YEAR 4 4.1 - Branching Databases

Computing Area	Computer science
National Curriculum Strands	• Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Skills Progression Points	• Demonstrate the different ways data can be organised. • Demonstrate the different ways data can be converted into information. • Make a branching database. • Collect data and identify where it could be inaccurate. • Plan, create and search a database. • Select the best way to present data to a specific audience.
Hardware	iPads/Laptops/Desktop PCs
Software/App	PowerPoint/Google Slides/JIT5/Pic Collage
Unit Objective	To understand how to organise and classify objects using a branching database
Unit Vocabulary	Branching database, database, organise, transition, slides, closed question

YEAR 4 4.2 - Repetitions & Loops in Scratch

Computing Area	Computer Science
National Curriculum Strands	• Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts • Use sequence in programs; work with variables and various forms of input and output • Use logical reasoning to detect and correct errors in algorithms and programs • Select, use and combine a variety of software to design and create content that accomplish (es) given goals, including presenting information
Skills Progression Points	• Understand how an algorithm is implemented using a sequence of precise instructions. • Can predict the outcome of a sequence of precise instructions. • Repeatedly test a program and recognise when they need to debug it. • Detect a problem in an algorithm, which could result in a different outcome to the one intended. • Understand what inputs and outputs are, how they can be used. • Provide examples of how to use inputs and outputs effectively. • Designs, writes, executes and debugs programs of increasing complexity that accomplish a specific goal. • Use logical reasoning to predict and debug more complex programs including inputs and outputs.
Hardware	iPads/Laptops/Desktop PCs
Software/App	Scratch online
Unit Objective	To use repetition and loops within coding
Unit Vocabulary	Sequence, selection, repetition, input, algorithm, programming, debugging, computational thinking, tinker.

YEAR 4 4.3 - Designing a Game in Scratch Using Repeat Loops

Computing Area	Computer science
National Curriculum Strands	• Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts • Use sequence in programs; work with variables and various forms of input and output • Use logical reasoning to detect and correct errors in algorithms and programs • Select, use and combine a variety of software to design and create content that accomplish (es) given goals, including presenting information
Skills Progression Points	• Understand how an algorithm is implemented using a sequence of precise instructions. • Can predict the outcome of a sequence of precise instructions. • Repeatedly test a program and recognise when they need to debug it. • Detect a problem in an algorithm, which could result in a different outcome to the one intended. • Understand what inputs and outputs are, how they can be used. • Provide examples of how to use inputs and outputs effectively. • Designs, writes, executes and debugs programs of increasing complexity that accomplish a specific goal. • Use logical reasoning to predict and debug more complex programs including inputs and outputs.
Hardware	iPads/Laptops/Desktop PCs
Software/App	Scratch online
Unit Objective	To design a game in scratch which uses repeat loops
Unit Vocabulary	Sequence, selection, repetition, input, algorithm, programming, debugging, computational thinking, tinker.

YEAR 4 4.4 - Making a Special Effects Movie

MGL

Computing Area	Information Communication Technology
National Curriculum Strands	• Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information • Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact
Skills Progression Points	• Use photos, video and sound to create an atmosphere when presenting to different audiences. • Be confident to explore new media to extend what they can achieve. • Change the appearance of text to increase its effectiveness depending on the audience or mood. • Create, modify and present documents for a particular purpose and audience.
Hardware	iPads are recommended for this unit to film and edit. A large piece of green display paper or a green sheet is needed for the green screen.
Software/App	iMovie
Unit Objective	To create a film and add special effects
Unit Vocabulary	Video, Special effects, CGI, Green screen, Audio, Image, Text.

YEAR 4 4.5 - Smarter Searching & Online Safety

Computing Area	Information Communication Technology
National Curriculum Strands	• Use technology safely, respectfully and responsibly • Recognise acceptable/unacceptable behavior • Identify a range of ways to report concerns about content and contact
Skills Progression Points	• Understand that media can be edited online for advertising and other purposes. • Recognise what is acceptable and unacceptable behaviour when using online services • Understand that attachments may harm our computers and some messages may be "too good to be true". • Know how to send an email to a known person sensibly and responsibly.
Hardware	iPads/Laptops/Desktop PC
Software/App	Google search – allaboutexplorers.com, thinkyouknow.co.uk
Unit Objective	To gain awareness of the best ways to use a search engine. To continue to develop awareness of online dangers
Unit Vocabulary	Keyword, search engine, image, website, sharing, personal data

YEAR 4 4.6 - Pixel Art

Computing Area	Information Communication Technology
National Curriculum Strands	• Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
Skills Progression Points	• Use paint tools and cell highlighters to create pixel art • Use an appropriate tool to share their work and collaborate online. • Be able to evaluate other people's work and give them constructive feedback to help them improve their work. • Be confident to explore new media to extend what they can achieve.
Hardware	iPads/Laptops/Desktop PCs
Software/App	Pixel Art, Spreadsheet program, e.g. Excel, Google Sheets
Unit Objective	To create a piece of pixel artwork using a grid format
Unit Vocabulary	Spreadsheet, rows, columns, algebra, formula, pixel, binary.