Yew Tree Primary School

COMPUTING CURRICULUM OVERVIEW

RESPONSIBILITY:
We are responsible for what we do – if it's to be, it's up to me! We are prepared, organised and recognise consequences of our actions on ourselves and others.

RESPECT:
We are respectful by treating others how we wish to be treated – using manners, being thoughtful, kind and celebrating diversity

COURAGE:
We are brave and we take chances. We develop resilience to keep going even when things are tough. We face our fears and we are not afraid to make mistakes.

AMBITION:
We believe we can achieve in anything that we put our mind to. We aim high, love learning, have a positive 'can do' attitude and aim to be the best!

PRIDE:
We are proud of who we are and where we are from. We believe in our abilities and celebrate our success. We are a family at Yew Tree!

Intent	**Curriculum Aim**	To offer a broad, balanced & inclusive curriculum which acts as a starting point to stimulate awe, wonder & curiosity and which encompasses 'Learning Without Limits' so that children are empowered and able to achieve their full potential.	**What does this mean for Computing** • High quality computing in our curriculum is designed to equip pupils to use computational thinking and creativity to understand and change the world. • The core of our computing curriculum 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. • Pupils will build on their computing knowledge and understanding to use information technology to create programs, systems and a range of content. • Our pupils will become digitally literate able to use, and express themselves and develop their ideas through, information and communication technology • We aim to ensure all pupils can understand and apply the basic fundamental principles and concepts of computer science. • Pupils will be able to analyse problems in computational terms, and will be given repeated practical experience of writing computer programs in order to solve such problems.
	Curriculum Objectives	• To develop the child as a responsible and confident citizen who is prepared to live in an ever-changing and diverse world. • To develop the child as an individual who embraces challenge and makes the most of every opportunity to learn. • To develop the child as a life-long learner who has a range of skills, which ensure a high level of achievement.	

Yew Tree Primary School
Computing Key Skills Progression

Strand	Area	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	**Programming**	Use electronic and mechanical toys and show an interest in how they work.	Describe how mechanical and electronic toys work. Show an interest in using a programmable toy (e.g. BeeBot)	Demonstrate logical thinking to support algorithmic thinking, prediction and debugging. Encode algorithms to a program to control a floor turtle. Activity types are unplugged and physical computing. Use logical thinking to evaluate algorithms and route-based programs to improve outcomes.	Predict and investigate route-based programs to answer numerous challenges.	Debug sequences of code and use logical reasoning to draw simple patterns with coded repetition.	Use inputs and outputs to make a sprite move. Begin to use repetition and conditional inputs in a program.	Develop logical thinking and coding using Scratch 3 to make a range of computer games.	Use Scratch 3 to effectively plan, design, and build complex code that uses pseudocode, cloning and conditional operators (Boolean).
	Networks						Understand the main components of a computer and that different technologies can connect to the internet.	Explain how computers can be used for communication and collaboration. Discuss changes to online technologies over time.	Understand what the internet is and discuss the services it provides. Focus in on the world wide web as a service and how data and information travels around the network. Consider how search engines help to find information and how to improve search techniques when looking for information online.

Information Technology	**Data Handling, Databases and Spreadsheets**			Know what the term data means and how we can collect data and present it in the form of a tally chart, pictogram and block charts. Collect data and present it in the form of a pictogram and block chart and explain what these show by interpreting the data.	Know what a multiple-choice question is and why they are a good way of collecting data from lots of people. Know that there are other ways to gather data by using yes/no questions. Design multiple-choice questions and yes/no questions to gather data. Create charts from information in tally tables and interpret the data from the chart. Know what characteristics are and how to use them to sort groups of objects by using yes/no questions. Use a branching database to answer questions and understand that mistakes can be made when collecting and organising data and if they are not found it makes the data unreliable.	Know what characteristics are and how to use them to sort groups of objects by using yes/no questions. Use a branching database to answer questions Know that yes/no questions need to be ordered carefully when grouping objects to create the structure for a branching database Know the term 'database' and how they are used to store and organise data using key characteristics Use tools within a database to order and answer questions about the data using simple searches Develop search techniques to match data from more than one field using 'AND' and 'OR' to refine results Know that a database may contain errors and can affect search results	Locate data organised in a paper-based record card database, identifying fields and data to answer specific questions Design a questionnaire using a range of data types and open and closed questions to gather useful data that is fit for purpose to solve a given problem Use an electronic database to look at how data can be recorded. Enter data to create records under appropriate field names Use an electronic database to examine how data can be viewed, sorted and searched for Create and use charts to visually compare data and answer questions about it.	Organise data into columns and rows to create data sets and apply formulae using cell references that include a range of cells to calculate data Use a spreadsheet to answer questions and identify that changing inputs will change the output of a calculation where formula is used Create a spreadsheet by organising data into columns and rows using appropriate headings and create simple formulae using the four basic maths operations (+, -, x and ÷), minimum ,maximum and average using cell references where appropriate to calculate the data to model and answer questions Create graphs to display data to evaluate results in comparison to the problem being modelled	Create formulae using cell references, including a range of cells to produce calculated data Apply appropriate number and text formats to cells. Remove and add data to a spreadsheet and adjust formulae where required. Use the spreadsheet model to answer questions that model real-life events Create a spreadsheet by organising data into columns and rows using appropriate headings and create simple formulae using the four basic maths operations (+, -, x and ÷), using cell references where appropriate to calculate the data to model and answer questions

