Year 1 iLearn2 Progression of Skills and Teaching Sequence

A * next to the packs that are essential for curriculum coverage and progression.
Titles are highlighted with 3 colours showing the aspects of learning (*Computer Science* in orange, *Information Technology* in purple and *Digital Literacy* in green).

Year 1 Mouse and Keyboard Skills (4-6 hours)*

Progression of skills in this pack

1. Move the mouse or trackpad and left click to select an object.
2. Drag and drop with mouse or trackpad to move objects around the screen.
3. Use double click or double tap.
4. Find letters or numbers on keyboard.
5. Begin touch typing with home row keys.

Year 1 Digital Art (1-2 hours)*

National Curriculum Content

Use technology purposefully to create digital content.

Progression of skills in this pack

1. Change the colour of individual pixels to accurately re-create basic artwork.
2. Make changes where required.
3. Change the colour of individual pixels to accurately re-create detailed artwork.
4. Use custom colours to make digital art your own.
5. Use zoom controls to help fill small shapes.

Year 1 Design (1-2 hours)*

**Pupils should have completed EYFS Digital Art and Design before this pack.*

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

1. Change the colour and pattern of elements.
2. Position and rotate objects on a design.
3. Position objects in relation to each other.
4. Resize, rotate, flip and arrange objects behind/in front of each other.

Year 1 Text and Images (3-4 hours)*

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

1. Change the background colour of a page.
2. Add, resize and position images (pictures) on a page.
3. Type and position text on a page, if possible using capital letters and punctuation.
4. Label pictures with text.
5. Use word-banks for writing sentences about pictures.

Year 1 Comic Creation (1-2 hours) - FREE

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

1. Add, resize and organise colour or picture backgrounds.
2. Add, resize, organise characters/object to different panels.
3. Add narration using text and direct speech using speech bubbles.

Year 1 Music Creation (2 hours) - FREE*

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

1. Create a rhythm using a pattern of beats.
2. Create digital sounds using patterns and shapes.
3.Create a simple melody using patterns and adjust tempo.

Year 1 Introduce Programming (5-7 hours)*

National Curriculum Content

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
Create and debug simple programs.
Use logical reasoning to predict the behaviour of simple programs.

Progression of skills in this pack

1. Place instructions into the correct order (sequence) to make something work.
2. Use direction arrows to move an on-screen object (character/sprite) to achieve an objective.
3. Predict a route and sequence direction commands (algorithm) to achieve an objective. Correct the errors if necessary (debug).
4. Predict a route and sequence distance commands to program an on-screen object to achieve an objective.
5. Predict and sequence movement and pen commands to program the drawing of different 2D shapes.
6. Sequence code blocks, including movements and execute (start program) blocks to write a program to achieve an objective.

Year 1 E-safety (1-2 hours)*

National Curriculum Content

Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Progression of skills in this pack

1.Understand what the internet is and how people use it.
2.Understand what personal information is and why we keep personal information private.
3. Why do websites want personal information.
4. Identify when and where to go for help when concerned.

Year 2 iLearn2 Progression of Skills and Teaching Sequence

A * next to the packs that are essential for curriculum coverage and progression.
Titles are highlighted with 3 colours showing the aspects of learning (*Computer Science* in orange, *Information Technology* in purple and *Digital Literacy* in green).

Year 2 Recognise uses of IT (1-2 hours)*

National Curriculum Content

Recognise common uses of information technology beyond school.

Progression of skills in this pack

1. Understand what makes a computer a computer.
2. Understand computers store and follow instructions.
3. Spot digital technology in school.
4. Understand how different technology helps us.

Year 2 Digital Art (3-4 hours)*

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

1. Use lines and fill tools to make interesting patterns.
2. Add a variety of shapes (outlines and fill) and label them with text.
3. Re-create graphics using pixels with different colours.

Year 2 Introduction to Animation (2-4 hours)*

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

1. Add a background and objects to a frame (including text)
2. Copy/clone a frame and move objects to create an animation, including flipping objects.
3. Create an animation with multiple objects moving simultaneously.
4. Create screen-recording animation (*optional, requires iPad*).
5. Create stop-motion animation with photos (*optional, requires iPad*).
6. Create animated drawings of characters by cropping photos and adjusting points of movement.

