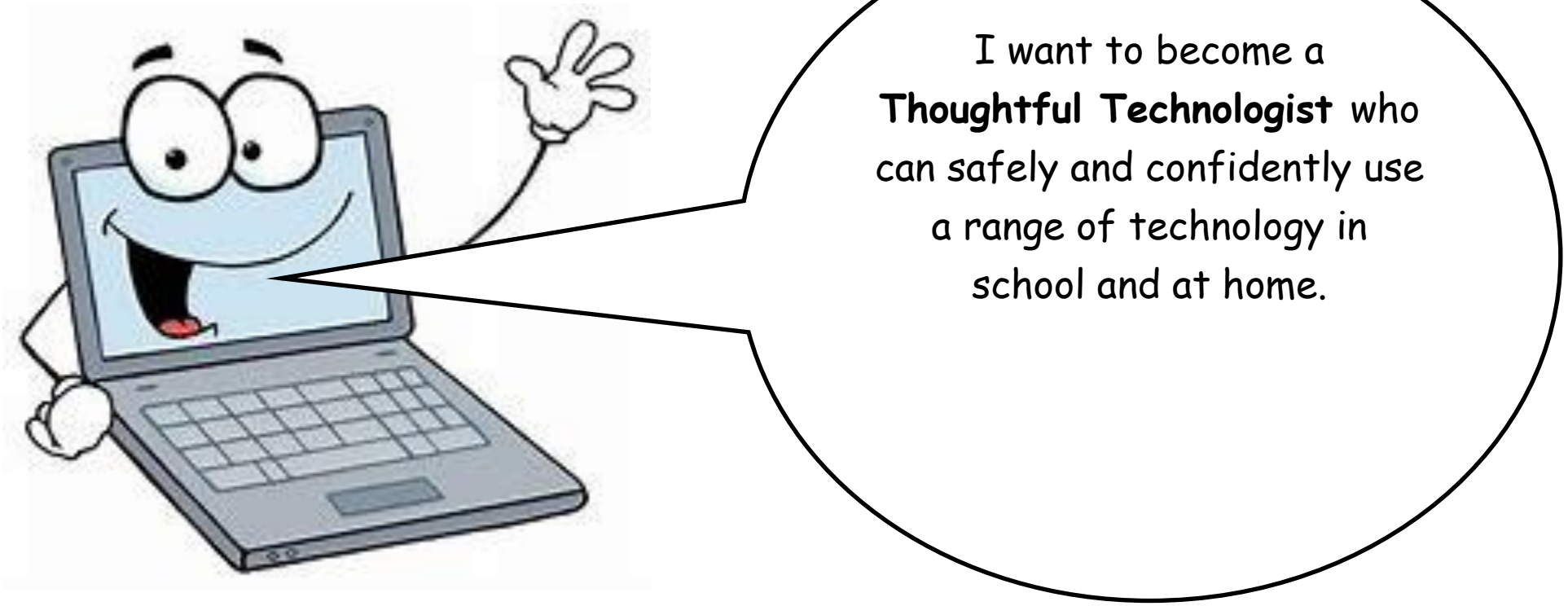
Computing in the Early Years

What does a Computer Technologist look like in the EYFS?



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Characteristics of Effective Learning: Playing and exploring – children investigate and experience things and have a go; Active learning – children concentrate and keep trying if they encounter difficulties and enjoy achievements; Creating and thinking critically – children have and develop their own ideas, make links between ideas, and develop strategies for doing things. In addition, the prime area of learning PSED, CL and PD underpin and are an integral part of all areas of learning

The most relevant statements for computing are taken from the following areas of learning:
- Personal, Social and Emotional Development
- Physical Development
- Understanding the World
- Expressive Arts and Design

Intent: At Tenbury we develop the foundational skills of computing. We hope to develop safe, responsible and competent learners who can navigate and investigate using technology.
For children to develop the knowledge and skills they need to keep themselves safe online and to prepare children for the pivotal role technology will play in their lives, both as children and adults.

