



Ashdene Primary School – Computing Progression Map EYFS –Y6

Purpose of Study	<ul style="list-style-type: none"> A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science and design and technology, and provides insights into both natural and artificial systems. The core of computing 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. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world. 						
Aims	<ul style="list-style-type: none"> Pupils can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation Pupils can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems Pupils can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems Pupils are responsible, competent, confident and creative users of information and communication technology 						
EYFS		Y1	Y2	Y3	Y4	Y5	Y6
40-60m Completes a simple program on the computer Interacts with age appropriate computer software ELG Can recognize that a range of technology	Computer Science						
	Links to prior learning	Children recap a range of technology Discuss the purpose of different pieces of technology	Review what a an algorithm is Review what different algorithms are used for	Review creating a set of commands to control a piece of technology Review testing and debugging algorithms	Review inputs and outputs Review combining an algorithm with an output	Review block coding Review code used to make a game work	Review converting code into everyday language Review the use of variables in coding
		1 - Introduce the phrase algorithm. Look at a series of written instructions. - Children to write their own set of instructions for every day purposes	- Review on the word algorithm. What do children remember> - Introduce the App A.L.E.X. Can children programme algorithms - Teacher model on Airplay	- Review coding and when they have used this before? Discuss Scratch Jnr. - Explain that this half term we are going to be creating algorithms for drones.	- Review the impact of block coding. What does it allow us to do? - Review inputs and outputs - Introduce scratch to the children	- Review block coding from previous work completed. Discuss Scratch and anywhere else, they will have seen block coding. Show examples	- Review of block coding. What are inputs, outputs and block coding? - Teacher to show children a microbit and explain what it is.



is used in places such as homes and schools.		e.g. making a bowl of cereal	- Children have play A.L.E.X	- Teacher to model a drone flight using manual controls	- Teacher model the layout of the platform. - Teacher model a basic instruction for a character.	- Teacher modelling of the Sphero app. Show the set up and how the app presents.	- Teacher to show video that demonstrates the capacity of a microbit. Introducing the BBC micro:bit - BBC Make It Digital - YouTube
The select and use technology for different purposes	2	- Link instruction to basic technology devices. - How to record a programme on sky/virgin box. How to start a microwave. How to set a washing machine. - Introduce Bee-Bot. How would we make this work? - Write algorithms to control a Bee-bot. Short challenges. Use picture mats.	- Discuss the phrase predict. Children look at an algorithm and discuss what they think will happen. - Teacher to show series of algorithms for Scratch Jnr. Children work in teams to decide what is going to happen. - Children test out their predictions.	- Introduce the Tynker App and model to children what the structure of the block coding. - Teacher models the different instructions for the basic block coding. - Children to write down the instructions for what would be needed to take off and land the drone. - Children test the instructions - Debug any issues	- Teacher recap from previous week. Can children remember how to make character move. - Children practice - Teacher to show children how to change character and how to change background. - Children to change their character and their background. - Teacher to set out plan for the remaining lessons; "to create a racing game" Model	- Teacher to show how to make a Sphero move around a shape. - Ask children if they understand the degrees of direction and speed? - Discuss and model to the children what happens and discuss the important of the blue dot on the Sphero. - Children to work in groups to map out the algorithm needed to move around a shape. - Debug	- Teacher to model the use of microbit app demonstrating the different inputs and outputs. - Teacher to model a very basic programme. - Children to practice using the microbit app to create algorithms to create different outputs. - Review and debug algorithms.
	3	- Embed vocabulary or direction and units of movement. - Teacher model designing algorithms - Children practice using algorithms to make a Bee-bot move.	- Introduce the work 'Debug'. What do the children think it means? - Teacher uses Alex to plan how to solve a level (Beyond level 14) Teacher tries but fails. - Children to work in groups to debug the algorithm. - Repeat with different levels. Children to	- Teacher models the use of green blocks for making the drone move. Focus on the different numbers and what they represent. - Teacher to set challenge take off zone and landing zone. - Children to work in teams to write out their predicted instructions.	- Teacher shows an example of working version of a scratch racing car game. - Children to work in groups and begin to plan out their ideas. - Teacher to pause at different intervals to share good ideas. - Children to begin thinking about the coding required.	- Teacher to show a basic obstacle course. Children to work in groups to map out, test, review and debug their algorithms. Set as a challenge – which team can complete the course first?	- Teacher to map out the plan for the microbit project. - Children to work in groups to plan and map out their microbit project.



