Progression of Computing				
Subject content	KS2 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.			
Teach Computing is an educational programme provided by the National Centre for Computing Education. It provides high-quality support for the teaching of computing from KS1 to KS2 and beyond. Our high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world.				
Skills	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Understanding Technology	**Connecting computers** To explain how digital devices function. To identify input and output devices. To recognise how digital devices can change the way we work. To explain how a computer network can be used to share information. To explore how digital devices can be connected. To recognise the physical components of a network.	**The internet** To describe how networks physically connect to other networks. To recognise how networked devices make up the internet. To outline how websites can be shared via the World Wide Web. To describe how content can be added and accessed on the World Wide Web. To recognise how the content of the WWW is created by people. To evaluate the consequences of unreliable content.	**Sharing information** To explain that computers can be connected together to form systems. To recognise the role of computer systems in our lives. To recognise how information is transferred over the internet. To explain how sharing information online lets people in different places work together. To contribute to a shared project online. To evaluate different ways of working together online.	**Communication** To identify how to use a search engine. To describe how search engines select results. To describe how search engines select results. To explain how search results are ranked. To recognise why the order of results is important, and to whom. To recognise how we communicate using technology. To evaluate different methods of online communication.
Online safety	To explain how people can represent themselves in different ways online. To explain the importance of giving and gaining permission before sharing things online; how the principles of sharing online is the same as sharing offline e.g. sharing images and videos. To give examples of what anyone may or may not be willing to share about themselves online.	To describe positive ways for someone to interact with others online and understand how this will positively impact on how others perceive them. To describe strategies for safe and fun experiences in a range of online social environments (e.g. livestreaming, gaming platforms). To explain ways that some of the information about anyone online could	To demonstrate how to make responsible choices about having an online identity, depending on context. To describe some of the ways people may be involved in online communities and describe how they might collaborate constructively with others and make positive contributions. (e.g. gaming communities or social media groups).	To describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline. I can explain the importance of asking until I get the help needed. To understand and explain that taking or sharing inappropriate images of someone (e.g. embarrassing images), even if they say it is okay, may have an

	To understand and explain the need to be careful before sharing anything personal.

To explain the difference between a 'belief', an 'opinion' and a 'fact' and can give examples of how and where they might be shared online, e.g. in videos, memes, posts, news stories etc.

To explain why some online activities have age restrictions, why it is important to follow them and know who I can talk to if others pressure me to watch or do something online that makes me feel uncomfortable e.g. age restricted gaming or websites.

To describe how connected devices can collect and share anyone's information with others. | have been created, copied or shared by others.

To analyse information to make a judgement about probable accuracy and I understand why it is important to make my own decisions regarding content and that my decisions are respected by others.

To identify times or situations when someone may need to limit the amount of time they use technology e.g. I can suggest strategies to help with limiting this time.

To describe how some online services may seek consent to store information about me; I know how to respond appropriately and who I can ask if I am not sure. | To describe how what one person perceives as playful joking and teasing (including 'banter') might be experienced by others as bullying.

To explain what is meant by the term 'stereotype', how 'stereotypes' are amplified and reinforced online, and why accepting 'stereotypes' may influence how people think about others.

To describe some strategies, tips or advice to promote health and wellbeing with regards to technology.

To explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. | impact for the sharer and others; and who can help if someone is worried about this.

To describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me.

To recognise and discuss the pressures that technology can place on someone and how / when they could manage this.

To recognise features of persuasive design and how they are used to keep users engaged (current and future use).

To assess and action different strategies to limit the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture, sleep, diet and exercise).

To describe how and why people should keep their software and apps up to date, e.g. auto updates.

To demonstrate how to make references to and acknowledge sources I have used from the internet. |
| **Programming** | **Sequence in music [Scratch]**
To explore a new programming environment.

To understand that each sprite is controlled by the commands I choose.

To explain that a program has a start.

To recognise that a sequence of commands can have an order.

To change the appearance of my project.

To create a project from a task description. | **Repetition in games [Scratch]**
To develop the use of count-controlled loops in a different programming environment.

To explain that in programming there are infinite loops and count controlled loops.

To develop a design which includes two or more loops which run at the same time.

To modify an infinite loop in a given program.

To design a project that includes repetition. | **Data handling [Micro: bit]**
To classify data and identify ways that data might be used.

To understand that some devices use sensors and use them to write simple programs.

To write algorithms that show how sensors will be used.

To write programs that use data as a condition.

To write a program to use a micro:bit as a digital assistant. | **Sensing [Micro: bit]**
To create a program to run on a controllable device.

To explain that selection can control the flow of a program.

To update a variable with a user input.

To use an conditional statement to compare a variable to a value.

To design a project that uses inputs and outputs on a controllable device.

To develop a program to use inputs and outputs on a controllable device. |

		To create a project that includes repetition.		
Digital Literacy	**Digital Literacy – Stop frame animation**	**Digital Literacy – Photo Editing**	**Digital Literacy – Video Editing**	**Digital Literacy – 3D Modelling** **Digital Literacy – Webpage creation**

How will we implement computing in our school?

- We teach **computing each term** through **enquiry** lessons, which is progressive, and provides purpose and meaning for children.
- Our children will **use technology** in their classrooms as part of their **daily life at school** to apply skills taught. For example,
- We ensure **evidence** of computing can be seen on Seesaw, class learning journey displays, enquiry organisers and on medium term and long term planning.
- We ensure **t**echnology will be integral to **support children in their learning**. e.g. use of iPads to enquire.
- Our children will **apply computational thinking to solve problems** across the curriculum.
- Our children will be able to **express themselves** through information and communication technology.
- Our children will be able to discuss how to **stay safe on the internet**.
- We ensure annual **e-safety assemblies** are organsied and **pertinent information** is shared regularly parents.
- We ensure all children, and staff, are to adhere to **an Acceptable Use Policy** (AUP) in line with CAM guidance.
- Our staff have a shared understanding of how to keep our children safe through our **e-safety knowledge** and all staff will know the procedures for **reporting incidents.**
- We use the **Project Evolve** resources for out online safety unit (planned by Trust computing leads)
- We use the **Teach Computing Scheme of Work** in our lessons.
- We use the **Educated for a Connected World framework** in our lessons on Online Safety.
- We organise a **Safer Internet Day** to engage pupils and further their online education
- We organise **visitors and workshops** to support children to be safe on technology.
- We have an **Online Safety Lead** who liaises with SLT and staff to ensure that safer internet practises are used by all.