Year 2 Introduce Data Handling (2-3 hours) - FREE*

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

– Understand what data is and collect it as a tally.
– Use software to label a pictogram and add data to each column.
– Edit a table with correct titles and numbers.
– Use software to create a bar chart/pie chart/line chart suitable for the data.
– Interpret a pictogram/bar chart/line chart.

Year 2 Ebook Creation (3-4 hours)

National Curriculum Content

Use technology purposefully to create, organise, store, manipulate and retrieve digital content.

Progression of skills in this pack

1. Add a book cover with title, author, colour and image.
2. Add multiple pages based on a theme.
3. Add text on different pages.
4. Add images on different pages to match the theme/text.
5. Add voice recordings to match the text and theme.

Year 2 Develop Programming (4-5 hours)*

National Curriculum Content

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
Create and debug simple programs.
Use logical reasoning to predict the behaviour of simple programs.

Progression of skills in this pack

1. Create and debug simple programs by selecting code blocks, placing them in the correct sequence and executing a program.
2. Use logical reasoning to predict the behaviour of simple programs.
3. Simplify a program by using a loop.

Year 2 Programming with Scratch Jr (3-4 hours)

National Curriculum Content

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.
Create and debug simple programs.
Use logical reasoning to predict the behaviour of simple programs.

Progression of skills in this pack

1. Program movements.
2. Program outputs for audio or text.
3. Find errors in a program.
4. Program inputs.
5. Program selection/conditions (if one sprite hits another).

Year 2 E-safety (1-2 hours)*

National Curriculum Content

Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Progression of skills in this pack

(Resources 4-7)

1. What are the dangers of sharing photos online?
2. People online are not always who they say they are.
3. Trusting information online.
4. Using the Internet responsibly.
5. Being respectful.

Year 2 Internet Research (1 hour +)*

National Curriculum Content

Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Progression of skills in this pack

1. Understand how a web-page displays information in different ways; text, images, videos and interactive elements.
2. Use a web-page to answer questions.

Year 3 iLearn2 Progression of Skills and Teaching Sequence

A * next to the packs that are essential for curriculum coverage and progression.
Titles are highlighted with 3 colours showing the aspects of learning (*Computer Science* in orange, *Information Technology* in purple and *Digital Literacy* in green).

Year 3 Comic Creation (3 hours) - FREE*

National Curriculum Content

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.

Progression of skills in this pack

1. Add, resize and organise colour or picture backgrounds.
2. Add, resize, organise characters/objects to different panels.
3. Add narration using text and direct speech using speech bubbles.
4. Save comic with name and title.
5. Add audio recordings (optional).

Year 3 Storyboards (1 hour +)

National Curriculum Content

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.

Progression of skills in this pack

1. Add and edit backgrounds.
2. Add and edit characters, including changing posture, expression and clothing.
3. Add narration and speech bubbles, including formatting text.
4. Duplicate objects to match scenes.
5. Search for objects to use.

Year 3 Digital Art (4-6 hours)*

National Curriculum Content

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.

Progression of skills in this pack

1. Use various lines and fill tools plus copy/paste and rotation to create pattern effects.
2. Use shapes, fill, copy/paste, zoom and flip to create reflective symmetry effects.
3. Use stamps, copy/paste, layers and multiple frames to create animated GIF computer game graphics.

Year 3 Music Creation (2-3 hours) *

National Curriculum Content

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.

Progression of skills in this pack

1. Create ascending and descending scales.
2. Add chords evenly across the scales.
3. Add arpeggios and melodies.
4. Add a steady and even rhythm.
5. Use sampled sounds to create an effective mix.
6. Build beats, melody (tones) and effects.

Year 3 Programming in Scratch (4-6 hours)*

National Curriculum Content

Design, write and debug programs that accomplish specific goal, including simulating physical systems.
Use sequence and repetition in programs; work with various forms of input.

Progression of skills in this pack

1. Design, write and debug programs that accomplish specific goals. (Including outputs)
2. Use repetition in programs.
3. Work with various forms of inputs; keyboard, mouse and touch screen.
4. Write programs to simulate physical systems.

