 1	Solve simple word problems using objects or pictures
YR2 NAS 5	Link addition and subtraction number facts
YR2 NAS 5	Recognise the inverse relationship between addition and subtraction
YR2 NAS 4	Understand the commutative property for addition and subtraction

Curriculum Area: Shape

National Curriculum Links

Identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line

Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces

Identify 2-D shapes on the surface of 3-D shapes

Compare and sort common 2-D and 3-D shapes and everyday objects

White Rose Maths Small Steps

Recognise 2-D and 3-D shapes

Count sides on 2-D shapes

Count vertices on 2-D shapes

Draw 2-D shapes

Lines of symmetry on shapes

Use lines of symmetry to complete shapes

Sort 2-D shapes

Count faces on 3-D shapes

Count edges on 3-D shapes

Count vertices on 3-D shapes

Sort 3-D shapes

Make patterns with 2-D and 3-D shapes

Suggested Doodle Lessons

YR2 GEOPS 4	Compare and sort common 2D and 3D shapes
YR2 GEOPS 1	Identify and name 2D shapes
YR2 GEOPS 1	Explore 2D shapes using lines of symmetry
YR2 GEOPS 2	Use mathematical language to explore properties of 3D shapes
YR2 GEOPS 3	Identify 2D shapes on 3D solids
YR2 GEOPD 1	Order and arrange mathematical objects in patterns and sequences

Year 2

Spring

Curriculum Area: Money

National Curriculum Links

Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value

Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change

Find different combinations of coins that equal the same amount

White Rose Maths Small Steps

Count money – pence

Count money – pounds (notes and coins)

Count money – pounds and pence

Choose notes and coins

Make the same amount

Compare amounts of money

Calculate with money

Make a pound

Find change

Two-step problems

Suggested Doodle Lessons

YR2 MEAS 3	Combine amounts to make values less than £1
YR2 MEAS 3	Combine amounts to make values greater than £1
YR2 MEAS 4	Find different combinations of coins that equal the same amounts of money
YR2 MEAS 3	Combine amounts to make £1
YR2 MEAS 5	Calculate change using coins including pound coins
YR2 MEAS 5	Solve simple problems related to money using addition and subtraction

Curriculum Area: Multiplication and Division

National Curriculum Links

Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs

Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

White Rose Maths Small Steps

Recognise equal groups

Make equal groups

Add equal groups

Introduce the multiplication symbol

Multiplication sentences

Use arrays

Make equal groups – grouping

Make equal groups – sharing

The 2 times-table

Divide by 2

Doubling and halving

	Odd and even numbers The 10 times-table Divide by 10 The 5 times-table Divide by 5 The 5 and 10 times-tables

Suggested Doodle Lessons

YR2 NMD 2	Use the x (multiply) symbol
YR2 NMD 4	Solve problems using multiplication (rather than repeated addition)
YR2 NMD 4	Link multiplication statements with repeated addition statements
YR3 NAS 1	Double numbers below 20
YR2 NMD 1	Recognise odd and even numbers to 100
YR2 NMD 1	Odd and even numbers in multiplication facts
YR2 NMD 4	Solve problems using multiplication facts
YR2 NMD 2	Use the ÷ (divide) symbol
YR2 NMD 2	Write and calculate mathematical statements (multiplication and division)
YR2 NMD 3	Understand the commutative property for multiplication and division
YR2 NMD 3	Use the inverse relationship between multiplication and division
YR2 NMD 4	Solve problems using division facts
YR2 NMD 1	Recall and use multiplication facts for the 2 times table
YR2 NMD 1	Recall and use division facts for the 2 times table
YR2 NMD 1	Recall and use multiplication facts for the 10 times table
YR2 NMD 1	Recall and use division facts for the 10 times table
YR2 NMD 1	Recall and use multiplication facts for the 5 times table
YR2 NMD 1	Recall and use division facts for the 5 times table

Curriculum Area: Length and Height

National Curriculum Links

Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels

Compare and order lengths, mass, volume/capacity and record the results using >, < and =

Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures

Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts

White Rose Maths Small Steps

Measure in centimetres

Measure in metres

Compare lengths and heights

Order lengths and heights

Four operations with lengths and heights

Suggested Doodle Lessons

YR1 MEAS 2	Measure and record length and height in centimetres using a ruler
YR2 MEAS 1	Use correct units and tools to measure length and height in any direction (m/cm)
YR2 MEAS 2	Compare and order lengths using the symbols >, < and =

Curriculum Area: Mass, Capacity and Temperature

National Curriculum Links

Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels

Compare and order lengths, mass, volume/capacity and record the results using >, < and =

White Rose Maths Small Steps

Compare mass

Measure in grams

Measure in kilograms

Four operations with mass

Compare volume and capacity

Measure in millilitres

Measure in litres

Four operations with volume and capacity

Temperature

Suggested Doodle Lessons

YR1 MEAS 2	YR2 MEAS 1 Use correct standard units and tools to measure mass (kilograms and grams)
YR2 MEAS 1	YR2 MEAS 1 Use correct standard units to measure capacity (litres and millilitres)
YR2 MEAS 2	YR2 MEAS 2 Compare and order mass, volume and capacity using the symbols >, < and =
YR2 MEAS 2	YR2 MEAS 1 Use correct standard units and tools to measure temperature (°C)

Year 2

Summer

Curriculum Area: Fractions

National Curriculum Links

Recognise, find, name and write fractions ⅓, ¼, ²⁄₄ and ¾ of a length, shape, set of objects or quantity

Write simple fractions, for example ½ of 6 = 3 and recognise the equivalence of ²⁄₄ and ½

White Rose Maths Small Steps

Introduction to parts and whole
Equal and unequal parts
Recognise a half
Find a half
Recognise a quarter
Find a quarter
Recognise a third
Find a third
Find the whole
Unit fractions
Non-unit fractions
Recognise the equivalence of a half and two-quarters
Recognise three-quarters
Find three-quarters
Count in fractions up to a whole

Suggested Doodle Lessons

YR3 NFRA 7	Recognise fractions as equal parts of a whole
YR1 NFRA 1	Recognise, find and name a half or ½
YR1 NFRA 2	Recognise, find and name a quarter or ¼
YR2 NFRA 2	Read simple fractions
YR2 NFRA 1	Recognise, find and write fractions for ⅓ or ⅔ of a shape or quantity
YR2 NFRA 1	Recognise, find and write fractions for ¼, ²⁄₄, ¾ of a shape or quantity
YR2 NFRA 2	Find ½, ⅓ and ¼ of a quantity
YR2 NFRA 2	Recognise the equivalence of ½ and ²⁄₄

Curriculum Area: Time

National Curriculum Links

Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clockface to show these times

Know the number of minutes in an hour and the number of hours in a day

Compare and sequence intervals of time

White Rose Maths Small Steps

O'clock and half past

Quarter past and quarter to

Tell the time past the hour

Tell the time to the hour

Tell the time to 5 minutes

Minutes in an hour

Hours in a day

Suggested Doodle Lessons

YR1 MEAS 6	Tell the time: o'clock and half past
YR2 MEAS 7	Tell the time: quarter past
YR2 MEAS 7	Tell the time: quarter to
YR2 MEAS 7	Tell the time: quarter past, quarter to
YR2 MEAS 7	Tell the time: 5 and 10 minutes past
YR2 MEAS 7	Tell the time: 5, 10, 20, 25 past the hour
YR2 MEAS 7	Tell the time: 5, 10, 20, 25 to the hour
YR2 MEAS 8	Know the number of minutes in an hour and the number of hours in a day
YR2 MEAS 6	Compare and sequence intervals of time

Curriculum Area: Statistics

National Curriculum Links

Interpret and construct simple pictograms, tally charts, block diagrams and simple tables

Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity

Ask and answer questions about totalling and comparing categorical data

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers

White Rose Maths Small Steps

Make tally charts

Tables

Block diagrams

Draw pictograms (1–1)

