



Subject: Computing

Year Group	Knowledge *non-negotiable knowledge highlighted in green	Skills *non-negotiable knowledge highlighted in green	Vocabulary	Inspirational people/events	Club/visit/experts
R	No explicit content from EYFS Curriculum Exposure to devices in continuous provision and in small world areas of the classroom. Learning to take place about technology both past, present, and future.				
1	<p>Digital literacy</p> <ul style="list-style-type: none"> • understand how to stay well behaved and safe online • recognise technology both in school and at home • to know how to be polite and kind online and why it is important • to understand what to do if someone is unkind to you online <p>Computer science</p> <ul style="list-style-type: none"> • To explain what a given command will do • understand the functions of a robot • understand what a set of instructions is (algorithm) • understand how to debug a program • understand the four level that can describe a project (task - what is needed, design - what it 	<p>Digital literacy</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 it is important to be kind and respectful online and in real life. <p>Computer science</p> <ul style="list-style-type: none"> • predict the outcome of a command on a device and match a command to an outcome • run a command on a device • follow an instruction and give directions • start a sequence using forward and backward commands • experiment with turn and move on a robot • to plan a simple program 	<ul style="list-style-type: none"> • online safety • password • safe • technology • polite • kind • computer • keyboard • screen • mouse • drag • tools • label • group • record • save • delete • beebot • robot • command • program • instruction/algorithm • login • debug • sprite 		

	<p>should do, code - how it is done, running the code - what it does)</p> <p>IT</p> <ul style="list-style-type: none"> ● explain technology as something that helps us ● identify parts of a computer ● understand how to use a keyboard ● know how to manipulate a computer program to create a picture <p>understand that objects have many different labels and can be grouped together</p>	<ul style="list-style-type: none"> ● debug a program ● use the functions in Scratch Jr and create a simple program using algorithms ● test the effectiveness of the program <p>IT</p> <ul style="list-style-type: none"> ● switch on a computer and log into a computer ● use a mouse to click and drag ● type on a keyboard and edit ● make marks on the screen and use the shape tool ● create a picture on a computer ● label and group objects <p>compare objects and record and share what has been found out</p>	<ul style="list-style-type: none"> ● blocks 		
2	<p>Digital literacy</p> <ul style="list-style-type: none"> ● to know that you can always speak to a grownup who will be able to help ● understand that if there is anything you see or hear online that makes you feel worried, scared or sad you can put your device and talk to an adult ● understand what consent is ● understand what personal information is <p>IT</p> <ul style="list-style-type: none"> ● recognise the uses and features of IT ● know how to use IT effectively ● know what devices can be used to take photographs ● understand the process of taking a good photograph ● know what pitch and duration is <p>Computer science</p> <ul style="list-style-type: none"> ● understand what a set of 	<p>Digital literacy</p> <ul style="list-style-type: none"> ● Identify what personal information is. ● Be able to communicate with adults if you see or hear anything worrying online. ● Follow sensible online safety rules. ● explain what consent is <p>IT</p> <ul style="list-style-type: none"> ● describe the uses of a computer and identify that it is part of technology ● make good choices when using IT ● list different uses of IT both in and out of school. ● use IT responsibly ● capture digital photos ● edit photographs using list and desired tools ● choose an effective tools to adapt a photograph ● identify images that have been changed ● record data in a tally 	<ul style="list-style-type: none"> ● videos ● consent ● personal information ● computers ● technology ● file ● resize ● device ● photograph ● capture ● resize ● edit ● lighting ● tally chart ● data ● pictogram ● object ● information ● instructions/algorithms ● sequence ● unambiguous ● goal ● test ● debug 		

	<p>instruction are</p> <ul style="list-style-type: none"> • know how to create clear, unambiguous instructions • know how to program a floor robot • understand the four level that can describe a project (task - what is needed, design - what it should do, code - how it is done, running the code - what it does) • understand the different outcome of blocks used on a computer program • know what debugging is and how to do it effectively 	<ul style="list-style-type: none"> • enter data on a computer • use a computer program to present information in different ways • create a pictogram • use objects to make comparisons • create a rhythm pattern • use a computer to experiment with pitch and duration • create a musical pattern using a computer program • save work in a file • retrieve work that has been previously saved. <p>Computer science</p> <ul style="list-style-type: none"> • follow instructions as a sequence • give clear, unambiguous instructions • create different algorithms • predict an outcome • compare prediction to the program outcome • create an algorithm to meet a goal • test and debug an algorithm • identify the start of a program • change the design on a program • create a simple algorithm on a computer program • work out the action of a sprite in an algorithm • edit and improve code on a computer program 	<ul style="list-style-type: none"> • music • pitch • duration • rhythm pattern • program • block • project • compare 		
3	<p>Digital Literacy</p> <ul style="list-style-type: none"> • use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour <p>IT</p> <ul style="list-style-type: none"> • understand how digital devices function 	<p>Digital Literacy</p> <ul style="list-style-type: none"> • I can talk about what makes a secure password and why they are important. • I can create a secure password. • I can protect my personal information when I do different things online. • I can use the safety features of 	<ul style="list-style-type: none"> • Smart • Alert • Secure • Kind • Brave • Safe • Report • bystander • online 		Andrew Gunn/Other Computing Visitor