Themes	**A1 – Happy To Be Me** **A2 – Over The Rainbow**		**Sp1 – Tell Us a Story** **Sp2 – Help Is At Hand**		**S1 – If You Go Down To The Wood** **S2 – What a Wonderful World**	
Learning Overview	We will begin exploring a range of technological equipment and think about operating equipment in the provision e.g. CD player and playing on the interactive white board.		We will discuss the importance of internet safety and what we should do if we face an issue. We will create posters to remind nursery of the rules e.g. Click x on pop ups and asking grownups for help. We will play games to enhance others areas of learning, such as art and mathematics.		We will think about what technology we use at home and why it is useful and important. We will explore directions and basic coding.	
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Evidence in Floor Books	We will find out what technology is used in the home and at school. We will use 'Talking Postcards' to record sounds on a listening walk. We will use a grid for 'human Bee Bots' and use simple commands.	We will create a rainbow picture using I-Pads	We will use Bee Bot on a simple map.	We will explore a variety of remote-control vehicles.	We will use the I-Pads to take group pictures at regular intervals of coloured melting ice. With the help of an adult, we will print these pictures and use them for sequencing.	We will be directing a Bee Bot across a map to collect honey for the biscuits. We will use coding direction cards.
Computing Sticky Knowledge	I can tell you some technology that is used at home and school. I can use a 'Talking Postcard' to record some sounds. I can follow simple instructions.	I can follow simple instructions.	I can program a Bee-Bot to move.	I can use a control pad to make a car move	I can use an I-Pad to take photos.	I can direct a Bee Bot to some honey.
Computing We revisit knowledge and	• To show resilience and perseverance in the face of a challenge. • To know and talk about the different factors that support their overall health and wellbeing: -sensible amounts of 'screen time'. • To develop their small motor skills so that they can use a range of tools competently, safely and confidently • To explore, use and refine a variety of artistic effects to express their ideas and feelings • To discuss online safety and give reasons why we need to stay safe online – Smartie the Penguin and Clickin Chicken • To develop digital literacy skills					

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skills throughout the year	• To complete a simple program on electronic devices • To create content such as a video recording, stories, and/or draw a picture on screen • To begin to list different IT in their home • To use the internet with adult supervision to find and retrieve information of interest to them
	Continuous Provision - Our 'CHILD LED' Computing journey through the year A range of technology is available within the classroom for the children to access, both independently and with an adult. o Chrome Books – games / activities linked to the topic or maths being covered each week/information gathering o Play with remote control toys e.g. cars. o Play with battery operated toys (torches, walkie talkies, calculators, cameras) o Operate humanbots (us) and Beebots - include a simple direction o Operate CD players o Interactive white boards – Phonics Play / Topmarks / Google Earth / Digimap./drawing o I-Pads – taking photographs, watching video clips, listening to music o Sound buttons – children can listen to a pr-recorded challenge or record their own answers. o Small world play – phones, microwave, washing machine, hoover, coffee maker, toaster, electronic key board
Key vocabulary	Computer, laptop, iPad, camera, recording, mouse, programme, hardware, software, coding, technology
During KS1, children will learn	• 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 • Use technology purposefully to create, organise, store, manipulate and retrieve digital content • Recognise common uses of information technology beyond school • Use technology safely and respectfully, 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.

Focus	Algorithms	Creating programs	Using technology	Use of IT beyond school	Safe use
Reception	• Develops digital literacy skills by being able to access, understand and interact with a range of technologies	• Completes a simple program on electronic devices	• Can create content such as a video recording, stories, and/or draw a picture on screen	• Begin to list different IT in their home	• Begin to give reasons why we need to stay safe online • Can use the internet with adult supervision to find and retrieve information of interest to them
Year 1	• Begin to clarify understanding about what algorithms are	• Begin to create their own way to use programmes to solve problems	• Begin to describe when technology can be used to solve problems	• Begin to recognise & describe about how new information technology could enhance their lives	• Begin to evaluate ways of staying safe, including online.