Interpret pictograms (1–1)

Draw pictograms (2, 5 and 10)

Interpret pictograms (2, 5 and 10)

Suggested Doodle Lessons

YR2 STAT 1	Interpret and construct simple tally charts and tables
YR2 STAT 1	Interpret and construct simple block diagrams
YR2 STAT 1	Interpret pictograms (1, 2, 5, 10)

Curriculum Area: Position and Direction

National Curriculum Links

Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)

White Rose Maths Small Steps

Language of position

Describe movement

Describe turns

Describe movement and turns

Shape patterns with turns

Suggested Doodle Lessons

YR1 GEOPD 1	Use left, middle, right to describe position
YR1 GEOPD 1	Describe position, direction and movement including whole, ½, ¼ and ¾ turns
YR2 GEOPD 2	Describe rotations in terms of right angles
YR2 GEOPD 2	Describe movement in a straight line using a compass

Year 3

Autumn

Curriculum Area: Place Value

National Curriculum Links

Identify, represent and estimate numbers using different representations

Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones)

Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number

Read and write numbers up to 1,000 in numerals and words

Compare and order numbers up to 1,000

White Rose Maths Small Steps

Represent numbers to 100

Partition numbers to 100

Number line to 100

Hundreds

Represent numbers to 1,000

Partition numbers to 1,000

Flexible partitioning of numbers to 1,000

Find 1, 10 or 100 more or less

Number line to 1,000

Estimate on a number line to 1,000

Compare numbers to 1,000

Order numbers to 1,000

Count in 50s

Suggested Doodle Lessons

YR2 STAT 1	YR2 NPV 5 Read and write numbers to at least 100
YR2 STAT 1	YR2 NPV 2 Partition numbers to 100
YR2 STAT 1	YR2 NPV 3 Identify, represent and estimate numbers up to 100
YR2 STAT 1	YR3 NPV 1 Count in 100s
YR2 STAT 1	YR3 NPV 5 Read numbers to 1,000
YR2 STAT 1	YR3 NPV 2 Partition numbers to 1,000
YR3 NPV 4	Identify, represent and estimate numbers up to 1,000
YR3 NPV 1	Find 10 more or less than a given number
YR3 NPV 1	Find 100 more or less than a given number
YR3 NPV 3	Compare and order numbers to 1,000
YR3 NPV 1	Count in 50s

Curriculum Area: Addition and Subtraction

National Curriculum Links

Add and subtract numbers mentally, including:

- a 3-digit number and ones
- a 3-digit number and tens
- a 3-digit number and hundreds

Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction

Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

Estimate the answer to a calculation and use inverse operations to check answers

White Rose Maths Small Steps

Apply number bonds within 10

Add and subtract 1s

Add and subtract 10s

Add and subtract 100s

Spot the pattern

Add 1s across a 10

Add 10s across a 100

Subtract 1s across a 10

Subtract 10s across a 100

Make connections

Add two numbers (no exchange)

Subtract two numbers (no exchange)

Add two numbers (across a 10)

Add two numbers (across a 100)

Subtract two numbers (across a 10)

Subtract two numbers (across a 100)

Add 2-digit and 3-digit numbers

Subtract a 2-digit number from a 3-digit number

Complements to 100

Estimate answers

Inverse operations

Make decisions

Suggested Doodle Lessons

YR2 NAS 2	Use related addition and subtraction facts within 100
YR3 NAS 1	Add and subtract 1s from a 3-digit number
YR3 NAS 1	Add and subtract 10s from a 3-digit number
YR3 NAS 1	Add and subtract 100s from a 3-digit number
YR3 NAS 1	Use calculation strategies: use adjusting to add
YR3 NAS 1	Use calculation strategies: use adjusting to subtract
YR3 NAS 1	Use calculation strategies: add 19
YR3 NAS 1	Use calculation strategies: subtract 19
YR3 NAS 2	Use column addition: 3-digit numbers
YR3 NAS 2	Use column addition: 3-digit numbers (with exchanging)

YR3 NAS 2	Use column subtraction: 3-digit numbers
YR3 NAS 2	Use column subtraction: 3-digit numbers (with exchanging in one column)
YR3 NAS 1	Bonds to 100 (multiples of 5)
YR3 NAS 1	Use number bonds to 100
YR3 NAS 3	Use inverse operations to check calculations
YR3 NPV 6	Solve word problems with addition and subtraction
YR3 NAS 4	Solve addition and subtraction missing number problems
YR3 NAS 4	Use the vocabulary for +
YR3 NAS 4	Use the vocabulary for -
YR3 NAS 1	Double numbers below 20
YR3 NAS 4	Add near-doubles below 50
YR3 NAS 1	Use calculation strategies: spotting near doubles below 20
YR3 NAS 1	Use calculation strategies: use bonds to 10 and 20 to add 3 or 4 numbers

Curriculum Area: Multiplication and Division A

National Curriculum Links

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods

Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot (Year 2)

Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward (Year 2)

Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers (Year 2)

Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables

White Rose Maths Small Steps

Multiplication – equal groups

Use arrays

Multiples of 2

Multiples of 5 and 10

Sharing and grouping

Multiply by 3

Divide by 3

The 3 times-table

Multiply by 4

Divide by 4

The 4 times-table

Multiply by 8

Divide by 8

The 8 times-table

The 2, 4 and 8 times-tables

Suggested Doodle Lessons

YR3 NMD 2	Use the vocabulary for multiplication and division
YR2 NMD 1	Recall and use multiplication facts for the 2 times table

YR2 NMD 1	Recall and use multiplication facts for the 5 times table
YR2 NMD 1	Recall and use multiplication facts for the 10 times table
YR3 NMD 2	Solve word problems involving multiplication (2, 5, 10 times tables)
YR2 NPV 1	Count in 3s
YR3 NPV 1	Count in 4s
YR3 NMD 1	Solve word problems involving multiplication (3, 4 times tables)
YR3 NPV 1	Count in 8s
YR3 NMD 1	Recall and use multiplication and division facts for the 8 times table
YR4 NMD 1	Recall multiplication and division facts for the 3, 4 and 8 times table

Year 3

Spring

Curriculum Area: Multiplication and Division B

National Curriculum Links

Recall and use multiplication facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers (Year 2)

Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods

Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m object

White Rose Maths Small Steps

Multiples of 10

Related calculations

Reasoning about multiplication

Multiply a 2-digit number by a 1-digit number – no exchange

Multiply a 2-digit number by a 1-digit number – with exchange

Link multiplication and division

Divide a 2-digit number by a 1-digit number – no exchange

Divide a 2-digit number by a 1-digit number – flexible partitioning

Divide a 2-digit number by a 1-digit number – with remainders

Scaling

How many ways?