	<ul style="list-style-type: none"> • know the input, process and output of a device. • recognise digital devices can change the way we work • know the differences between digital devices and non digital tools • understand what a computer network is • know what the role of a switch, server and wireless access point in a network • know what an animation is • understand what stop motion is and how it is made • know the difference between text and images • define the term page orientation • know why desktop publishing might be helpful • explain what a branching database is • know how branching database collect data <p>Computer science</p> <ul style="list-style-type: none"> • understand what programming is • know what a sequence is • understand what a block of code is and what it does • know the relationship between an event and action • know how to modify a program • explain what bugs in programming means know the suitable features that can be adapted in a programming environment 	<p>websites as well as reporting concerns to an adult.</p> <ul style="list-style-type: none"> • I can recognise websites and games appropriate for my age. • I can make good choices about what I do online. • I can show respect to others online. • I can tell you ways to communicate with others online. <p>IT</p> <ul style="list-style-type: none"> • explain that digital devices accept inputs and outputs • follow a process • classify input and output devices • model a simple process • design a digital device • identify how devices in a network are connected with one another • identify benefits of a computer network • draw a sequence of pictures • create an effective flipbook • predict what a animation will look like • create an effective stop frame animation • add media to a animation • evaluate the animation created • change font style, colour and size for given purpose • create a template for a specific purpose • copy and paste text and images • Identify the object attributes needed to collect relevant data • Create a branching database • Create yes/no questions using given attributes • compare two branching databases 	<ul style="list-style-type: none"> • download • input • output • process • network • server • switch • wireless access point • animation • sequence • flip book animation • predict • characters • setting • media • film • Scratch • sprites • backdrop • attributes • actions • design • algorithm = code • text • image • purpose • copy and paste • desktop publishing • branching database • groups • questions • error • debug • create • predict • logical reasoning • repeats evaluate 		
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		<p>Computer science</p> <ul style="list-style-type: none"> • identify sprites and backdrops • create a program and follow a design • create a sequence of connected commands • change the appearance of my project • explain choices that you have made in your program • create a program to move a sprite in four directions • adapt a program I have created • choose blocks to set up a program • test program against given design • modify a program using design • evaluate my project 			
4	<p>Digital Literacy</p> <ul style="list-style-type: none"> • use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content <p>IT</p> <ul style="list-style-type: none"> • Describe the internet as a network of networks • know how networks physically connect to other networks • recognise how networked devices make up the internet • understand how the internet allows us to view the World Wide Web • describe how to access websites on the WWW • recognise how the content of 	<p>Digital Literacy</p> <ul style="list-style-type: none"> • I can talk about the importance of keeping personal information private. • I know that others may not be who they say they are online and question suspicious behaviour with a trusted adult. • I can talk about the ways I can protect myself and my friends from harm online. • I use the safety features of websites as well as reporting concerns to an adult. • I know that anything I post online can be seen by others. • I understand that everyone has a responsibility to create a positive atmosphere online. • I choose websites and games that are appropriate for my age. • I can talk about why I need to ask 	<ul style="list-style-type: none"> • networks • information • internet • World Wide Web • Media • Websites • Audio • Digital devices • inputs • outputs • record • commands • code • algorithm • repeat • repetition • patterns • count-controlled loop • loop • procedure • debugging • data • composition • environment 		Andrew Gunn/Other Computing Visitor

the WWW is created by people

- Understand what data is and how it can be collected
- Understand that digital images can be changed
- Recognise that not all images are real

Computer science

- Understand what an sequenced algorithms is
- Know what repeat means
- Recognise repetition in a piece of code
- Understand how to evaluate a piece of code

a trusted adult before downloading files and

games from the Internet.

- I comment positively and respectfully online.

IT

- Create media which can be found on the websites
 - Evaluate the consequence of unreliable content
 - Identify that sound can be digitally recorded
 - Use a device to record sound
 - Plan and write the content for a podcast
 - Save digital recordings
 - Open and edit digital recordings
 - Choose data set to answer questions
 - Use a digital device to collect data automatically
 - Use data collected over a long duration of time
 - Use collected data to answer questions
 - Change the composition of an image
 - Make good choices when selecting different tools
 - Evaluate how changes improve an image
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- Computer science
- Program a computer by typing commands
 - Create a code snippet for a given purpose
 - Use a count controlled loop to produce a given outcome
 - Develop a program by debugging it
 - Develop the use of count-