	Links to prior learning	review different ways that media can be used	Review capturing images Review using music and sound in a simple programme	Review using different media forms to present images, sound and music. Review simple animations	Review animations Review how different multimedia can be used to achieve different outcomes	Review capturing still and moving images Review different media used for presentation	Review simple CAD programs Review different media used in previous 6 years
	1	<ul style="list-style-type: none"> - Teacher to model the camera function on an iPad. Teacher also demonstrate how to take a photograph with the 5mp still cameras. - Children to practice taking photographs around the classroom. Can they make sure they are in focus. - Teacher to model where to find the photographs when they have been taken. 	<ul style="list-style-type: none"> - Teacher to review use of book creator/PicEdu. What can the children remember? - Discuss the purpose of a book creator and identify what curriculum subject we could use a book creator for? - Children to use the book creator app to create the front cover 	<ul style="list-style-type: none"> - Teacher to recap use of book creator and Pic edu. Children to choose and app to demonstrate the skills they've learnt using remove.bg if needed. - Teacher to model using green screen app to create a short video. 	<ul style="list-style-type: none"> - Teacher to recap use of the different media programs the children have used so far. - Teacher explains that all of the different media apps are skills required to make a complete video. - Teacher model examples of iMovies. - Teacher to show a story map of the iMovie. - Children to begin story mapping their scenes for their iMovie. 	<ul style="list-style-type: none"> - Teacher to bring a chair to the front of the classroom and ask children to draw this on a piece of paper. - How did you draw the chair? How did you know the correct size proportion? - Link to 3D CAD design and ask children why it is important to use specific dimensions? - Teacher to show CAD examples. Introduction to CAD - Computer Aided Design - YouTube 	<ul style="list-style-type: none"> - Teacher introduce the Stop motions studio app and explain to the children that they are going to be making a movie. Play clip from LEGO movie and ask the children if they know how these were made? - Children explains that they are created using stop motion and Green Screen technology - Teacher model making a basic Stop Motion video.
	2	<ul style="list-style-type: none"> - Teacher to introduce the Pic Edu App. - Teacher to model how the App works and the different functions available in the freestyle mode. - Create a basic picollage using a photograph taken in the previous lesson. 	<ul style="list-style-type: none"> - Children to map out their book creator pages to link with curriculum topic chosen. 6 Pages minimum will be required to complete the book. - Teacher to model adding sounds and animations. 	<ul style="list-style-type: none"> - Recap green screen app - Teacher model how to use the app and demonstrate combining a video and a background. Teacher model a newsreader animation. 	<ul style="list-style-type: none"> - Children to complete their story maps. - Teacher models how to begin collecting the required sections. - Children to begin filming and capturing images for their iMovie - Children can use: PicEdu Green Screen App 	<ul style="list-style-type: none"> - Children to be introduced to the Tinkercad app. - Teacher to model the usage of the app. - Children to practice using the Tinkercad app to design something in the room to imitate. 	<ul style="list-style-type: none"> - Children to story map their stop motion video. What are they going to use and what story is it going to tell? - Teacher model creating a story map. - Children gather the items they need to make their stop motion videos.