Suggested Doodle Lessons

YR2 NMD 1	Recall and use multiplication facts for the 10 times table
YR3 NMD 2	Use partitioning to multiply: 2-digit numbers by 1-digit numbers

YR4 NMD 2	Divide 2-digit numbers by 1-digit numbers
YR3 NMD 2	Use remainders in division
YR4 NMD 2	Divide 2-digit numbers by 1-digit numbers, with remainders
YR3 NMD 3	Solve problems using positive integer scaling
YR3 NMD 2	Halve numbers below 40
YR3 NMD 2	Halve multiples of 10

Curriculum Area: Length and Perimeter

National Curriculum Links

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml

Measure the perimeter of simple 2-D shapes

White Rose Maths Small Steps

- Measure in metres and centimetres
- Measure in millimetres
- Measure in centimetres and millimetres
- Metres, centimetres and millimetres
- Equivalent lengths (metres and centimetres)
- Equivalent lengths (centimetres and millimetres)
- Compare lengths
- Add lengths
- Subtract lengths
- What is perimeter?
- Measure perimeter
- Calculate perimeter

Suggested Doodle Lessons

YR2 MEAS 1	Use correct units and tools to measure length and height in any direction (m/cm)
YR3 MEAS 1	Use metric units for mass, capacity, length
YR4 MEAS 1	Convert between metres and centimetres
YR3 MEAS 2	Work out perimeters by counting squares
YR4 MEAS 2	Calculate the perimeter of rectangles

Curriculum Area: Fractions A

National Curriculum Links

Recognise, find and write fractions of a discrete set of objects: unit fractions with small denominators

Compare and order unit fractions, and fractions with the same denominators

Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators

Recognise the equivalence of simple fractions compare and order unit fractions, and fractions with the same denominators

Recognise and show, using diagrams, equivalent fractions with small denominators

White Rose Maths Small Steps

Understand the denominators of unit fractions

Compare and order unit fractions

Understand the numerators of non-unit fractions

Understand the whole

Compare and order non-unit fractions

Fractions and scales

Fractions on a number line

Count in fractions on a number line

Equivalent fractions on a number line

Equivalent fractions as bar models

Suggested Doodle Lessons

YR3 NFRA 2	Use the terms ‘numerator’ and ‘denominator’
YR3 NFRA 7	Recognise fractions as equal parts of a whole
YR3 NFRA 6	Compare and order unit fractions
YR3 NFRA 2	Shade simple fractions
YR3 NFRA 3	Identify fractions
YR3 NFRA 3	Recognise fractions > 1/2
YR3 NFRA 4	Relate whole numbers to fractions
YR3 NFRA 4	Find equivalent fractions to 1/2
YR3 NFRA 4	Recognise equivalent fractions

Curriculum Area: Mass and Capacity

National Curriculum Links

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

White Rose Maths Small Steps

Use scales

Measure mass in grams

Measure mass in kilograms and grams

Equivalent masses (kilograms and grams)

Compare mass

Add and subtract mass

Measure capacity and volume in millilitres

Measure capacity and volume in litres and millilitres

Equivalent capacities and volumes (litres and millilitres)

	Compare capacity and volume Add and subtract capacity and volume

Suggested Doodle Lessons	
YR2 MEAS 1	Use correct standard units and tools to measure mass (kilograms and grams)
YR2 MEAS 1	Use correct standard units to measure capacity (litres and millilitres)
YR3 MEAS 1	Use metric units for mass, capacity, length
YR2 MEAS 2	Compare and order mass, volume and capacity using the symbols >, < and =

Year 3

Summer

Curriculum Area: Fractions B

National Curriculum Links	White Rose Maths Small Steps
Add and subtract fractions with the same denominator within one whole Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Add fractions Subtract fractions Partition the whole Unit fractions of a set of objects Non-unit fractions of a set of objects Reasoning with fractions of an amount

Suggested Doodle Lessons	
YR3 NFRA 5	Add fractions with the same denominator
YR4 NFRA 4	Add and subtract fractions with the same denominator
YR3 NFRA 2	Find 1/4 of a quantity
YR3 NFRA 2	Calculate unit fractions of quantities
YR4 NFRA 3	Calculate a fraction of a quantity

Curriculum Area: Money

National Curriculum Links	White Rose Maths Small Steps
Add and subtract amounts of money to give change, using both £ and p in practical contexts	Pounds and pence Convert pounds and pence Add money Subtract money Find change

Suggested Doodle Lessons

YR3 MEAS 3	Count using coins
YR3 MEAS 3	Convert pounds to pence
YR3 MEAS 3	Add and subtract amounts of money to give change

Curriculum Area: Time

National Curriculum Links

Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks

Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight

Know the number of seconds in a minute and the number of days in each month, year and leap year

Compare durations of events

White Rose Maths Small Steps

Roman numerals to 12

Tell the time to 5 minutes

Tell the time to the minute

Read time on a digital clock

Use am and pm

Years, months and days

Days and hours

Hours and minutes – use start and end times

Hours and minutes – use durations

Minutes and seconds

Units of time

Solve problems with time

Suggested Doodle Lessons

YR3 MEAS 4	Read the time on an analogue clock using Roman numerals
YR2 MEAS 7	Tell the time: 5, 10, 20, 25 to the hour
YR2 MEAS 7	Tell the time: 5, 10, 20, 25 past the hour
YR3 MEAS 5	Tell the time: to the minute
YR3 MEAS 4	Tell and write the time from a digital clock
YR3 MEAS 5	Understand the 12-hour clock
YR3 MEAS 6	Learn the number of days in each month, year and leap year
YR3 MEAS 7	Calculate and compare durations of events
YR3 MEAS 7	Calculate start and end times of events using durations
YR4 MEAS 6	Convert between hours, minutes, seconds, years, weeks and days
YR3 MEAS 4	Recognise the 24-hour clock

Curriculum Area: Shape

National Curriculum Links

Recognise angles as a property of shape or a description of a turn

Identify right angles, recognise that two right angles make a half turn, three make three-quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle

Measure the perimeter of simple 2-D shapes

Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them

Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

Identify horizontal and vertical lines and pairs of perpendicular and parallel lines

White Rose Maths Small Steps

Turns and angles

Right angles

Compare angles

Measure and draw accurately

Horizontal and vertical

Parallel and perpendicular

Recognise and describe 2-D shapes

Draw polygons

Recognise and describe 3-D shapes

Make 3-D shapes

Suggested Doodle Lessons

YR3 GEO 3	Identify right angles as 90 degrees and recognise turns in relation to right angles
YR3 GEO 2	Recognise right angles
YR3 GEO 4	Recognise horizontal and vertical lines
YR3 GEO 4	Recognise parallel and perpendicular lines and sides
YR3 GEO 1	Recognise and name polygons
YR3 GEO 1	Differentiate 2D and 3D shapes
YR3 GEO 1	Recognise cubes and cuboids
YR3 GEO 1	Identify the properties of pyramids
YR3 GEO 1	Recognise the properties of prisms

Curriculum Area: Statistics

National Curriculum Links

Interpret and present data using bar charts, pictograms and tables

Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables

White Rose Maths Small Steps

TInterpret pictograms

Draw pictograms

Interpret bar charts

Draw bar charts

Collect and represent data

Two-way tables

Suggested Doodle Lessons

YR2 STAT 1	Interpret pictograms (1, 2, 5, 10)
YR3 STAT 2	Read information from bar charts
YR3 STAT 1	Read information from tables

Year 4

Autumn

Curriculum Area: Place Value

National Curriculum Links

Read and write numbers up to 1,000 in numerals and words (Year 3)

Identify, represent and estimate numbers using different representations

Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) (Year 3)

Count in multiples of 6, 7, 9, 25 and 1000

Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones)

Find 1,000 more or less than a given number

Order and compare numbers beyond 1,000

Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value

Round any number to the nearest 10, 100 or 1,000

White Rose Maths Small Steps

Represent numbers to 1,000

Partition numbers to 1,000

Number line to 1,000

Thousands

Represent numbers to 10,000

Partition numbers to 10,000

Flexible partitioning of numbers to 10,000

Find 1, 10, 100, 1,000 more or less

Number line to 10,000

Estimate on a number line to 10,000

Compare numbers to 10,000

Order numbers to 10,000

Roman numerals

Round to the nearest 10

Round to the nearest 100

Round to the nearest 1,000

Round to the nearest 10, 100 or 1,000

Suggested Doodle Lessons

YR3 NPV 5	Read numbers to 1,000
YR3 NPV 2	Partition numbers to 1,000
YR3 NPV 4	Identify, represent and estimate numbers up to 1,000
YR4 NPV 1	Count in 1,000s
YR4 NPV 5	Read numbers below 10,000
YR4 NPV 4	Partition numbers to 10,000
YR4 NPV 2	Find 1,000 more or less than a given number
YR4 NPV 6	Identify, represent and estimate numbers using different representations includingmeasures beyond 1,000
YR4 NPV 9	Recognise Roman numerals to 100
YR4 NPV 7	Round numbers to the nearest 10 (numbers <100)
YR4 NPV 7	Round numbers larger than 100 to the nearest 10
YR4 NPV 7	Round numbers to the nearest 10 and 100 (up to and beyond 1,000)

YR4 NPV 7	Round numbers to the nearest 100 and 1,000 (up to and beyond 1,000)
YR4 NPV 8	Solve number and practical problems that involve place value with increasingly large positive numbers
YR4 NPV 1	Identify patterns in sequences with a common difference >5

Curriculum Area: Addition and Subtraction

National Curriculum Links

Add and subtract numbers with up to four digits using the formal written methods of column addition and subtraction where appropriate.

Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why

Estimate and use inverse operations to check answers to a calculation

White Rose Maths Small Steps

Add and subtract 1s, 10s, 100s and 1,000s

Add up to two 4-digit numbers – no exchange

Add two 4-digit numbers – one exchange

Add two 4-digit numbers – more than one exchange

Subtract two 4-digit numbers – no exchange

Subtract two 4-digit numbers – one exchange

Subtract two 4-digit numbers – more than one exchange

Efficient subtraction

Estimate answers

Checking strategies

Suggested Doodle Lessons

YR4 NAS 1	Add and subtract 10s from a 4-digit number (with exchanging)
YR4 NAS 1	Add and subtract 100s from a 4-digit number (with exchanging)
YR4 NAS 1	Use column addition: 3-digit numbers (with exchanging into the thousands)
YR4 NAS 1	Use column subtraction: 3-digit numbers (with exchanging)
YR4 NAS 1	Use column subtraction: 4-digit numbers (with exchanging)
YR4 NAS 3	Subtract from multiples of 100 or 1,000
YR4 NAS 2	Use inverse operations to check calculations
YR4 NAS 3	Solve addition and subtraction two-step problems

Curriculum Area: Area

National Curriculum Links

Find the area of rectilinear shapes by counting squares

White Rose Maths Small Steps

What is area?

Count squares

Make shapes

Compare areas

Suggested Doodle Lessons

YR4 MEAS 3	Calculate and compare areas by counting squares

Curriculum Area: Multiplication and Division A

National Curriculum Links

Recall multiplication and division facts for multiplication tables up to 12 × 12

Recognise and use factor pairs and commutativity in mental calculations

Count in multiples of 6, 7, 9, 25 and 1,000

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers

White Rose Maths Small Steps

Multiples of 3

Multiply and divide by 6

6 times-table and division facts

Multiply and divide by 9

9 times-table and division facts

The 3, 6 and 9 times-tables

Multiply and divide by 7

7 times-table and division facts

11 times-table and division facts

12 times-table and division facts

Multiply by 1 and 0

Divide a number by 1 and itself

Multiply three numbers

Suggested Doodle Lessons

YR5 NMD 1	Recognise multiples of 3
YR4 NMD 1	Recall multiplication and division facts for the 2, 5 and 10 times table
YR4 NMD 1	Recall multiplication and division facts for the 3, 4 and 8 times table
YR4 NMD 1	Recall multiplication and division facts for the 11 and 12 times table
YR4 NMD 1	Recall multiplication and division facts for the 6, 7 and 9 times table
YR4 NMD 2	Multiply by 1 and 0 and dividing by 1
YR4 NMD 2	Multiply 3 numbers
YR4 NPV 1	Count in 25s

Year 4

Spring

Curriculum Area: Multiplication and Division B

National Curriculum Links

Recognise and use factor pairs and commutativity in mental calculations

Recall multiplication and division facts for multiplication tables up to 12 × 12

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 (Year 5)

Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects

Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout

Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers

White Rose Maths Small Steps

Factor pairs

Use factor pairs

Multiply by 10

Multiply by 100

Divide by 10

Divide by 100

Related facts – multiplication and division

Informal written methods for multiplication

Multiply a 2-digit number by a 1-digit number

Multiply a 3-digit number by a 1-digit number

Divide a 2-digit number by a 1-digit number (1)

Divide a 2-digit number by a 1-digit number (2)

Divide a 3-digit number by a 1-digit number

Correspondence problems

Efficient multiplication

Suggested Doodle Lessons

YR4 NMD 3	Recognise and use factor pairs
YR4 NFRA 7	Divide numbers by 10 and 100 (including decimals)
YR4 NMD 2	Double numbers between 50 and 100
YR4 NMD 5	Solve problems using the distributive law to multiply 2-digit numbers by 1-digit numbers
YR4 NMD 4	Use column multiplication: 3-digit numbers by 1-digit numbers
YR4 NMD 4	Use column multiplication: 3-digit numbers by 1-digit numbers (with exchanging)
YR4 NMD 2	Divide 2-digit numbers by 1-digit numbers
YR4 NMD 2	Divide 2-digit numbers by 1-digit numbers, with remainders

Curriculum Area: Length and Perimeter

National Curriculum Links

Convert between different units of measure (for example, kilometre to metre; hour to minute)

Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres

White Rose Maths Small Steps

Measure in kilometres and metres

Equivalent lengths (kilometres and metres)

Perimeter on a grid

	Perimeter of a rectangle Perimeter of rectilinear shapes Find missing lengths in rectilinear shapes Calculate perimeter of rectilinear shapes Perimeter of regular polygons Perimeter of polygons

Suggested Doodle Lessons

YR4 MEAS 1	Convert between metres and centimetres
YR4 MEAS 2	Calculate the perimeter of rectangles
YR5 MEAS 3	Calculate perimeter of compound rectilinear shapes

Curriculum Area: Fractions

National Curriculum Links	White Rose Maths Small Steps
Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators (Year 3) Recognise and show, using diagrams, families of common equivalent fractions Add and subtract fractions with the same denominator	Understand the whole Count beyond 1 Partition a mixed number Number lines with mixed numbers Compare and order mixed numbers Understand improper fractions Convert mixed numbers to improper fractions Convert improper fractions to mixed numbers Equivalent fractions on a number line Equivalent fraction families Add two or more fractions Add fractions and mixed numbers Subtract two fractions Subtract from whole amounts Subtract from mixed numbers

Suggested Doodle Lessons

YR4 NFRA 4	Count in steps of 1/4
YR4 NFRA 1	Find equivalent fractions: 2/3 and ¾
YR5 NFRA 3	Convert mixed numbers to improper fractions
YR5 NFRA 3	Convert improper fractions to mixed numbers
YR4 NFRA 1	Identify equivalent fractions: 1/3, 1/4, 1/5, 1/10
YR4 NFRA 4	Add and subtract fractions with the same denominator

YR4 NFRA 3	Find ⅙, ⅐, ⅛ of a quantity
YR4 NFRA 3	Calculate a fraction of a quantity

Curriculum Area: Decimals A

National Curriculum Links

Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10 (Year 3)

Recognise and write decimal equivalents of any number of tenths or hundredths

Compare numbers with the same number of decimal places up to 2 decimal places

Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths

Count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10

White Rose Maths Small Steps

Tenths as fractions

Tenths as decimals

Tenths on a place value chart

Tenths on a number line

Divide a 1-digit number by 10

Divide a 2-digit number by 10

Hundredths as fractions

Hundredths as decimals

Hundredths on a place value chart

Divide a 1- or 2-digit number by 100

Suggested Doodle Lessons

YR3 NFRA 1	Count in, and work with, tenths
YR4 NFRA 5	Convert tenths from fractions to decimals
YR4 NFRA 2	Count in, and work with, hundredths
YR4 NFRA 5	Convert hundredths from fractions to decimals
YR4 NFRA 7	Divide numbers by 10 and 100 (including decimals)

Year 4

Summer

Curriculum Area: Decimals B

National Curriculum Links

Recognise and write decimal equivalents of any number of tenths or hundredths

Solve simple measure and money problems involving fractions and decimals to 2 decimal places