		<p>controlled loops in a different programming environment</p> <ul style="list-style-type: none"> • Predict an outcome of a snippet of code • Design a project that includes repetition • Refine the algorithm 			
5	<p>Digital Literacy</p> <ul style="list-style-type: none"> • use technology safely, respectfully, and responsibly, know a range of ways to report concerns and inappropriate behaviour • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content <p>IT</p> <ul style="list-style-type: none"> • Describe that a computer system features input, processes and outputs • Explain that computer systems communicate with other devices • Recognise the role of computer systems in our lives • Recognise how information is transferred over the internet • Recognise the features of an effective video • Understand the difference between paper and computer based databases • Apply knowledge of a database to ask and answer real world questions • Understand that drawing tools can be produce different 	<p>Digital Literacy</p> <ul style="list-style-type: none"> • I protect my password and other personal information. • I can explain why I need to protect myself and my friends and the best ways to do this, including reporting concerns to an adult. • I know that anything I post online can be seen, used and may affect others. • I can talk about the dangers of spending too long online or playing a game. • I can explain the importance of communicating kindly and respectfully. • I can discuss the importance of choosing an age-appropriate website or game. • I can explain why I need to protect my computer or device from harm. • I can become a critical consumer when online. <p>IT</p> <ul style="list-style-type: none"> • Plan a video project using a storyboard • Identify digital devices that can record video • Capture video using a digital device • Identify that video can be improved through reshooting and 	<ul style="list-style-type: none"> • systems • processes • inputs • outputs • networks • information • project • lighting • shooting • clipping • special effects • simple circuit • microcontroller • infinite loop • condition • flat file database • filter • vector • zoom • layers • conditions • outcomes • crumble 		Andrew Gunn/Other Computing Visitor

	<p>outcomes</p> <ul style="list-style-type: none"> • Recognise that vector drawings consist of layers <p>Computer science</p> <ul style="list-style-type: none"> • Know what a simple circuit is • Develop an understanding of how the flow of actions in algorithms and programs can be controlled by conditions • Explain how selection is used in computer programs 	<p>editing</p> <ul style="list-style-type: none"> • Consider the impact of the choices made when making and sharing a video • Use a form to record information • Compare paper and computer based databases • Group information to answer questions • Explain that tools can be used to select specific data • Create a vector drawing by combining shapes • Use tools to achieve desired effects • Group objects to make them easier to work with • Evaluate vector drawings <p>Computer science</p> <ul style="list-style-type: none"> • Control a simple circuit connected to a computer • Write a program that includes count-controlled loops • Explain that a loop can stop when a condition is met • Design a physical project that includes selection • Create a controllable system that includes selection • Test and debug the system that has been created • Create a program which uses selection • Evaluate my program 			
6	<p>Digital Literacy</p> <ul style="list-style-type: none"> • use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour 	<p>Digital Literacy</p> <ul style="list-style-type: none"> • I protect my password and other personal information. • I can explain the consequences of sharing too much about myself online. • I support my friends to protect 	<ul style="list-style-type: none"> • search engine • web crawlers • search ranked • manipulate • 3D model • 2D model • variable 	ROAR project	Police Liaison Officer Andrew Gunn/Other Computing Visitor

	<ul style="list-style-type: none"> ● use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content IT ● Know what a search engine is ● Know how search engines are ranked ● Recognise why the order of results is important and to whom ● Recognise how we communicate using technology ● Explain that objects can be described ● understand what copyright is ● Recognise the need to preview pages <p>Computer science</p> <ul style="list-style-type: none"> ● Understand a variable as something that is changeable ● Know what selection can control the flow of a program ● Explain what a conditional statement is 	<p>themselves and make good choices online, including reporting concerns to an adult.</p> <ul style="list-style-type: none"> ● I can explain the consequences of spending too much time online or on a game. ● I can explain the consequences to myself and others of not communicating kindly and respectfully. ● I protect my computer or device from harm on the Internet. ● I can select an appropriate tool to communicate and collaborate online. <p>IT</p> <ul style="list-style-type: none"> ● Search the web using specific information ● Refine my search and compare ● Use a computer to create and manipulate three dimensional digital objects ● Compare working digitally with 2D and 3D graphics ● Construct a digital 3D model of a physical object ● Develop and improve a digital 3D model ● Identify questions which can be answered using data ● Create a spreadsheet to plan an event ● Choose suitable ways to present data ● Plan the features of a web page ● Outline the need for a navigation page ● <p>Computer science</p> <ul style="list-style-type: none"> ● Identify that variable can hold numbers or letters 	<ul style="list-style-type: none"> ● placeholder ● spreadsheets ● objects ● formulas ● cells ● graph ● questions ● website ● media ● copyright ● navigation path ● controllable device ● sensing ● modify ● input ● output 		
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• Choose how to improve a game by using variables

- Design a project that builds on a given example
- Use my design to create a project
- Evaluate my project
- Create a program to run on a controllable device
- Use a conditional statement to compare a variable to a value
- Design a project that uses inputs and outputs on a controllable device
- Develop a program to use inputs and outputs on a controllable device