Year 3 Programming in Kodu (3-5 hours)

National Curriculum Content

Design, write and debug programs that accomplish specific goal, including simulating physical systems.
Use sequence, selection, and repetition in programs; work with various forms of input.

Progression of skills in this pack

1. Create a 3D place using various design tools
2. Write a program to control a character using inputs
3. Write a program with conditions to create an if statement (If the character touches an object it will disappear)
4. Add a multi-player aspect
5. Write a program with variables (scoring system)
6. Program operators (equals) to achieve a score and win a game.

Year 3 Document Editing and Creation (1-2 hours)*

National Curriculum Content

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.

Progression of skills in this pack

1. Copy and Paste text and images.
2. Find and replace words.
3. Format text for a purpose.
4. Add bullet points to make lists.
5. Experiment with keyboard shortcuts.

Year 3 3D Design (3-5 hours)*

National Curriculum Content

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.

Progression of skills in this pack

1. Understand and use 3D space on a grid.
2. Design cities/towns for a purpose and to a budget.
3. Re-create or design familiar 3D models using cubes, such as tables and chairs.
4. Use chisel tool to improve and adapt models.
5. Colour individual blocks or whole models.

Year 3 Infographics (1-2 hours)

National Curriculum Content

Design and create content that accomplish given goals.

Progression of skills in this pack

1. Understand what an infographic is and why we use them.
2. Search for and add suitable graphic elements.
3. Add and format suitable titles and text.
4. Label an image with arrows and text.

Year 3 Branching Database (1 Hour)

National Curriculum Content

Collect, classify and present data.

Progression of skills in this pack

1. Add and label objects within a branching database.
2. Ask questions to sort (classify) objects.

Year 3 E-safety (1-2 hours)*

National Curriculum Content

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Progression of skills in this pack

1. Understand what to do if something upsets you online.
2. Understand why and how people can be nasty online.
3. Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people.
4. Understand why people pretend to be someone else online.
5. Understand why we only talk to people we know in the real world, when online.
6. Understand why we should not always trust what we read online and how to check
7. Understand the importance of being kind in the real world and also online.
8. Understand how to protect digital content with a strong password.
9. Understand the importance of using avatars and how to make them.

Year 4 iLearn2 Progression of Skills and Teaching Sequence

A * next to the packs that are essential for curriculum coverage and progression.
Titles are highlighted with 3 colours showing the aspects of learning (*Computer Science* in orange, *Information Technology* in purple and *Digital Literacy* in green).

Year 4 Graphic Design (1 Hour)

National Curriculum Content

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.

Progression of skills in this pack

1. Create an icon using different shapes and fill tools.
2. Combine shapes and lines, then arrange them in front/behind each other.
3. Combine shapes, colour and text to re-create an icon.
4. Change the colour, size and style of text to match an icon, then arrange images and use masking and opacity tools.

Year 4 Animation (5-7 hours) - FREE*

National Curriculum Content

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.

Progression of skills in this pack

1. Create a stop-motion video by duplicating slides that include backgrounds and shapes.
2. Create animation using transition and animation effects (morph, motion paths, pulse etc), including taking and editing a screenshot.
3. Animate individual elements of objects.
4. Create animated GIF files by animating pixels.

Year 4 Programming in Scratch (6-8 hours)*

National Curriculum Content

Design, write and debug programs that accomplish specific goals.
Use sequence, selection, and repetition in programs; work with various forms of input and output.
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Progression of skills in this pack

1. Program inputs with loops, selection and sensing for interactions.
2. Work with variables and various forms of input and output.
3. Debug programs that accomplish goals. (correcting errors)
4. Use selection, data variables and operators.
5. Program a virtual robot using Scratch blocks.

Year 4 Internet Research (3-4 hours)*

National Curriculum Content

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Progression of skills in this pack

1. Use search technologies to find specific pieces of information.
2. Understand features of an Internet Browser.
3. Reference the correct source of information.
4. Be discerning in evaluating digital content.
5. Check the internet for fake news by cross-referencing facts.

Year 4 Data Handling (3-4 hours)*

National Curriculum Content

Collecting, analysing, evaluating and presenting data and information.