Compare numbers with the same number of decimal places up to 2 decimal places

Round decimals with 1 decimal place to the nearest whole number

Recognise and write decimal equivalents to ¼, ½ and ¾

White Rose Maths Small Steps

Make a whole with tenths

Make a whole with hundredths

Partition decimals

Flexibly partition decimals

Compare decimals

Order decimals

Round to the nearest whole number

Halves and quarters as decimals

Suggested Doodle Lessons

YR4 NFRA 5	Partition decimals
YR4 NFRA 5	Flexibly partition decimals
YR4 NFRA 9	Compare numbers with up to two decimal places
YR4 NFRA 8	Round decimals with one decimal place to the nearest whole number
YR4 NFRA 10	Solve problems involving fractions and decimals to two places
YR4 NFRA 6	Convert between fractions and decimals: 0.25, 0.5, 0.75

Curriculum Area: Money

National Curriculum Links

Estimate, compare and calculate different measures, including money in pounds and pence

Solve simple measure and money problems involving fractions and decimals to 2 decimal places

White Rose Maths Small Steps

Write money using decimals

Convert between pounds and pence

Compare amounts of money

Estimate with money

Calculate with money

Solve problems involving money

Suggested Doodle Lessons

YR4 NFRA 5	YR3 MEAS 3 Convert pounds to pence
YR4 NFRA 5	YR4 MEAS 4 Estimate, compare and calculate different measures, including money in pounds and pence

Curriculum Area: Time

National Curriculum Links

Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

Read, write and convert time between analogue and digital 12- and 24-hour clocks

White Rose Maths Small Steps

Years, months, weeks and days

Hours, minutes and seconds

Convert between analogue and digital times

Convert to 24-hour time

Convert from 24-hour time

Convert between units of time

Solve problems involving converting units of time

Suggested Doodle Lessons

YR4 MEAS 5	Convert between analogue and digital times
YR3 MEAS 5	Understand the 12-hour clock
YR3 MEAS 4	Recognise the 24-hour clock
YR4 MEAS 5	Understand the 24-hour clock
YR4 MEAS 6	Convert between hours, minutes, seconds, years, weeks and days

Curriculum Area: Shape

National Curriculum Links

Recognise angles as a property of shape or a description of a turn (Year 3)

Identify acute and obtuse angles and compare and order angles up to two right angles by size

Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes

Identify lines of symmetry in 2-D shapes presented in different orientations

Complete a simple symmetric figure with respect to a specific line of symmetry

White Rose Maths Small Steps

Understand angles as turns

Identify angles

Compare and order angles

Triangles

Quadrilaterals

Polygons

Lines of symmetry

Complete a symmetric figure

Suggested Doodle Lessons

YR3 GEO 3	Identify right angles as 90 degrees and recognise turns in relation to right angles
YR4 GEO 2	Identify and compare acute and obtuse angles
YR4 GEO 1	Recognise equal angles
YR4 GEO 1	Identify properties of shapes: equal length sides

YR4 GEO 1	Classify triangles
YR4 GEO 1	Classify quadrilaterals
YR4 GEO 3	Recognise shapes with reflective symmetry
YR4 GEO 4	Complete a simple symmetric figure with respect to a specific line of symmetry

Curriculum Area: Statistics

National Curriculum Links

Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs

Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

White Rose Maths Small Steps

Interpret charts

Comparison, sum and difference

Introduce line graphs

Interpret line graphs

Draw line graphs

Suggested Doodle Lessons

YR4 STAT 1	Recognise different types of data that can be presented in graphs and charts
YR4 STAT 2	Make calculations from bar charts
YR5 STAT 1	Interpret line graphs

Curriculum Area: Position and Direction

National Curriculum Links

Describe positions on a 2-D grid as coordinates in the first quadrant

Plot specified points and draw sides to complete a given polygon

Describe movements between positions as translations of a given unit to the left/right and up/down

White Rose Maths Small Steps

Describe position using coordinates

Plot coordinates

Draw 2-D shapes on a grid

Translate on a grid

Describe translation on a grid

Suggested Doodle Lessons

YR4 GEOPD 1	Describe and plot specified points on a 2D coordinate grid
YR4 GEOPD 2	Describe translations (no coordinate grid)

Year 5

Autumn

Curriculum Area: Place Value

National Curriculum Links

Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals

Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit

Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000

Solve number problems and practical problems involving the above

Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000

White Rose Maths Small Steps

Roman numerals to 1,000

Numbers to 10,000

Numbers to 100,000

Numbers to 1,000,000

Read and write numbers to 1,000,000

Powers of 10

10/100/1,000/10,000/100,000 more or less

Partition numbers to 1,000,000

Number line to 1,000,000

Compare and order numbers to 100,000

Compare and order numbers to 1,000,000

Round to the nearest 10, 100 or 1,000

Round within 100,000

Round within 1,000,000

Suggested Doodle Lessons

YR5 NPV 6	Read Roman numerals to M
YR4 NPV 5	Read numbers below 10,000
YR4 NPV 4	Partition numbers to 10,000
YR5 NPV 1	Read and write numbers to 1,000,000
YR5 NPV 2	Count in powers of 10
YR4 NPV 2	Find 1,000 more or less than a given number
YR5 NPV 1	Compare and order numbers to 1,000,000
YR4 NPV 7	Round numbers to the nearest 10 and 100 (up to and beyond 1,000)
YR4 NPV 7	Round numbers to the nearest 100 and 1,000 (up to and beyond 1,000)
YR5 NPV 4	Round numbers to the nearest 1,000, 10,000 or 100,000
YR5 NPV 4	Round numbers up to 1,000,000
YR5 NPV 5	Solve number problems and practical problems that involve place value of up to 1,000,000, increments of powers of 10 and rounding

Curriculum Area: Addition and Subtraction

National Curriculum Links

Add and subtract numbers mentally with increasingly large numbers

Add and subtract whole numbers with more than four digits, including using formal written methods (columnar addition and subtraction)

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000

Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy

White Rose Maths Small Steps

Mental strategies

Add whole numbers with more than four digits

Subtract whole numbers with more than four digits

Round to check answers

Inverse operations (addition and subtraction)

Multi-step addition and subtraction problems

Compare calculations

Find missing numbers

Suggested Doodle Lessons

YR5 NAS 2	Add and subtract mentally with increasingly large numbers
YR5 NAS 2	Use calculation strategies: adding and subtracting near multiples of 10, by adjustment
YR5 NAS 1	Use column subtraction: 4-digit and 5-digit numbers (with exchanging)
YR5 NAS 1	Use column addition and subtraction: 5-digit numbers
YR5 NAS 3	Estimate answers to addition and subtraction calculations
YR5 NAS 4	Solve two-step word problems
YR5 NAS 4	Solve addition and subtraction multi-step problems in contexts

Curriculum Area: Multiplication and Division A

National Curriculum Links

Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers

Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cube

Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers

Establish whether a number up to 100 is prime and recall prime numbers up to 19

White Rose Maths Small Steps

Multiples

Common multiples

Factors

Common factors

Prime numbers

Square numbers

Cube numbers

Multiply by 10, 100 and 1,000

Divide by 10, 100 and 1,000

Multiples of 10, 100 and 1,000

Recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000

Multiply and divide numbers mentally, drawing upon known facts

Suggested Doodle Lessons

YR5 NMD 1	Recognise multiples of 2, 5 and 10
YR5 NMD 1	Recognise multiples of 4
YR5 NMD 1	Recognise multiples of 3
YR5 NMD 1	Identify multiples and common multiples
YR5 NMD 1	Identify factors
YR5 NMD 1	Identify factors and common factors
YR5 NMD 3	Recognise prime numbers
YR5 NMD 2	Recognise prime factors
YR5 NMD 8	Recognise and use square and cube numbers
YR5 NMD 9	Solve problems involving factors and multiples, squares and cubes
YR5 NMD 5	Multiply by multiples of 10, 100 and 1,000
YR5 NMD 5	Multiply by 21, 201, 19, 199 etc