	Collecting, Evaluating and Presenting Information	Use an iPad to take photos. View a taken photo using the camera roll.	Take close up photos of interesting things ensuring the subject is in focus. Access the camera roll on an iPad with growing independence.	Create drawings and text files, save them and then use them in JiT5 'Write' and 'Paint' software to produce pieces of work entitled' All about Me' Create a digital album using Photographs, JIT5 'Write, 'Paint' and 'Mix' tools	Design assets using paint, write and animate tool. Design animations that present information about oceans. Draw objects using JIT5 'Paint' as well as adding backgrounds and shared images to combine and create an effective animation Use JiT tools to create an eBook in Jit Mix tool – include a mixture of text, painting and photos within a variety of page layouts	Use 3 types of multi-media: text, image and animation to create, organise and present content effectively, considering layout choices and appropriate presentation styles depending on purpose Explore what QR codes are and how they are created to present information to a user. Record a sound file and create a QR code to allow others to access and listen to the sound file	Create a research based fact file based upon a topic being studied. Plan and create fact file pages that are hyperlinked from the home page including a range of multimedia – images, sounds, and video	Develop an understanding of what makes infographics a popular choice to present and share information. Develop an understanding of colour, styling, enhanced editing tools and the use of charts/graphs/tables to effectively present information. Research and select key information to present as an infographic in J2e5	Understand what big data is, the impact on privacy and security of data, how data is used by others in both authorised and unauthorised ways Explore real world applications that use Artificial Intelligence (AI) and Machine Learning (ML) and reflect on its potential future use in different industries Create their own Smart Classroom

	Using technology	Begin to show an interest in using a range of electronic and mechanical toys and digital technologies.	Show an interest in, and independently access, a range of electronic and mechanical toys and digital technologies. Starting to show an understanding of using technology in moderation.	Log into a laptop, sometimes with support, using a simple CVC password. Use a keyboard to type simple sentences.	Log into a laptop independently, using a simple CVC password. Use a keyboard to type sentences with mostly correct punctuation and capitalisation.	Log into a laptop independently using a password made up of initials and date of birth Use a keyboard to type sentences independently. Know how to capitalise letters, and access alternate symbols, using the shift key.	Log into a laptop independently using a password made up of initials and date of birth Use a keyboard to type extended pieces of text; developing an increased typing speed.	Log into a laptop using a randomly generated password. Start to show an understanding of how to store a password safely/securely. Continue to develop typing speed with a reduction in typing errors.	Independently log in to a laptop using a randomly generated password. Starting to show an understanding of how to keep digital accounts safe using two-factor authentication. Continue to develop typing speed with a reduction in typing errors.
Digital Literacy	**Self-Image and Identity**		Recognise that anyone can say 'no' online or offline. Know when to speak to somebody who makes them feel uncomfortable, embarrassed or upset.	Recognise that people online could make someone feel sad, embarrassed or upset. Give examples of when and how to speak to a trusted adult.	Explain how other people may act differently online and offline. Give examples of online issues that may cause somebody to feel uncomfortable or upset and how they might get help.	Understand what is meant by the term 'identity'. Explain how people can represent themselves in different ways online. Explain how someone might change their identity depending on what they are doing online (e.g. gaming; using an avatar; social media)	Explain how your own online identity could be different to your offline identity. Describe positive ways people can interact online and understand how this will positively impact them. Know that others online can pretend to be someone else and understand why people may do this.	Explain how identity online can be copied, modified or altered. Start to demonstrate how to make responsible choices about having an online identity.	Identify and critically evaluate online content relating to protected characteristics (e.g. gender, race) and why this should be challenged. Describe online issues and how to get help both on and offline. Explain the importance of asking until getting the help needed.
	Health, Well-being and Lifestyles	Follows rules relating to the use of technology around the school.	Identify rules that help keep use safe and healthy when using technology, giving simple examples.	Explain rules to keep safe when using technology in, and beyond, the home.	Explain simple guidance for using technology in different environments or settings (e.g. accessing online	Explain why spending too much time using technology can sometimes have negative impacts.	Understand how technology can be a distraction from other things, in both a positive and negative way.	Describe ways technology can affect health and well-being positively and negatively. Suggest strategies	Know common regulatory bodies for age-related content (e.g. PEGI, parental warnings) and explain their