Progression of skills in this pack

1. Change appearance of cells in a spreadsheet (fill colour and border) then add and align text.
2. Find and add data to a spreadsheet, resize cells and use the software to create a suitable chart with a title.

Year 4 3D Design (6-8 hours)*

National Curriculum Content

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

Progression of skills in this pack

<u>3D Village Pupil Activity Pack skills:</u>

1. Understand 3D spacial awareness.
2. Add 3D shapes, resize, adjust height, duplicate and use the different perspective.
3. Re-create different types of buildings using 3D shapes.
4. Create roads/paths by adjusting the height of 3D shapes.
5. Add windows and door shapes.

<u>Lego Modelling Pupil Activity Pack skills:</u>

1. Add, move, change colour and duplicate a brick.
2. Rotate bricks.
3. Use sloping bricks and special bricks for a purpose.
4. Change the transparency of bricks.

Year 4 Video Editing (2-3 hours)*

National Curriculum Content

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.

Progression of skills in this pack

1. Add scene images.
2. Add scripted voiceover audio, adjust the volume and crop clips (including splitting a clip).
3. Add more clips and use transition effects.
4. Add titles.
5. Use elements such as shapes.
6. Add music background music and adjust the volume.
7. Export a project.

Year 4 Ebook Creation (3-5 Hours)

National Curriculum Content

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.

Progression of skills in this pack

1. Choose a suitable page shape and add a title and subtitle.
2. Change the background colour/texture of a page.
3. Add, resize and change the colour of a shape then copy and paste it.
4. Search for and add suitable images then resize and position them.
5. Create another page with a background, image, shapes and text.
6. Add an audio recording of the page text, including hiding it behind an object.
7. Use hyperlinks for navigation between the pages.

Year 4 Inside a Computer (1 Hour)

National Curriculum Content

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.

Progression of skills in this pack

1. Understand what important parts of inside a computer or mobile device do to help with the performance (CPU, Fan, Hard Drive, RAM, Graphics Card).
2. Understand that memory is measured in bytes and gigabytes.
3. Use search filters on websites to find suitable information.

Year 4 E-safety (1-2 hours)*

National Curriculum Content

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Progression of skills in this pack

1. Understand what to do if something upsets you online.
2. Understand why and how people can be nasty online.
3. Describe the term 'sharing online' and why we need to get permission to share photos and videos of other people.
4. Understand why people pretend to be someone else online.
5. Understand why we only talk to people we know in the real world, when online.
6. Understand why we should not always trust what we read online and how to check
7. Understand the importance of being kind in the real world and also online.
8. Understand how to protect digital content with a strong password.
9. Understand the importance of using avatars and how to make them.

Year 5 iLearn2 Progression of Skills and Teaching Sequence

A * next to the packs that are essential for curriculum coverage and progression.
Titles are highlighted with 3 colours showing the aspects of learning (*Computer Science* in orange, *Information Technology* in purple and *Digital Literacy* in green).

Year 5 Programming in Scratch (5-7 hours)*

National Curriculum Content

Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts.
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Progression of skills in this pack

1. Program inputs for control, selection (conditions) and sensing for interaction and data variables for scoring and a game timer.
2. Program distance sensing and movement.
3. Program inputs, outputs, loops, selection (conditions), sensing and variables.
4. Program list variables that chooses randomly.

Year 5 App Design (4-6 hours) - FREE*

National Curriculum Content

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.

Progression of skills in this pack

1. Adjust slide size to mimic a phone/tablet size.
2. Add text and images *(including transparent images)* to a slide.
3. Add icons and text to use as navigation.
4. Duplicate slides to create multiple pages of the app.
5. Create hyperlinks to create navigation.

Year 5 Text-based Programming (3-4 hours)

National Curriculum Content

Use sequence and repetition in programs; work with variables.
Correct errors.

Progression of skills in this pack

1. Change the variables of text-based commands.
2. Write text-based commands accurately and use fill effects, stamps and functions.
3. Write text commands/functions to program keyboard inputs in a game. (Not compatible with iPad/tablet unless using physical keyboard)
4. Programming a Logo turtle to move and use pen *(Activity 4, lesson 1 and 2)*
5. Use co-ordinates in with a Logo turtle.
6. Print labels in Logo.
7. Program a loop (repetition) and shapes in Logo Turtle.
8. Program colours in Logo turtle.
9. Program variables in Logo turtle.