Curriculum Area: Fractions A

National Curriculum Links

Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths

Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number

Compare and order fractions whose denominators are all multiples of the same number

Add and subtract fractions with the same denominator, and denominators that are multiples of the same number

White Rose Maths Small Steps

Find fractions equivalent to a unit fraction

Find fractions equivalent to a non-unit fraction

Recognise equivalent fractions

Convert improper fractions to mixed numbers

Convert mixed numbers to improper fractions

Compare fractions less than 1

Order fractions less than 1

Compare and order fractions greater than 1

Add and subtract fractions with the same denominator

Add fractions within 1

Add fractions with total greater than 1

Add to a mixed number

	Add two mixed numbers Subtract fractions Subtract from a mixed number Subtract from a mixed number – breaking the whole Subtract two mixed numbers

Suggested Doodle Lessons	
YR5 NFRA 2	Identify equivalent fractions (with any denominator)
YR5 NFRA 3	Convert improper fractions to mixed numbers
YR5 NFRA 3	Convert mixed numbers to improper fractions
YR5 NFRA 1	Compare and order fractions with related denominators
YR5 NFRA 4	Add and subtract fractions with equivalent denominators
YR6 NFRA 3	Add and subtract fractions (change both denominators)
YR6 NFRA 3	Add and subtract fractions with mixed numbers (change one denominator)

Year 5

Spring

Curriculum Area: Multiplication and Division B

National Curriculum Links	White Rose Maths Small Steps
Multiply numbers up to four digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers Divide up to four digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context Solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes	Multiply up to a 4-digit number by a 1-digit number Multiply a 2-digit number by a 2-digit number (area model) Multiply a 2-digit number by a 2-digit number Multiply a 3-digit number by a 2-digit number Multiply a 4-digit number by a 2-digit number Solve problems with multiplication Short division Divide a 4-digit number by a 1-digit number Divide with remainders Efficient division Solve problems with multiplication and division

Suggested Doodle Lessons	
YR5 NMD 4	Use column multiplication: up to 4-digit numbers by 1-digit numbers (with exchanging)

YR5 NMD 4	Use long multiplication: 2-digit numbers by 2-digit numbers
YR5 NMD 4	Use long multiplication: 3-digit numbers by 2-digit numbers
YR5 NMD 6	Use short division: 3-digit numbers by 1-digit numbers, no remainders
YR5 NMD 6	Use short division: 3-digit numbers by 1-digit numbers, with remainders
YR5 NMD 6	Use short division: up to 4-digit numbers by 1-digit numbers, with remainders
YR5 NMD 9	Solve word problems involving multiplication and division
YR5 NMD 10	Understand the equals sign
YR5 NMD 10	Solve two-step word problems

Curriculum Area: Fractions B

National Curriculum Links

Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number (Year 4)

White Rose Maths Small Steps

Multiply a unit fraction by an integer
Multiply a non-unit fraction by an integer
Multiply a mixed number by an integer
Calculate a fraction of a quantity
Fraction of an amount
Find the whole
Use fractions as operators

Suggested Doodle Lessons

YR5 NFRA 5	Multiply proper fractions and mixed numbers by whole numbers
YR4 NFRA 3	Find ⅙, ⅐, ⅛ of a quantity
YR4 NFRA 3	Calculate a fraction of a quantity
KS3 NUM 11	Use a fraction to find the whole
YR5 NFRA 5	Use fractions as operators

Curriculum Area: Decimals and Percentages

National Curriculum Links

Read, write, order and compare numbers with up to 3 decimal places

Read and write decimal numbers as fractions

White Rose Maths Small Steps

Decimals up to 2 decimal places
Equivalent fractions and decimals (tenths)
Equivalent fractions and decimals (hundredths)
Equivalent fractions and decimals
Thousandths as fractions

National Curriculum Links	White Rose Maths Small Steps
Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25 Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents Solve problems involving numbers up to 3 decimal places Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place Recognise the per cent symbol (%) and understand that per cent relates to “number of parts per 100”, and write percentages as a fraction with denominator 100, and as a decimal fraction	Thousandths as decimals Thousandths on a place value chart Order and compare decimals (same number of decimal places) Order and compare any decimals with up to 3 decimal places Round to the nearest whole number Round to 1 decimal place Understand percentages Percentages as fractions Percentages as decimals Equivalent fractions, decimals and percentages

Suggested Doodle Lessons

YR4 NFRA 5	Convert tenths from fractions to decimals
YR4 NFRA 5	Convert hundredths from fractions to decimals
YR5 NFRA 7	Convert thousandths from fractions to decimals
YR5 NFRA 9	Compare numbers with up to three decimal places
YR5 NFRA 6	Convert between mixed numbers and decimals
YR4 NFRA 8	Round decimals with one decimal place to the nearest whole number
YR5 NFRA 8	Round decimals to one decimal place
YR5 NFRA 11	Recognise the percentage symbol and understand that percent means “out of 100”
YR5 NFRA 12	Solve problems involving percentages: 50% means half
YR5 NFRA 12	Solve problems which require knowing percentage and decimal equivalents to 1/4
YR5 NFRA 12	Find 10% of an amount
YR6 NFRA 11	Explore equivalent fractions, decimals and percentages

Curriculum Area: Perimeter and Area

National Curriculum Links	White Rose Maths Small Steps
Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	Perimeter of rectangles Perimeter of rectilinear shapes Perimeter of polygons Area of rectangles

Calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm²) and square metres (m²), and estimate the area of irregular shapes	Area of compound shapes Estimate area

Suggested Doodle Lessons	
YR4 MEAS 2	Calculate the perimeter of rectangles
YR5 MEAS 3	Calculate perimeter of compound rectilinear shapes
YR5 MEAS 4	Calculate the area of a rectangle
YR5 MEAS 4	Calculate the area of compound rectilinear shapes

Curriculum Area: Statistics

National Curriculum Links	White Rose Maths Small Steps
Solve comparison, sum and difference problems using information presented in a line graph Complete, read and interpret information in tables, including timetables	Draw line graphs Read and interpret line graphs Read and interpret tables Two-way tables Read and interpret timetables

Suggested Doodle Lessons	
YR5 STAT 1	Interpret line graphs
YR5 STAT 2	Read and interpret information in tables
YR5 STAT 2	Read and interpret information in timetables

Year 5

Summer

Curriculum Area: Shape

National Curriculum Links	White Rose Maths Small Steps
Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles Draw given angles, and measure them in degrees (°)	Understand and use degrees Classify angles Estimate angles Measure angles up to 180° Draw lines and angles accurately

National Curriculum Links	White Rose Maths Small Steps
Identify angles at a point and 1 whole turn (total 360°); angles at a point on a straight line and half a turn (total 180°) Use the properties of rectangles to deduce related facts and find missing lengths and angles Distinguish between regular and irregular polygons based on reasoning about equal sides and angles Identify 3-D shapes, including cubes and other cuboids, from 2-D representations	Calculate angles around a point Calculate angles on a straight line Lengths and angles in shapes Regular and irregular polygons 3-D shapes

Suggested Doodle Lessons

YR5 GEO 2	Classify angles: acute, obtuse, reflex, right
YR5 GEO 2	Estimate acute angles
YR5 GEO 2	Estimate obtuse angles
YR5 GEO 3	Measure acute angles
YR5 GEO 3	Measure obtuse angles
YR5 GEO 3	Measure reflex angles
YR5 GEO 4	Identify angles at a point and one whole turn, angles at a point on a straight lineand ½ turn, and other multiples of 90 degrees
YR5 GEO 4	Use the compass points: NE, SE, SW and NW
YR5 GEO 4	Calculate missing angles within a right angle
YR6 GEO 5	Calculate missing angles about a point
YR6 GEO 5	Calculate missing angles along straight lines
YR5 GEO 5	Use the properties of rectangles to find missing lengths
YR5 GEO 6	Recognise regular and irregular polygons
YR5 GEO 1	Identify 3D shapes from 2D representations

