Step by Step Learning	Computing	Information Technology

When all components are taught, practised, processed and transferred to long term memory, our children will be able to:

- **To use technology to organise and present ideas in different ways.**

- **To use technology purposefully to create, organise, store, manipulate and retrieve digital content.**

- **To recognise common uses of information technology beyond school.**

- **To use search technologies effectively, appreciate how results are selected and ranked and be discerning in evaluating digital 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, including collecting, analysing, evaluating and presenting data and information**

Year Four

To research a topic and present information in a non-linear presentation using text and images.

To present information in an engaging way, using sound files and embedded videos.

Use hyperlinks to link pages together.

Enter data into an electronic database to create records under appropriate fields.

Create and use charts to visually compare data

Year Three

Pupils will add text, borders and images, thinking about position, size, colour and theme, to a digital worksheet.

Search and download appropriate images from Google.

Take images using a suitable device and then use tools to edit the image

Create an animation using onion skinning technique and save as a GIF

Create QR codes , using a QR code generator, that link to different media

Scan QR codes to access information.

Record audio files and share using a QR code.

Use a branching database to sort groups of objects

Use tools within a database to order and answer questions

Search databases using 'AND' and 'OR' to find information

Year Two

Pupils will search for appropriate imges online.

Use paint software to design a digital picture.

Use a mouse cursor to select and then edit text.

Use multiple image frames to create an animation as a way to present information

Create an eBook, including a mixture of text, paintings, photos within a variety of page layouts.

Use multiple-choice and yes/no questions to gather data

Create and interpret data from tally charts and use the data to create a chart.

Use branching databases to answer questions

Year One

Pupils will use a range of tools within paint to draw pictures.

They will learn how to save as a paint file, image and stamp.

Pupils will become familiar with typing on a keyboard and use simple tools to change the appearance of text.

They will upload an image as a background.

Pupils will compose and capture a photograph on a device.

They will edit an image to change the appearance.

Pupils will collect and interpret data, presenting it in a tally chart, pictogram and block chart.

EYFS

Step by Step Learning	Computing	Computer Science and Program-

When all components are taught, practised, processed and transferred to long term memory, our children will be able to:

- 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
- 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
- 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

Year Four

To understand the difference between hardware and software

To differentiate between input and output devices.

To understand the main parts of a computer and their function.

To know where and how internal components of a computer are located and how they work together to process and store data.

To know how data is stored and processed as binary digits in the form of bytes by CPU and RAM

To know how simple binary image data is stored ad processed by CPU and RAM and displayed on screen in the form of pixels.

Using Scratch 3, pupils will use various inputs and output to make sprites move, change size or play sounds.

Pupils will also learn how to use 'broadcast' as a method to direct the timing of events within code to trigger a script to run.

Give the micro:bit instructions in code to make a name badge using LED display output.

Create a micro: bit animation using a sequence of images in a loop.

Code micro: bits to make different outputs happen depending on different inputs, e.g. badges, lights, games

Year Three

Decompose tasks into smaller parts to give precise instructions in sequence

Use block-based programming to move sprite forwards and backwards

Debug a block-based program

Using block-based programming to plan a sequence of a simple joke.

Use delay commands to write a simple conversation

Year Two

Provide verbal instructions in a sequence to complete a task

Use logical reasoning to follow a program and identify what the outcome will be.

Debug specific instructions with a program to achieve a required outcome.

Create algorithms to achieve specific outcomes

Year One

They will understand what a sequence means and follow an algorithm in order.

They will understand how to control a floor-based robot

Write an algorithm and covert code using route-based programming.

They will create and debug simple programs to control an onscreen sprite using route-based programming.

EYFS

Step by Step Learning	Computing	Digital Literacy

When all components are taught, practised, processed and transferred to long term memory, our children will be able to:

Use technology safely and respectfully and responsibly

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.

Year Four

To analyse information to make a judgement about probable accuracy.

To recognise methods used to encourage people to buy things online, e.g. pop-ups, in-app purchases.

To describe how to search for information within a wide group of technologies and judge for probable accuracy, (e.g. social media, image sites.

To explain what is meant by fake news and how it can be represented online.

Pupils can give examples of content they must not use without permission from the owner, e.g. videos, mu-

Year Three

Pupils can demonstrate how to use key phrases in search engines to gather accurate information online.

Understand what autocomplete is and how to choose the best suggestion.

To explain the difference between a 'belief', 'opinion' and a 'fact' and give examples how they can be shared online.

To describe how to get help from a trusted adult if we see content that makes them uncomfortable, frightened etc.

To explain that not all opinions shared may be accepted as true or fair by others.

Year Two

To demonstrate how to navigate a simple webpage to get information.

To understand what voice-activated searching is and know how it can be used.

To understand the different between things that are true and real, and those that are made up

Pupils can recognise that content online may belong to other people.

Year One

Pupils can identify devices to access information on the internet.

To understand they can access a range of things online, including things real or make-believe.

To know how to get help from a trusted adult if they see something that makes them worried/uncomfortable or sad.

To understand that work they create belongs to them

EYFS