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Our computing journey through the year

Overview

Computing

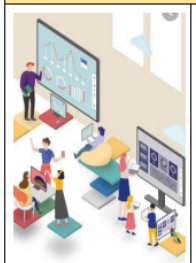
-In Computing we learn about computers and modern technology, and how we use them.

-Computers and technology are a part of our everyday life, and so it is really important that we are confident with them.

-Computing is also important because it teaches us to solve problems and come up with new ideas.

Almost all of the early Computing learning can be found in all of the 7 EYFS areas of learning - we use computing cross curricular.

Technology we use

	**Technology in the classroom** Sub-Area: Technology	-When we are in school, technology is all around us! -Explore the items below, and think about: -What does this do? How does it work? What happens when I press...? What can I use this for? Laptop Whiteboard Tablet Electronic Toys Calculator Camera Bee-Bot Voice Recorder
	**Technology at home** Sub-Area: Technology	-Technology is also all around us at home! -Using the same questions, explore these devices (safely and with the help of an adult): Phone Television Hoover Toys Music Player DVD Player Thermostat Toys with moving/flashing parts

Equipment and Software

Hardware -

-Hardware is the name for the parts of a computer that we can see and touch. Hardware helps us to work computers. Examples of hardware include the mouse, keyboard, memory stick and monitor.

Program -

-A computer program makes a computer do different things.
-Computer programs give computers instructions.
-Examples include video games, Word, PowerPoint and your internet explorer (e.g. Google).

Recording and Playback Devices -

-Recording devices capture moments and sounds, which can then be played back. Examples include video cameras and voice recorders.
-Playback devices allow us to hear music after it is played. Examples include CD and DVD players, computers, televisions and smart phones/ tablets.

Key Vocabulary

Computer
Technology
Keyboard
Camera
Toy
Recording
Mouse
Program
Hardware
Coding

Basic Coding

-Coding is when we give instructions to a computer to do a task.

-When coding we have to use a language that the computer can understand. This is called code.

-We can use coding for programmable toys like Beebots to make them move in different directions.
-We can also use Human Beebots (our friends) and make up codes for them to follow!

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Communication, and Language (Prime Area)		
0/3	3/4	R
	Use a wider range of vocabulary.	Learn new vocabulary.
Generally focus on an activity of their own choice.	Understand 'why' questions, like: "Why is it not working"?	Articulate their thoughts and ideas in well formed sentences.
Recognise and point to objects if asked about them.	Use talk to organise themselves and their play: "I'm going to press the buttons". "I'm going to make B-Bot move".	Use new vocabulary in different contexts.
		Describe events in some detail. (I need to press 'clear' first)
		Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.

Physical Development (Prime Area)		
0/3	3/4	R
Use small motor skills to do things independently.	Choose the right resources to carry out their own plan.	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. Suggested tools: I-Pad Pen, Mouse
Develop manipulation and control	Use one-handed tools and equipment, for example I-Pad pen, mouse	
	Match their developing physical skills to tasks and activities.	
	Choose the right resources to carry out their own plan.	

Personal, Social, Emotional Development (Prime Area)		
0/3	3/4	R
Notice and ask questions about differences.	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.	Show resilience and perseverance in the face of challenge.

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Mathematics (**Specific Area**)		
0/3	3/4	R
	Understand position through words alone.	
	Solve world mathematical problems	
	Describe a familiar route	
	Discuss routes and location, using words like 'in front of' and 'behind'.	
	Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then'…	

Knowledge of The World (**Specific Area**)		
0/3	3/4	R
Repeat actions that have an effect.	Explore how things work.	
	Talk about what they see, using a wide vocabulary.	

Literacy (**Specific Area**)		
0/3	3/4	R
Sing songs and say rhymes. (CD Player, I-Pad)	Use some of their print and letter knowledge (IWB).	Read individual letters by saying the sounds (Interactive Phonic Games)
		Blend sound into words (Interactive Phonic Games)

Expressive Arts and Design (**Specific Area**)		
0/3	3/4	R
Move and dance to music (CD Player, I-Pad)		
Join in with songs and rhymes(CD Player, I-Pad)		
Explore a range of sound-makers and instruments (Electronic Key Board)		

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