Curriculum Area: Position and Direction

National Curriculum Links	White Rose Maths Small Steps
Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	Read and plot coordinates Problem solving with coordinates Translation Translation with coordinates Lines of symmetry Reflection in horizontal and vertical lines

Suggested Doodle Lessons	
YR4 GEOPD 1	Describe and plot specified points on a 2D coordinate grid
YR4 GEOPD 2	Describe translations (no coordinate grid)
YR4 GEO 3	Recognise shapes with reflective symmetry

Curriculum Area: Decimals

National Curriculum Links

Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents

Solve problems involving number up to 3 decimal places

Read, write, order and compare numbers with up to 3 decimal places

Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000

White Rose Maths Small Steps

Use known facts to add and subtract decimals within 1

Complements to 1

Add and subtract decimals across 1

Add decimals with the same number of decimal places

Subtract decimals with the same number of decimal places

Add decimals with different numbers of decimal places

Subtract decimals with different numbers of decimal places

Efficient strategies for adding and subtracting decimals

Decimal sequences

Multiply by 10, 100 and 1,000

Divide by 10, 100 and 1,000

Multiply and divide decimals – missing values

Suggested Doodle Lessons	
YR5 NFRA 10	Add decimals (inc. use of place holders)
YR5 NFRA 10	Subtract decimals (inc. use of place holders)
YR5 NMD 7	Multiply and divide numbers by 10, 100 and 1,000
YR5 NMD 7	Multiply and divide numbers by 10, 100 and 1,000 (including decimals)

Curriculum Area: Negative Numbers

National Curriculum Links

Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero

White Rose Maths Small Steps

Understand negative numbers

Count through zero in 1s

Count through zero in multiples

Compare and order negative numbers

Find the difference

Suggested Doodle Lessons	
YR4 NPV 3	Count back through zero
YR5 NPV 3	Compare and order negative numbers
YR6 NPV 3	Calculate using negative numbers

Curriculum Area: Converting Units

National Curriculum Links	White Rose Maths Small Steps
Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints Solve problems involving converting between units of time	Kilograms and kilometres Millimetres and millilitres Convert units of length Convert between metric and imperial units Convert units of time Calculate with timetables

Suggested Doodle Lessons	
YR5 MEAS 1	Convert between millimetres and centimetres
YR5 MEAS 1	Convert between millilitres and litres
YR5 MEAS 1	Convert between grams and kilograms
YR5 MEAS 1	Convert between metres and centimetres
YR5 MEAS 1	Add centimetres and metres
YR5 MEAS 2	Convert between inches and feet
YR5 MEAS 2	Convert between inches, feet and centimetres
YR5 MEAS 6	Solve problems involving converting between units of time

Curriculum Area: Volume

National Curriculum Links	White Rose Maths Small Steps
Estimate volume (for example, using 1 cm^3 blocks to build cuboids including cubes) and capacity	Cubic centimetres Compare volume Estimate volume Estimate capacity

Suggested Doodle Lessons	
YR5 MEAS 5	Find the volume of a solid in cm^3

Year 6

Autumn

Curriculum Area: Place Value

National Curriculum Links

Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit

Solve number and practical problems that involve the above

Round any whole number to a required degree of accuracy

Use negative numbers in context, and calculate intervals across zero

White Rose Maths Small Steps

Numbers to 1,000,000

Numbers to 10,000,000

Read and write numbers to 10,000,000

Powers of 10

Number line to 10,000,000

Compare and order any integer

Round any integer

Negative numbers

Suggested Doodle Lessons

YR6 NPV 1	Read numbers in millions
YR5 NPV 4	Round numbers to the nearest 1,000, 10,000 or 100,000
YR6 NPV 2	Round numbers up to 1,000,000
YR6 NPV 3	Calculate using negative numbers
YR6 NPV 4	Solve number and practical problems that involve calculating intervals across zero

Curriculum Area: Addition, Subtraction, Multiplication and Division

National Curriculum Links

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Solve problems involving addition, subtraction, multiplication and division

Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

Identify common factors, common multiples and prime numbers

Multiply multi-digit numbers up to four digits by a 2-digit whole number using the formal written method of long multiplication

Perform mental calculations, including with mixed operations and large numbers

White Rose Maths Small Steps

Add and subtract integers

Common factors

Common multiples

Rules of divisibility

Primes to 100

Square and cube numbers

Multiply up to a 4-digit number by a 2-digit number

Solve problems with multiplication

Short division

Division using factors

Introduction to long division

Long division with remainders

Solve problems with division

Solve multi-step problems

Divide numbers up to four digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context

Divide numbers up to four digits by a 2-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context

Use their knowledge of the order of operations to carry out calculations involving the four operations

Order of operations

Mental calculations and estimation

Reason from known facts

Suggested Doodle Lessons

YR5 NAS 1	Use column addition and subtraction: 5-digit numbers
YR6 NASMD 5	Identify common factors and common multiples
YR6 NASMD 5	Identify prime numbers, composite numbers and prime factors
YR5 NMD 8	Recognise and use square and cube numbers
YR6 NASMD 4	Perform mental multiplication calculations, using partitioning and doubling/halving as strategies
YR6 NASMD 1	Use long multiplication: 3-digit numbers by 2-digit numbers
YR6 NASMD 1	Use long multiplication: 4-digit numbers by 2-digit numbers
YR6 NASMD 3	Use short division: 3-digit and 4-digit numbers by 2-digit numbers
YR6 NASMD 2	Interpret remainders in division as remainders, a decimal or a fraction appropriately, or round to an integer
YR6 NASMD 2	Use long division: 4-digit numbers by 2-digit numbers
YR6 NASMD 7	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use
YR6 NASMD 6	Use the order of operations (BODMAS or BIDMAS)
YR6 NASMD 9	Estimate answers to calculations using the four operations

Curriculum Area: Fractions A

National Curriculum Links

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

Compare and order fractions, including fractions > 1

Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

White Rose Maths Small Steps

Equivalent fractions and simplifying

Equivalent fractions on a number line

Compare and order (denominator)

Compare and order (numerator)

Add and subtract simple fractions

Add and subtract any two fractions

Identify common factors, common multiples and prime numbers Solve problems involving addition, subtraction, multiplication and division Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Add mixed numbers Subtract mixed numbers Multi-step problems

Suggested Doodle Lessons

YR6 NFRA 1	Simplify fractions
YR5 NFRA1	Compare and order fractions with related denominators
YR6 NFRA 2	Convert mixed numbers to improper fractions to compare
YR6 NFRA 2	Use division to convert improper fractions to mixed numbers
YR6 NFRA 3	Add and subtract fractions (change one denominator)
YR6 NFRA 3	Add and subtract fractions (change both denominators)
YR6 NFRA 3	Add and subtract fractions with mixed numbers (change one denominator)

Curriculum Area: Fractions B

National Curriculum Links	White Rose Maths Small Steps
Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams (Year 5) Multiply simple pairs of proper fractions, writing the answer in its simplest form Divide proper fractions by whole numbers Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Associate a fraction with division and calculate decimal fraction equivalents Solve problems involving addition, subtraction, multiplication and division	Multiply fractions by integers Multiply fractions by fractions Divide a fraction by an integer Divide any fraction by an integer Mixed questions with fractions Fraction of an amount Fraction of an amount – find the whole

Suggested Doodle Lessons

YR5 NFRA 5	Multiply proper fractions and mixed numbers by whole numbers
YR6 NFRA 4	Multiply fractions
YR6 NFRA 5	Divide a fraction by a whole number

