

Computing

Scheme of Work



At The Orchard we want all children to **master** skills and gain a **deep**, secure understanding of their **knowledge** across the curriculum.

We want the children to be motivated to learn, to be able to reason and use and apply their learning.

We will provide a language rich curriculum and high quality teaching for mastery supported by thorough planning and assessment to build on prior knowledge,

Aims for Early Years - Technology is no longer an ELG however we want children in EYFS to:

- Describe technology they find at school and at home.
- Explain that they need to use technology with an adult close by.
- Use technology safely and appropriately.

Aims for end of Key Stage 1

- 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

	EYFS	Year 1	Year 2
E-Safety and E-Sense (Link with RSE lessons)	<p>I can:</p> <ul style="list-style-type: none"> understand that some information is private. understand that I need an adult near by when using a computer. 	<p>I can:</p> <ul style="list-style-type: none"> keep my password private. explain what personal information is. know to tell an adult when I see something unexpected or worrying online. talk about why it's important to be kind and polite. begin to recognise an age appropriate website. agree and follow sensible e-safety rules. 	<p>I can</p> <ul style="list-style-type: none"> explain why I need to keep my password and personal information private. describe the things that happen online that I must tell an adult about. talk about why I should go online for a short amount of time. talk about why it is important to be kind and polite online and in real life. Understand that not everyone is who they say they are on the internet.
Key Vocabulary	<p>E-safety - learning about how we look after ourselves online. Private - not to share with people you do not know well (family)</p>	<p>E-safety - Keeping ourselves safe online. Personal information - information about ourselves that not everyone needs to know.</p>	<p>E-safety - know how to be safe online when using technology. Personal information - information that we don't tell other people. Password - A combination of letters, symbols or pictures to access certain websites.</p>
Resources / Websites	<p>E-safety resources on Espresso Saferinternet.org https://www.hamilton-trust.org.uk/topics/key-stage-1-topics/e-safety-mini-topic/e-safety-mini-topic-ks1/ Goldilocks a Hashtag Cautionary Tale by Jeanne Willis https://www.bbc.co.uk/bitesize/topics/zymyqqt/articles/zwbq7ty (how do you take care of your personal information?) https://www.bbc.co.uk/bitesize/topics/zymyqqt/articles/zym3b9q (how can you use the web safely?) https://www.stem.org.uk/resources/community/collection/358237/ks1-digital-literacy (using computers safely)</p>		

	EYFS	Year 1	Year 2
Create and debug simple programs	<p>I can</p> <ul style="list-style-type: none"> • follow instructions and give a set of simple instructions to a friend • know some things to do when I make a mistake (IWB) 	<p>I can</p> <ul style="list-style-type: none"> • give instructions to my friend and follow their instructions to move around. • describe what happens when I press buttons on a robot. • press the buttons in the correct order to make my robot do what I want. • describe what actions I will need to do to make something happen and begin to use the word 'algorithm'. • begin to predict what will happen for a short sequence of instructions. • begin to use software/apps to create movement and patterns on a screen. • use the word 'debug' when I correct mistakes when I Program 	<p>I can</p> <ul style="list-style-type: none"> • give instructions to my friend (using forward, backward and turn) and physically follow their instructions. • tell you the order I need to do things to make something happen and talk about this as an algorithm. • program a robot or software to do a particular task. • look at my friend's program and tell you what will happen. • use programming software to make objects move. • watch a program execute and spot where it goes wrong so that I can debug it.
Key Vocabulary	<p>Instruction - a way to tell someone something to do that they can understand easily</p>	<p>Algorithm - a set of instructions that can be followed without confusing a person or machine. Code - the language used by the computer which we use to tell it what to do.</p>	<p>Algorithm - an unambiguous instruction that is given to a person or computer for them to follow successfully. Code - the language we use to programme a computer to perform a task.</p>

		<p>Debug - work out what is wrong and change it.</p> <p>Programme - to put our code / algorithm into a machine/robot/computer</p>	<p>Debug - recognise what part of our code is wrong and how to fix it</p> <p>Programming/Coding- putting the information needed into the device to make it complete our algorithm.</p>
Resources / Websites	<p>Espresso Coding and relevant espresso resources</p> <p>Bee-bots + bee-bot mats</p> <p>https://www.bbc.co.uk/bitesize/topics/z3tbwmn/articles/z3whpv4 (what is an algorithm?)</p> <p>https://www.bbc.co.uk/bitesize/topics/z3tbwmn/articles/zykx6sg (what is code?)</p> <p>https://www.bbc.co.uk/bitesize/topics/z3tbwmn/articles/zqnc4wx (how do you programme a robot?)</p> <p>https://www.stem.org.uk/resources/community/collection/357940/ks1-algorithms (includes algorithm song)</p>		

	EYFS	Year 1	Year 2
Multimedia	<p>I can</p> <ul style="list-style-type: none"> Use the classroom IWB successfully. 	<p>I can</p> <ul style="list-style-type: none"> be creative with different technology tools. use technology to create and present my ideas. use the keyboard or a word bank on my device to enter text. save information in a special place and retrieve it again 	<p>I can</p> <ul style="list-style-type: none"> use technology to organise and present my ideas in different ways. use the keyboard on my device to add, delete and space text for others to read. tell you about an online tool that will help me to share my ideas with other people. save and open files on the device I use.
Key Vocabulary	Point, press, drag	<p>Save - putting what you have done somewhere the computer, and you, can find it and open it again.</p> <p>Edit - to change something you have already done to make it better</p>	<p>Backspace, delete, spellcheck, keyboard, mouse</p> <p>Retrieve - to know where to look to find what you have already saved.</p> <p>Edit - looking critically to make what you have done the best it can be.</p>

Resources / Websites	Laptops with clicker7 and Microsoft word (keyboard based) Microsoft paint programme Topmarks and ICT games resources Espresso resources for games and information https://www.stem.org.uk/resources/community/collection/359119/ks1-information-technology (using technology purposefully)
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	EYFS	Year 1	Year 2
Technology in our lives	<p>I can</p> <ul style="list-style-type: none"> Know some different forms of technology to use in school and at home. 	<p>I can</p> <ul style="list-style-type: none"> recognise the way we use technology in our classroom. use links to websites to find information. begin to identify some of the benefits of using technology 	<p>I can</p> <ul style="list-style-type: none"> tell you why I use technology in the classroom. tell you why I use technology in my home and community. starting to understand that other people have created the information I use. identify benefits of using technology including finding information, creating and communicating. talk about the differences between the internet and things in the physical world.
Key Vocabulary	Technology - devices or tools used for a purpose.	Technology - electronic and non-electronic objects we use for a specific purpose or job.	Technology - The use of knowledge to invent devices (electronic or non) to make people's lives easier.
Resources / Websites	Espresso - what technology we find around our school / community BBC Bitesize computing https://www.twinkl.co.uk/resource/technology-all-around-us-photo-powerpoint-t-tp-69726 (all around us)		

Extra resources available at https://teachcomputing.org/curriculum?_ga=2.122573899.155279963.1633358711-1697483204.1633358711