Year 6 Maths Curriculum 2017-2018

Project Based Learning

PROJECT 1: POPULATION GROWTH

Numbers and the Number System 1

- Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit
- Round any whole number
- Interpret and construct line graphs

PROJECT 2: 'IF THE WORLD WERE A VILLAGE'

Measurement 1: Activity 5

Calculating 5

- Solve problems involving the calculation of percentages - *decimals*
- Interpret and construct pie charts - *angles*

Deprivation reports

OUTCOME: Create a story book 'If Portsmouth were a village'

PROJECT 3: MATHS IN THE STARS

Calculating 1: Activity 1

Calculating 3: Activity 1 & 2

Measures 1: Activity 3 & 4

Explore the temperatures on different planets, using place value and show data on line graphs. Explore distance/time graphs when looking at distance of each planet, how long would it take us to get to the moon and how much would it cost? Draw the constellations and explore shapes that stars make.

- Use negative numbers in context
- Convert between miles and kilometres
- Draw 2D shapes using given dimensions and angles
- Round any number

PROJECT 4: SPIRALLING DECIMALS - PI

Investigating 4

Calculating 8

Explore recurring decimals, recap divisions which result in fractions (2 ÷ 3), look at the fraction approximation for Pi, and look at decimal and fraction numberlines.

- Associate a fraction with a division and calculate decimal fraction equivalents
- Identify the value of each digit up to 3 dp

PROJECT 5: MATHS IN NATURE

Pattern & Algebra 2

Calculating 1: Activity 1 & 2

Numbers and the Number System 2: Activity 4

Explore Fibonacci Rabbit Problem, the golden ratio (1:1.618), look at fraction equivalence (continued from work on Pi).

- Generate and describe linear number sequences
- Compare and order fractions >1

PROJECT 6: BRYONY'S TRIANGLE

Numbers and the Number System 2: Activity 1

Calculating 12

Calculating 7: Activity 3

Build a giant fraction wall based on the relationships on the original flower. What fraction of the original square of paper is the shaded triangle?

- Compare and order fractions
- Multiply simple pairs of proper fractions
- Divide proper fractions by whole numbers

"1/3 is twice as big as 1/6

So… 1/3 ÷ 2 = 1/6

1/6 x 2 = 1/3

1/3 x ½ = 1/6"

https://nrich.maths.org/7392

Folding paper activity (WIM)

PROJECT 7: FOUR COLOURS

Measurement 2

Numbers and the Number System 2: Activity 3

Calculating 8

Can you colour a world map using only 4 colours, so that no adjacent countries are the same colour? Create a 100 square with 4 colours. Look at 'Colour on a large wall' for inspiration.

- Recall and use equivalences between simple fractions, decimals and percentages
- Calculate the area of parallelograms and triangles
- Recognise when it is possible to use formula for area
- Use common factors to simplify fractions

PROJECT 8: SHAPE SHIFTING – PICK'S THEOREM

Investigating 1: Activity 1 & 2

Measures 3

Investigating 1: Activity 3

- Calculate the area of parallelograms and triangles
- Recognise, describe and build simple 3D shapes

PROJECT 9: VOLUME 216

Measures 4: Activity 1-4

The Volume is 216.

- Recognise when it is possible to use the formula for volume of shapes
- Calculate, estimate and compare volume
- Scale factor

PROJECT 10: PASCAL'S TRIANGLE

Pattern & Algebra 3 & 4

- Use simple formulae
- Express missing number problems algebraically
- Find pairs of numbers that satisfy an equation with two unknowns
- Enumerate possibilities of combinations of two variables

WIM

PROJECT 11: RACING STRIPES

Geometry 2

Measures 1: Activity 1 & 2

Children will take a trip to the race track and explore race times on the inside and outside of the track. Watch a video: Olympic 1500m. Children record their own times to analyse. Why are the middle tracks favoured by runners? Explore geese formation, slip stream and cycling.

- Calculate and interpret the mean as an average
- Illustrate and name parts of a circle

PROJECT 12: BATTLESHIPS

Geometry 3

- Describe positions on the full co-ordinate grid
- Draw and translate simple shapes on the co-ordinate plane and reflect them in the axis
- Converting length

PROJECT 13: COOKIE MONSTER

- Ratio
- Scaling
- Mass & conversion
- Capacity