The Creative Learning Journey

Mr Robotics Swans

Teacher: hreeves
School: St Mary's

Wow Starter: Someone arrives at school...

Final Event: A computer programming experience.

MATHEMATICS AND COMPUTING

Number - number and place value LKS2
- **m80** count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- **m81** recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- **m82** compare and order numbers up to 1000
- **m83** identify, represent and estimate numbers using different representations
- **m84** read and write numbers up to 1000 in numerals and in words
- **m85** solve number problems and practical problems involving these ideas.

Number - addition and subtraction LKS2
- **m86** add and subtract numbers mentally, including:
- **m87** a three-digit number and ones
- **m88** a three-digit number and tens
- **m89** a three-digit number and hundreds
- **m90** add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- **m91** estimate the answer to a calculation and use inverse operations to check answers
- **m92** solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.

Measurement LKS2
- **m105** add and subtract amounts of money to give change, using both £ and p in practical contexts

Geometry - properties of shapes LKS2
- **m110** draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- **m111** recognise angles as a property of shape or a description of a turn
- **m112** 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
- **m113** identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Statistics LKS2
- **m114** interpret and present data using bar charts, pictograms and tables
- **m115** solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.

Geometry - position and direction LKS2
- **m153** describe positions on a 2-D grid as coordinates in the first quadrant

LKS2
- **co14** I can design, write and debug simple programs to control or simulate physical systems
- **co15** I can solve problems by breaking them down into progressive steps
- **co16** I am aware that programs follow a sequence from one instruction to the next
- **co19** I know that a variable is a piece of stored information (numbers or a 'string' i.e. a sequence of characters)
- **co20** I can use a variety of inputs (keyboards/keypads/switches) to enter data into a program
- **co29** I know the rules for keeping safe on the internet and how to be a responsible internet user
- **co30** I know what is acceptable content and behaviour on the internet and what to do if I am, or any of my friends are, a victim of any inappropriate on-line behaviour

EXPRESSIVE ARTS AND DESIGN

Technical knowledge LKS2
- **dt44** I know how to use gears and pulleys in my designs
- **dt45** I know how to use cams in my designs
- **dt46** I know how to use levers and linkages in my designs
- **dt48** I can use computing to programme, monitor and control my product

LKS2
- **mu11** I can sing in a group, or on my own, with expression, awareness of others and in tune
- **mu12** I can play instruments with accuracy and control
- **mu13** I can play instruments with fluency and expression to reflect the intentions of the music
- **mu15** I can compose pieces of music using the dimensions and elements of music expressively

Statistics
Solve one-step and two-step questions ('How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables.
- interpret and construct simple block graphs
- ask and answer questions about totalling and comparing categorical data.
-Objects can be sorted into a given large scale Venn or Carroll diagram with support.
-Objects and pictures are used to create simple block diagrams and pictograms with support.

Addition and Subtraction
Using a range of strategies to add numbers together.
Working out problems linked to addition and subtraction.
Learning more formal methods to show recording of calculation and workings.

Shape and Position, Movement
Recapping properties of 2D and 3D shapes.
Identifying angles in 2D shapes.
Understanding different types of turns; half turn, quarter turn, whole turn.
Beginning to understand what co-ordinates are.

Computing
We will be look at how you can program devices and software to make something more and react. To start understanding what coding looks like and what it can do.

Year 3
We will be compare how things move on different surfaces and noticing that some forces need contact between two objects, but magnetic forces can act at a distance.
We will observe how magnets attract or repel each other and attract some materials and not others. We will also compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. We will be able to describe magnets as having two poles

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Our focus for Religious Education will be studying the Jewish Faith and learning facts about Jewish celebration and discussing some associated values within Judaism itself.

We will be making moving books which will have different types of levers and joins to make things move. This will link to Robots!

We will evaluate our models discuss what we could do differently.

UNDERSTANDING THE WORLD

Forces and magnets LKS2
- **sc55** compare how things move on different surfaces
- **sc56** notice that some forces need contact between two objects, but magnetic forces can act at a distance
- **sc57** observe how magnets attract or repel each other and attract some materials and not others
- **sc58** compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- **sc59** describe magnets as having two poles
- **sc60** predict whether two magnets will attract or repel each other, depending on which poles are facing.

PSED & RELIGIOUS EDUCATION

PSED Developing good relationships and respecting the differences between people LKS2
- **pr25** Understand that their actions affect themselves and others.
- **pr26** Able to empathise with another viewpoint.
- **pr27** Consolidate understanding of differences and similarities between people.