Holme Court
School Cambridge

Welcome to KS2 ICT

	Year 5/6 Year one	Year 5/6 Year two
Autumn 1	Introduction • Ergonomics • Internet safety • Web browsing • Accessibility tools and settings • Email Ergonomics / Physical Stress / Lighting Stress / Social Media / Online Identity / Offline Identity / Acceptable Use Policy / Input / Output	Introduction • Ergonomics • Internet safety • Web browsing • Accessibility tools and settings • Email Ergonomics / Physical Stress / Lighting Stress / Social Media / Online Identity / Offline Identity / Acceptable Use Policy / Input / Output
Autumn 2	Word • units Vocabulary/	Word • units Vocabulary/
Spring 1	Excel • Unit Vocabulary/	Excel • Unit Vocabulary/
Spring 2		

Summer 1	Combining Software - Unit Vocabulary/	Combining Software - Unit Vocabulary/
Summer 2		

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Delivery Computing 360 – KS2 Curriculum – Can be started this year or next night

Key Stage 1-
Unit 1- Technology Basics
Unit 2-The Internet
Unit 3-Let's Get Creative
Unit 4-Computers Advances

Key Stage 2
Unit 1- Computers and Their Uses
Unit 2-The Online World!
Unit 3- Online Safety and Security
Unit 4-Programmers Unite!
Unit 5- Programming Continued...

National curriculum content check:
Computing programmes of study:
key stages 1 and 2
National curriculum in England
Purpose of study
A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.
Aims

The national curriculum for computing aims to ensure that all pupils:
 can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
 can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
 can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
 are responsible, competent, confident and creative users of information and communication technology.

Key stage 2 Pupils should be taught to:

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

KS1/KS2 (See below for the word defintions)
Abstraction/Algorithm/Binary/Coding/Communication technology/Compile/ Computational logic and thinking/Data/Debug /Decomposition/Hardware/Information technology/Input /Internet /Logic/Network/Output /Procedure or function/Program/Programming language/Repetition/Selection/Sequence/Software /System (Operating System) /Variable/World Wide Web

Vocabulary for computing KS1 and 2

Subject Knowledge and Domain Specific Vocabulary for each Year Group

- Home
- Curriculum

- Computing
- Subject Knowledge and Domain Specific Vocabulary for each Year Group

Do you know what your child means when they're talking about compiling algorithms and debugging programs? Computing teacher Billy Rebecchi explains the primary school computing and ICT terms that you might hear from your KS1 or KS2 child.

Abstraction
In computer science the term **abstraction** refers to hiding the complexity of tasks to suit the understanding of the user. For example, for you to use a calculator you only have to press buttons in order to receive the correct answer, however the person that built the calculator understands how it works underneath.

Algorithm
An **algorithm** is a set of instructions that we complete in order to achieve a task. You could write an algorithm to complete mundane tasks such as making a cup of tea or to complete complex tasks such as calculating the odds that a team will win a football match. In computing an algorithm refers to the set of instructions that a computer follows in the order in which they are given.

Binary
Binary is the language computers use. It is a series of 1s and 0s and is also used in mathematics.

Coding
Coding is putting information and commands into a program, making it possible for u to create software, apps and websites.

Communication technology
Equipment that we use to communicate with, such as a mobile phone or tablet.

Compile
When we program, we use human words in our codes and programs. However the computer doesn’t understand human words, so we have to compile the program – using a compiler – which converts the human words into binary.

Computational logic / thinking

Computational logic is a term that describes the decision-making progress used in programming and writing algorithms.

Data

Data is Information.

Debug

Debugging is checking the code in a computer program to ensure it works, and changing it if it doesn't. When writing a computer program things will often go wrong. When writing a program you have to test and debug your program to ensure that it produces correct results.

Decomposition

Decomposition is the process by which a large, difficult problem can be broken down into a series of smaller, simpler problems, thus making the overall problem easier to solve.

Hardware

Hardware is the physical part of a computer, which uses electrical signals to complete the calculations needed to make software run. Examples of hardware are the computer circuit board, memory, processor and/or other equipment related to a computer, such as printers, monitors and keyboards.

Information technology

A term used for all computer-related technology.

Input

Information that goes into the computer.

Internet

A network of computers linked all over the world.

Logic

When making any decision a certain amount of logic is involved; for example, when deciding what to wear in the morning, you make a logical decision based on the season, weather and any number of other factors. **Computational logic** is used to allow a program to decide what to do and when. For example you may write code that says: "When the user clicks this button, perform this calculation."

Network

Computers linked within a building or area.

Output

Information that comes out of the computer.

Procedure or function

A **procedure/function** is used in programming to break a complex task down into simple steps or sections.

Program

A **computer program** is a collection of instructions or algorithms designed to simplify processes, whether that be writing a Word document or connecting to a website. A computer program is written using a programming language, which allows a computer scientist to teach a computer how to achieve a result. Examples of programming languages are Scratch, Java, Python, C++ and Ruby.

Programming language

Computers are very good at completing lots of mathematical functions in a short space of time, however they don't have the ability to think for themselves. **Programming languages** bridge this gap and allow us to teach a computer how to do things.

Repetition

Sometimes called iteration, when part of a program repeats itself. For example, in animation you may repeat the movements of a character to make it look like it's moving along.

Selection

When you choose part of something. For example, when you copy and paste text, the passage that you highlight to copy is called the selection.

Sequence

When doing anything in life it is important to complete things in the correct order; you wouldn't pour water into a teacup before you had boiled the kettle, for example! In a program we have to control what happens and when in order to produce correct results. A **sequence** helps us to ensure that things happen in the correct order.

Software

Software is created using a programming language and is the non-physical part of a computer. Software can be written once and sold multiple times, for instance Microsoft doesn't have to rebuild Microsoft Word every time they have a new customer, they just make a copy of the files they already have.

System (Operating System)

The **Operating System** sits between the software and hardware and acts as a translator. It tells the hardware when to run calculations and passes the answers back to the software so that it can decide what calculations to run next.

Variable

A **variable** is a piece of information in a program that we want to store, but is able to change. We can compare it to a box in which we put information. This information could be a number, and during the program we might change the initial number (for example as part of the scoring system in a game).

World Wide Web

This is like the Operating System for the internet. We use the web to help us communicate with and over the internet.