YR6 NFRA 6	Find fractions of a quantity
KS3 NUM 11	Use a fraction to find the whole

Curriculum Area: Converting Units

National Curriculum Links

Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate

Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to 3 decimal places

White Rose Maths Small Steps

Metric measures
Convert metric measures
Calculate with metric measures
Miles and kilometres
Imperial measures

Suggested Doodle Lessons

YR5 MEAS 2	Convert between inches and feet
YR6 MEAS 2	Add g to kg, ml to l
YR6 MEAS 1	Solve problems involving the calculation and conversion of units of measure, up to 3 decimal places
YR6 MEAS 3	Convert between miles and kilometres
YR5 MEAS 2	Convert between inches, feet and centimetres

Year 6

Spring

Curriculum Area: Ratio

National Curriculum Links

Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts

Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples

Solve problems involving similar shapes where the scale factor is known or can be found

White Rose Maths Small Steps

Add or multiply?
Use ratio language
Introduction to the ratio symbol
Ratio and fractions
Scale drawing
Use scale factors
Similar shapes
Ratio problems
Proportion problems
Recipes

Suggested Doodle Lessons

YR6 RP 1	Express information as ratios
YR6 RP 1	Express a given ratio in its simplest form
YR6 RP 4	Divide in a given ratio
YR6 RP 3	Use transformations: describing enlargements
YR6 RP 3	Solve problems involving similar shapes
YR6 RP 1	Solve word problems involving proportion
YR6 RP 1	Solve two-step word problems involving proportion
YR5 MEAS 7	Use all four operations to solve problems involving measure using decimal notation, including scaling

Curriculum Area: Algebra

National Curriculum Links

Use simple formulae

Generate and describe linear number sequences

Find pairs of numbers that satisfy an equation with two unknowns

Enumerate possibilities of combinations of two variables

Express missing number problems algebraically

White Rose Maths Small Steps

1-step function machines
2-step function machines
Form expressions
Substitution
Formulae
Form equations
Solve 1-step equations
Solve 2-step equations
Find pairs of values
Solve problems with two unknowns

Suggested Doodle Lessons

YR6 ALG 2	Describe the rules of a sequence in words
YR6 ALG 3	Write algebraic expressions (1-step)
YR6 ALG 1	Substitute into an expression (1-step)
YR6 ALG 3	Write equations (1-step)
YR6 ALG 4	Find pairs of numbers that satisfy an equation with two unknowns and enumerate possibilities of combinations of two variables

Curriculum Area: Decimals

National Curriculum Links

Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to 3 decimal places

Solve problems which require answers to be rounded to specified degrees of accuracy

Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Multiply 1-digit numbers with up to 2 decimal places by whole numbers

Use written division methods in cases where the answer has up to 2 decimal places

White Rose Maths Small Steps

Place value within 1

Place value – integers and decimals

Round decimals

Add and subtract decimals

Multiply by 10, 100 and 1,000

Divide by 10, 100 and 1,000

Multiply decimals by integers

Divide decimals by integers

Multiply and divide decimals in context

Suggested Doodle Lessons

YR5 NFRA 9	Compare numbers with up to three decimal places
YR5 NFRA 8	Round decimals to one decimal place
YR6 NFRA 10	Solve problems which require answers to be rounded to specified degrees of accuracy
YR5 NFRA 10	Add decimals (inc. use of place holders)
YR5 NFRA 10	Subtract decimals (inc. use of place holders)
YR6 NFRA 7	Multiply and divide numbers by 10, 100 and 1,000 (including decimals to 3 d.p.)
YR6 NFRA 8	Multiply a decimal by a whole number
YR6 NFRA 8	Multiply a decimal by a whole number using column multiplication

Curriculum Area: Fractions, Decimals and Percentages

National Curriculum Links

Use common factors to simplify fractions; use common multiples to express fractions in the same denomination

Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction

Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

Compare and order fractions, including fractions >1

Solve problems involving the calculation of percentages and the use of percentages for comparison

White Rose Maths Small Steps

Decimal and fraction equivalents

Fractions as division

Understand percentages

Fractions to percentages

Equivalent fractions, decimals and percentages

Order fractions, decimals and percentages

Percentage of an amount – one step

Percentage of an amount – multi-step

Percentages – missing values

Suggested Doodle Lessons	
YR6 NFRA 7	Convert thousandths from fractions to decimals
YR6 NFRA 6	Convert any fraction to a decimal using short division
YR6 NFRA 11	Convert fractions to percentages
YR6 NFRA 11	Convert percentages to fractions and simplify
YR6 NFRA 11	Explore equivalent fractions, decimals and percentages
YR6 NFRA 11	Order and compare fractions, decimals and percentages
YR5 NFRA 12	Find 10% of an amount
YR6 RP 2	Find 1% of an amount
YR6 RP 2	Find 2%, 3% and 4% of an amount
YR6 RP 2	Use 10% to find other percentages of a quantity
YR6 RP 2	Use percentages: increase and decrease amounts by 10% or multiples of 10%
YR6 RP 2	Find percentages of a quantity

Curriculum Area: Area, Perimeter and Volume

National Curriculum Links	White Rose Maths Small Steps
Recognise that shapes with the same areas can have different perimeters and vice versa Recognise when it is possible to use formulae for area and volume of shapes Calculate the area of parallelograms and triangles Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units	Shapes – same area Area and perimeter Area of a triangle – counting squares Area of a right-angled triangle Area of any triangle Area of a parallelogram Volume – counting cubes Volume of a cuboid

Suggested Doodle Lessons	
YR6 MEAS 4	Recognise that shapes with the same areas can have different perimeters and vice versa
YR6 MEAS 6	Calculate the area of a triangle
YR6 MEAS 6	Calculate the area of a parallelogram
YR6 MEAS 7	Calculate the volume of a cuboid

Curriculum Area: Statistics

National Curriculum Links	White Rose Maths Small Steps
Interpret and construct pie charts and line graphs and use these to solve problems Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs (Year 4) Calculate and interpret the mean as an average	Line graphs Dual bar charts Read and interpret pie charts Pie charts with percentages Draw pie charts The mean

Suggested Doodle Lessons

YR5 STAT 1	Interpret line graphs
YR6 STAT 1	Read pie charts
YR6 STAT 2	Find the mean (averages)

Year 6

Summer

Curriculum Area: Shape

National Curriculum Links	White Rose Maths Small Steps
Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles Draw given angles, and measure them in degrees (°) (Year 5) Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles (Year 5) Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Draw 2-D shapes using given dimensions and angles Recognise, describe and build simple 3-D shapes, including making nets	Measure and classify angles Calculate angles Vertically opposite angles Angles in a triangle Angles in a triangle – special cases Angles in a triangle – missing angles Angles in a quadrilateral Angles in polygons Circles Draw shapes accurately Nets of 3-D shapes

Suggested Doodle Lessons	
YR5 GEO 2	Classify angles: acute, obtuse, reflex, right
YR6 GEO 5	Calculate missing angles along straight lines
YR6 GEO 5	Calculate missing angles about a point
YR6 GEO 5	Calculate vertically opposite angles
YR6 GEO 3	Calculate missing angles in triangles
YR6 GEO 3	Calculate missing angles in a quadrilateral
YR6 GEO 3	Recognise congruent shapes
YR6 GEO 4	Name parts of a circle
YR6 GEO 2	Use the vocabulary associated with 3D shapes: vertex, edge, face
YR6 GEO 2	Recognise nets of 3D shapes

Curriculum Area: Position and Direction

National Curriculum Links	White Rose Maths Small Steps
Describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes	The first quadrant Read and plot points in four quadrants Solve problems with coordinates Translations Reflections

Suggested Doodle Lessons	
YR6 GEOPD 1	Describe positions on the full coordinate grid (all four quadrants)
YR6 GEOPD 2	Use transformations: describing translations (with coordinate grid)
YR6 GEOPD 2	Use transformations: describing reflections