# Progression in Computing

| | EYFS | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
|---|---|---|---|---|---|---|---|
| Computers and using computers | **3-4 year olds**<br>Explore how things work<br><br>Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen, or one which is suggested to them e.g. take photographs, watch video clips, search the internet, listen to music, explore old mechanical toys, play games on the interactive whiteboard | • recognise common uses of information technology in the home and school environment<br>• use technology to purposely create digital content | • recognise common uses of information technology beyond school<br>• use technology to purposely create, organise, store, manipulate and retrieve digital content<br>• use technology to purposely create digital content comparing the benefits of different programmes | • recognise familiar forms of input and output devices and how they are used<br>• make efficient use of familiar forms of input and output devices<br>• with support select and use a variety of software to accomplish goals | • use other input devices such as cameras or sensors<br>• with support select and use a variety of software on a range of digital devices<br>• with support select, use and combine a variety of software on a range of digital devices to accomplish given goal | • independently select and use appropriate software for a task<br>• independently select, use and combine a variety of software to design and create content for a given audience | • independently select, use and combine a variety of software to design and create content for a given audience, including collecting, analysing, evaluating and presenting data and information<br>• design and create a range of programs, systems and content for a given audience<br>• independently select, use and combine a variety of software to collect, analyse, evaluate and present data and information |
| Coding | Uses ICT hardware to interact with age-appropriate computer software. Programme Beebots to move around a space | • predict the behaviour of simple programs<br>• understand what algorithms are and how they are implemented on digital devices | • use logical reasoning to predict the behaviour of simple programs<br>• create simple programs<br>• create and debug simple programs<br>• debug simple programs by using logical reasoning to predict the actions instructed by the code<br>• understand that programs execute by following precise | • design, write and debug programs that control or simulate virtual events<br>• use logical reasoning to explain how some simple algorithms work | • decompose programs into smaller parts<br>• use logical reasoning to detect and correct errors in algorithms and programs<br>• select, use and combine a variety of software, systems and content that accomplish given goals | • design, input and test an increasingly complex set of instructions to a program or device<br>• design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems<br>• design, write and test simple programs that follow a sequence of instructions or allow | • include use of sequences, selection and repetition with the hardware used to explore real world systems<br>• solve problems by decomposing them into smaller parts<br>• create programs which use variables<br>• use variables, sequence, selection and repetition programs<br>• use logical reasoning to explain how increasingly |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | and unambiguous instruction | | | a set of instructions to be repeated • design, write and test simple programs with opportunities for selection, where a particular result will happen based on actions or situations controlled by the user • use logical reasoning to explain how increasingly complex algorithms work to ensure a program's efficiency | complex algorithms work and to detect and correct errors in algorithms and programs efficiently |
| Networks inc. emails | | | | • understand that computer networks enabling the sharing of data and information • understand that the internet is a large network of computers and that information can be shared between computers | • understand what services are and how they provide services to a network | • begin to use an email account • use email account to send, receive and reply to emails safely and courteously | • understand how computer networks enable computers to communicate and collaborate • continue to develop the use of an email account • use emails to transfer data and files |
| Internet and Searching | Select and use activities and resources, with help when needed.  This helps them to achieve a goal they have chosen, or one which is suggested to them e.g. take photographs, watch video clips, search the internet, listen to music, explore old mechanical toys, play games on the interactive whiteboard | • learn the very basic principles of what the internet is. • learn how to log on to school websites such as TTRockstars and Spelling Shed | • understand how people use the internet. | • use simple search technologies • use simple search technologies and recognise that some sources are more reliable than others | • understand how results are selected and ranked by search engine | • use filters in search technologies effectively • use filters in search technologies effectively and appreciate how results are selected and ranked | • use filters in search technologies effectively and is discerning when evaluating digital content |

| eSafety (Rising Stars) | | | | | | | |
|---|---|---|---|---|---|---|---|
| eSafety (Rising Stars) | | • understand that rules help us stay safe, both in the real world and online.<br>• suggest strategies for staying safe in different online scenarios.<br>• understand that unkind behaviour online can affect other people, even though we can't see them.<br>• understand that using computer devices too often can be bad for us and we should take time out form technology to do other things.<br>• discuss what to do if they see or hear something online that upsets them<br>• understand what is meant by 'personal information'.<br>• recognise that anyone online who we don't know in real life is a stranger.<br>• understand how we can protect our personal information, including reporting worries to trusted adults. | • Consider what strategies they might use if their usual trusted adult is not available<br>• review and edit their online safety guidelines.<br>• begin to understand the concept of online bullying and the role of the bystander.<br>• develop an understanding of the consequences of online bullying. recall their online safety rules for reporting concerns and inappropriate behaviour.<br>• understand the very basic principles of how search engines work.<br>• understand the key steps for searching the web safely.<br>• understand how to report concerns when searching the web.<br>• understand that the way technology is used is as important as good online behaviour.<br>• understand that the way we use technology impacts | • Consider what new strategies they can apply to online safety scenarios, such as calling Childline.