					technologies in public places vs. the home) Explain how these rules help everybody accessing this technology.	Understand and respect age restrictions for online activities. Know who to talk to if being pressured to do something online that makes you feel uncomfortable.	Identify times when someone may need to limit the amount of time they use technology.	to promote health and wellbeing with regards to technology. Understand the importance of seeking permission before purchasing anything online (e.g. in-app purchases, lootboxes)	purpose. Make suggestions on how to manage the pressures that technology can place on somebody. Independently access strategies to lessen the impact of technology on health (e.g. night-shift mode, regular breaks, correct posture)
	Online Bullying		Begin to describe ways people can be unkind online. Know that people you talk to online could be anywhere in the world.	Describe how to behave online in ways that do not upset people and give simple examples.	Understand what bullying is and how it makes people feel. Know different ways to get help if experiencing bullying.	Explain appropriate ways to behave to people online and why this is important. Recognise how bullying behaviour could appear online and how to get support.	Recognise when someone is upset, hurt or angry online. Know how people can be bullied through a range of media (e.g. image, video, text, chat) Understand the importance of thinking before posting or commenting on an online service.	Identify similarities and differences between online bullying and bullying in the physical world. Understand that people perceive jokes differently. Know how to block abusive users. Describe helpline services which can help people experiencing bullying (e.g. Childline)	Know how to capture bullying content as evidence (e.g. screen-grab) to share with other who can help. I know how someone would report online bullying in different contexts.
	Online Relationships	Start to interact with people in different ways. Know that	Recognise some ways the internet can be used to communicate.	Begin to understand when to ask permission to do something online.	Understand why a trusted adult should be asked before sharing anything online	Describe how the internet can bring people with similar interests together.	Describe strategies for safe and fun experiences in a range of online	Give examples of technology specific forms of communication (e.g. emojis, memes,	Explain how sharing something online can have a positive or

		technology can be used to communicate over long distances.	Give examples of technology that can be used to communicate with familiar people.	Explain why it is important to be considerate and kind to people online. Use the internet, with support, to communicate with familiar people.	about yourself or others. Understand the right to say 'no' or 'I will have to ask someone'. Know what to do if you feel under pressure.	Understand what it means to 'know someone' online and how this is different to know someone offline. Know that you can change your mind about trusting someone online if you are made to feel nervous or uncomfortable.	social environments. Give examples of how to be respectful to other online. Recognise healthy and unhealthy online behaviours.	GIFs) Understand that some people online may want to do harm. Describe how people can be involved in online communities and how they can make positive contributions. Demonstrate how to support others online.	negative impact. Describe how to be kind and show respect to other online users. Show clear boundaries of what to share online about themselves. Understand that taking or sharing inappropriate images can have an impact for the sharer and others.
	Online Reputation			Understand that information stays online and can be copied. Describe what information should not be shared online.	Explain how information put online about someone can last a long time. Understand that anyone's online information could be seen by others.	Show an understanding of how to search for information about others online. Give examples of what people may, or may not, be willing to share online. Explain who to ask if unsure about putting something online.	Show an understanding of how to search for information about others online giving examples. Explain ways that information about anyone online could have been created, copied or shared by others.	Independently search for information about an individual online and summarise the collected information. Describe ways that information can be used to make judgements and how these could be incorrect.	Explain how anybody can develop a positive online reputation. Explain strategies to protect their 'digital personality' and online reputation, including degrees of anonymity.
	Managing Online Information		Start to identify devices which can be used to access the internet.	Give simple examples of how to find information using digital technologies. Understand that good and bad	Use simple keywords in a search engine. Explain, and use, voice activated searching. Show an understanding that this is not a	Use key phrases in a search engine to gather information. Explain what autocomplete is and mostly select the best	Begin to analyse information to make a judgement about its accuracy. Describe some methods used to encourage	Explain what is meant by 'being sceptical'. Give examples of when and why it is important to be sceptical. Evaluate digital	Explain how search engines work and how results are selected and ranked. Describe and give examples of

				things can be found online. Know how to get help from a trusted adult if content that makes you feel uncomfortable is seen.	real person (e.g. Alexa, Google, Siri) Know the difference between imaginary and real things. Explain why some information online may not be real or true.	suggestion. Explain how the internet can be used to sell and buy things. Explain the difference between 'belief', 'opinion' and 'fact'. Give examples of where these could be shared online.	people to buy things online and recognise these when they appear. Explain how people sharing the same opinions online does not always make them true. Understand what is meant by 'fake news' and give some examples.	content and make choices about what is trust worthy (e.g. difference between adverts and search results)	how some online information can be opinion. Understand how companies and news outlets target people with online news. Describe the difference between online misinformation and disinformation.