Year 5 Data Handling (3-4 hours)*

National Curriculum Content

Select, use and combine a variety of software (including internet services). Collecting, analysing, evaluating and presenting data and information.

Progression of skills in this pack

1. Select and use non-adjacent cells plus resize multiple cell widths and copy/paste cells.
2. Use formulae to find totals, averages and maximum/minimun numbers.
3. Find data and create a spreadsheet to suit it.
4. Search a database for specific information.

Year 5 Programming with Sphero (3-5 hours)

National Curriculum Content

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Progression of skills in this pack

1. Understanding Bluetooth Technology as Input Device
2. Write programs for the Sphero using movement and repetition (loops).
3. Write a program to trace a maze/route with Sphero and De-bug.
4. Write a program with outputs.
5. Write a program with random variables

Year 5 Computer Networks + the Internet (2-3 hours)*

National Curriculum Content

Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration.

Progression of skills in this pack

1. Understand Computer Networks, Internet and Cloud Computing and how they help us.
2. What is email and how can we use it safely?
3. Understand how and why we collaborate online (including blogging).

Year 5 Physical Devices (1-3 hours)*

National Curriculum Content

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

Progression of skills in this pack

1. Understand that computers use physical inputs and outputs and give examples.
2. Program physical inputs, outputs (e.g program LED lights) and random variables.
3. Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems.

Year 5 Ebook Creation (3-5 hours)

National Curriculum Content

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.

Progression of skills in this pack

1. Add page colour and style.
2. Add, position and format text on different pages.
3. Add and position images.
4. Add audio, including hiding it behind an object.
5. Add hyperlinks to text and images.
6. Search for shapes.
7. Lock and arrange shapes (extension task).

Year 5 Music Creation (2-3 hours)*

National Curriculum Content

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.

Progression of skills in this pack

1. Layer tracks using sounds and effects.
2. Use various online samplers and sequencers to create drums patterns and scales.
3. Create effective instrument tracks.
4. Edit tracks and effectively adjust volume and add effects.

Year 5 Operating Systems (1-2 hours)

National Curriculum Content

Select, use and combine a variety of software on a range of digital devices to create content that accomplish given goals.

Progression of skills in this pack

1. Understand the importance of an operating system and its key features.
2. Demonstrate important operating system skills (organising files etc), if possible, across multiple operating systems.

Year 5 E-safety (1-2 hours)*

National Curriculum Content

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Progression of skills in this pack

1. Keep personal information private.
2.Respect and protect again online bullies.
3. Understand the consequences of sharing photo/videos online.
4. Understand the term digital footprint.
5. How can we check online content is trustworthy.
6. How and where and who can we report concerns we have to.
7. Understand the pitfalls of in-app purchases.

Year 6 iLearn2 Progression of Skills and Teaching Sequence

A * next to the packs that are essential for curriculum coverage and progression.
Titles are highlighted with 3 colours showing the aspects of learning (*Computer Science* in orange, *Information Technology* in purple and *Digital Literacy* in green).

Year 6 Programming in Scratch (7-9 hours)*

National Curriculum Content

Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts.
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

Progression of skills in this pack

1. Program keyboard/touch screen inputs, selection (conditions), loops and random variables for unpredictability (operators).
2. Program inputs, selection, sensing, random variables, operators for direction and data variables for scoring.
3. Use inputs, selection, loops, sensing, costume changes and broadcasts.
4. Work with multiple sprites to send broadcast messages between them.

Year 6 Graphic Design (2 hours) - FREE*

National Curriculum Content

Design and create digital content to accomplish goals.

Progression of skills in this pack

1. Add, adjust and fill shapes.
2. Group shapes to improve accuracy and speed.
3. Add and customise gradient effects.
4. Adjust transparency/opacity for a purpose.
5. Use a colour picker correctly.
6. Accurately rotate shapes.

Year 6 Computers: Past, Present and Future (2-3 hours)

National Curriculum Content

Design and create digital content to accomplish goals.
Use search technologies effectively and be discerning in evaluating digital content.