<br>• Review and edit their online safety guidelines.<br>• Begin to understand that information shared online cannot always be controlled<br>• Develop a deeper. understanding of the consequences of online bullying.<br>• Understand the role of a bystander in online bullying.<br>• Use clues to make choices about which web pages they consider most useful and trustworthy.<br>• Understand that not all links are safe or trustworthy.<br>• Understand different ways to report concerns and inappropriate behaviour.<br>• Understand that every time we use the internet we leave a digital trail that can be found, copied, shared and broadcast | • Consider what new strategies they can apply to online safety scenarios, beyond talking to a trusted adult.<br>• Review and edit their online safety guidelines.<br>• Understand that peer pressure can be a positive and negative influence.<br>• Understand that access to the internet is not the same for everyone.<br>• Recall ways to report concerns and inappropriate behaviour.<br>• Understand that because of the internet, information can be spread more quickly and reach more people now than at any time in the past.<br>• Understand that although information posted on the internet might not always be true or accurate, it lasts forever.<br>• Understand that hacking can be illegal and has | • Consider what new strategies they can apply to online safety scenarios, such as clicking the CEOP 'Report abuse' button<br>• Review and edit their online safety guidelines.<br>• Develop their online safety rules so they are easily understood and appropriate for Year 5 pupils.<br>• Recognise that online behaviour can have real life negative effects on other people.<br>• Understand that we must take responsibility for our own actions online, regardless of what other people are doing.<br>• Critically assess all information surrounding an online safety scenario to decide whether it constitutes online bullying.<br>• Use their knowledge of online safety to reach a consensus on the appropriate | • Consider what new strategies they can apply to online safety scenarios, such as using reporting buttons within websites and apps<br>• Understand the negative consequences of sharing nude selfies.<br>• Develop confidence in saying no when they are posed with a request for inappropriate and/or indecent images of themselves.<br>• Understand that once an image is online, it stays online forever.<br>• Understand what is meant by nude selfies and learn that, sending, sharing and storing inappropriate images of Under18s is a crime.<br>• Understand that most online sites and apps require an account holder to be a minimum of 13 years old.<br>• Understand that they should check and adhere to the |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | understand what is meant by 'digital citizen'.<br>• understand how to be responsible, respectful and safe online.<br>• understand that being a good digital citizen means having a kind heart, a warning tummy and a thinking brain; all things that keep us safe online.<br>• understand the importance of playing games in shared spaces where grown-ups are available for support.<br>• understand the importance of taking breaks away from technology. | the people around us<br>• further develop responses to incidents of poor behaviour online.<br>• recognise the PEGI age rating system for digital games.<br>• understand that the system is useful for helping people decide which games are appropriate.<br>• understand what to do if someone nearby is playing a game which is inappropriate for them. | • Understand that the things we upload onto the internet last forever<br>• Understand that good online behaviour is important for making the internet an enjoyable place for everyone<br>• Understand that email is a widely used form of digital communication that lasts forever and can be shared.<br>• Understand that internet identities are actively constructed by the user<br>• Recognise that internet identities can be misleading or not representative of the creator<br>• Recall that personal information should not be shared by anyone online who we don't know in real life. | consequences for the hacker.<br>• Develop awareness of viruses and what to do if they think their account has been compromised.<br>• Understand that both digital rights and responsibilities are important to ensure the internet is a great place for everyone.<br>• Understand that there are consequences for knowingly ignoring rights.<br>• Further develop a positive and responsible attitude towards technology and internet use.<br>• Understand that virtual friends are still strangers that they do not know.<br>• Apply their knowledge of online safety to decide what information they, as virtual friends, can safely share online.<br>• Recap rules for reporting suspicious or uncomfortable online situations. | response to an online incident.<br>• Understand that some people get paid to endorse products online.<br>• Develop a discerning attitude to online content so that they can confidently reach their own conclusions.<br>• Appreciate the value of trusted adults in helping them reach an informed conclusion.<br>• Understand that posting inappropriate information online can cause regret later.<br>• Understand how to manage their online reputation.<br>• Understand that, although information posted on the internet might not always be true or accurate, it can last forever.<br>• Understand that it is possible to search the internet for information about particular individuals<br>• Understand that copyright laws exist | age restrictions of a site or app.<br>• Understand why age restrictions apply to online communication tools.<br>• Develop resilience to online behaviour and influences in an unfamiliar setting.<br>• Learn how to use appropriate social networking sites safely.<br>• Understand that they need to respect other people's preferences when uploading images or video to the internet.<br>• Understand that everyone has the right to privacy and can refuse permission for images or videos of themselves being uploaded to the internet.<br>• Develop their understanding that content posted on the internet can last forever.<br>• Develop confidence in their ability to act appropriately when confronted with unfamiliar situations |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | to protect original content creators.<br>• Understand that content they choose to use or upload on the internet may be subject to copyright laws.<br>• Further develop their understanding of rights and responsibilities as digital citizens<br>• Understand that accounts for devices are linked to real-life bank accounts.<br>• Understand that some features in online games and apps cost real money.<br>• Understand that research, parental controls and device settings are tools we can use to help us game confidently. | involving technology and the internet.<br>• Understand the risks involved with online gaming, including exposure to inappropriate content, grooming, bullying, trolling a |