Progression of skills in this pack

1. Show awareness of how computers and digital technology helps us today.
2. Understand how technology has changed over time and represent it as an interactive timeline.
3. Understand the impact (positive/negative) technological changes have on society.
4. Predict how technology will change in the future.

Year 6 Binary Code (1-2 hours)

National Curriculum Content

Understand how instructions are stored and executed within a computer system; understand how data of various types (including text, sounds and pictures) can be represented and manipulated digitally, in the form of binary digits. (Key Stage 3)

Progression of skills in this pack

1. Understand why computers/electronics use binary.
2. Match a sequence of binary code to create digital art.
3. To convert binary code to denary numbers (decimal numbers) and visa versa.

Year 6 Python Programming Language (2-3 hours)

National Curriculum Content

Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts.
Use sequence, selection, and repetition in programs; work with variables.
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
Use a textual programming language to solve a variety of computational problems. (Key Stage 3)

Progression of skills in this pack

1. Use the PRINT command for text.
2. Program a simple calculator in Python.
3. Program loops to repeat text.
4. Program interactive inputs.
5. Find errors in a program (debugging)
6. Program a trivia chatbot using 'send message' functions (challenge)

Year 6 Image Editing (3-4 hours)*

National Curriculum Content

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.

Progression of skills in this pack

1. Adjust the colours, brightness and contrast to improve a photo.
2. Create a before and after slide in presentation software.
3. Take and crop a screenshot.
4. Add drawing and text layers.
5. Import new images as layers and resize them to fit.
6. Add colour elements to a black and white image using layers and eraser tools.
7. Use Artificial Intelligence (AI) to remove objects from images.

Year 6 HTML (3-4 hours)

National Curriculum Content

Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts.
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, presenting data and information.
Use a textual programming language to solve a variety of computational problems. (Key Stage 3)

Progression of skills in this pack

1. Add and align text and change colour.
2. Program background colour.
3. Add and align images.
4. Add hyperlinks to other websites.
5. Add an iframe (such as a Google Map) and adjust the height and width.

Year 6 Data Detectives (1 hour+)*

National Curriculum Content

Select, use and combine a variety of software (including internet services). Collecting, analysing, evaluating and presenting data and information.

Progression of skills in this pack

1. Use comprehension skills to find clues that match the column headings of a spreadsheet.
2. Use spreadsheet tools (filters and conditional formatting) to find the specific data to match the clues.

Year 6 Virtual Reality (5-8 hours)

National Curriculum Content

Design and create digital content to accomplish goals.
Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

Progression of skills in this pack

1. Understand what virtual reality is and how it can be used to help people.
2. Add, move and resize objects in a virtual reality environment.
3. Animate objects for realism.
4. Use code blocks to add movement (with grouping) and interactions (conditions).
5. Create multiple scenes of VR environments.

Year 6 Web Design (5-8 hours)

National Curriculum Content

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.

Progression of skills in this pack

1. Create a static homepage.
2. Choose a suitable theme for your website.
3. Change the site identity to a suitable title, tagline and website icon.
4. Upload a suitable header and/or background image.
5. Adjust the website sidebar and add suitable widgets.
6. Add text and images to a page and edit them.
7. Add multiple pages and edit the navigation, including sub-menus.
8. Provide constructive feedback for your classmates' websites.

Year 6 Machine Learning and AI (1-2 hours)

Progression of skills in this pack

1. Understand how computers use information to learn by solving new problems and following new instructions.
2. Understand and use examples of machine learning.
3. Understand how artificial intelligence is used to perform tasks often only performed by humans.
4. Discuss and show awareness of potential dangers of AI.

Year 6 E-safety (1-2 hours)*

National Curriculum Content

Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Progression of skills in this pack

1. Keep personal information private.
2. Respect and protect against online bullies.
3. Understand the consequences of sharing photo/videos online.
4. Understand the term digital footprint.
5. How can we check online content is trustworthy.
6. How, where and who can we report concerns we have to.
7. Use suitable usernames and passwords for online accounts.
8. Understand the pitfalls of in-app purchases.
9. Understand how and why companies/people track our online behaviour and how we can prevent it.