		- Children to practice using the app		- Children practice using the green screen app to film some basic videos	Remove.bg iMovie		- Children practice using the app to film a basic animation.
3		- Children to create a Picollage using more than one picture and some text. - Teacher to introduce book creator and explain the difference between the two apps. - What can the children see?	- Children to continue with their book creator book. - Teacher to model downloading music from copyright free websites. Royalty Free Music - Bensound - Teacher to model adding background sound to a book creator book	- Teacher model creating a story map to film their green screen video. - Children to story map their video and download required image for the Green Screen. - Children to film their own Green screen videos.	iMovie lesson 2 - More teacher modelling of the transition processes between sections. - Discuss the use of different angles of videos. - Children's examples played for the class.	- Children to use the Tinkercad app to create a design for their hoverboard. Each child to create a Tinkercad picture separately - Teacher to show examples using Airserver	Stop Motion lesson 2 - Teacher to model another stop motion video which shows specific detail of a characters mouth movement and how this can be created. - Children continue their videos including a character speaking and their mouths moving.
4		- Teacher models a completed book creator book. - Ask children what they could see and hear. - Teacher model adding an image, sound and text to a book creator page. - Children practice completing 1 page	- Book creator book session 4. - Completing book creator books.	Green screen filing lesson 2	iMovie lesson 3 - Teacher to model editing the iMovies with a focus on making sure the video follows the story map. - Children to watch some examples and identify areas that could be improved.	- Teacher to model using PowerPoint. - Teacher to model the key features of the animation and presentation templates - Children design and gather resources to make their PowerPoint about their Hovercraft	Stop Motion lesson 3 - Children to add a background to the first scene of the stop motion animation using the green screen element to the app and a downloaded background.
5		- Children story map out their 4 book creator pages. What is going on each page and in what position. - Children begin their book creator book	- Introduce the Puppet pals app. Teacher to model an animation using the characters and the background. - Teacher to model using the remove.bg website to create a	- Teacher introduce Explain everything. Model using the programme to bring together their green screen video and then adding text and images to explain the video.	iMovie lesson 4 - Children to complete editing of their iMovie making sure they have evidenced the use of: Video Text Sound (Voice) Music	- Children begin to design PowerPoint that shows the different stages of designing and making their Hovercraft - Teacher to model animations	Stop Motion lesson 4 - Teacher to model adding sound and voice recording to the stop motion video - Children add this element to their videos - Teacher model editing .



		character to use in the animation. - Children to create their own characters using remove.bg	- Children practice adding their green screen video to the explain everything app		-Children to include an animation in their PowerPoint	
6	Complete and demonstrate their book. Capture screen shots that can be saved for topic book evidence.	- Teacher model creating another animation using their own character. - Children to create their animation by using a character and recording sound.	- Teacher to model adding text and further images - Children add text, voice recording and additional images they need for their explain everything presentation. - children present.	Final iMovie lesson Teacher to play the iMovies for the class and children to complete reflection and reviews on their iMovies using a grading sheet with areas for comments.	Final PowerPoint lesson. Children to complete and demonstrate their slides. Review	Stop Motion lesson 5 - Children complete their stop motion movies and play for the class. Children complete review sheet with grading and space for comments.
Data Handling						
Links to prior learning	Review different ways of looking at information	Review pictograms	Review different types of graphs	Review different ways of collecting and organizing information	Discuss search engines and their different criteria Review spreadsheets	Review different types of information presented in a spreadsheet Review organizing information using search technology and filters
	Sort, organise and classify objects based on their properties. Represent and interpret simple data as pictograms.	Represent information as a simple block graph or pictogram. Organise and interpret data as a simple graph. Sort and answer questions using yes/no answers.	Collect and organise information to find answers to questions. Create different graphs that show data for different purposes across the curriculum. Store and access data using a database.	Represent data in a database using appropriate data types. Turn questions into search criteria and use database tools to find answers	Create charts using appropriate data to interpret and answer a specific question. Create a database to store and search relevant information.	Identify and collect appropriate data to answer their questions. Use data in an appropriate application to test a theory/hypothesis. Refine, search, filter, sort and graph data for



					Use a spreadsheet to enter data and perform simple calculations.	Interrogate a database using suitable questions.	purpose in a database or spreadsheet.
					Convert data in a spreadsheet into different graph types for different purposes.	Use technology to search and sift through large amounts of different types of information	Use a spreadsheet to create real life models of information to offer a solution to a real life problem.
					Change elements of a spreadsheet and understand the effects on other calculations.	Use a range of calculations and functions in a spreadsheet.	Collect and represent data using infographics.
	E-Safeguarding						
Links to prior learning	Review different media sources used at home and in school	Review the different trusted adults Review what the internet is and the rules for using it.	Review etiquette when playing online games Review the dangers of sharing information online	Review what cyber bullying is Review information sharing online Review reliability of information	Review the need for secure passwords Review parental restriction and age restrictions	Review blocking and unsubscribing Review copyright Review consequences of cyber bullying	
	Identify trusted adults and ensure a trusted adult knows what they are doing online and inform them if online content makes them feel sad, scared or confused.	Know login details and passwords should only be shared with trusted adults. Understand that they can be connected to	Identify the dangers of clicking links they receive when using technology. Identify personal information about themselves and others.	Identify age limits and PEGI ratings for games and understand the importance of only accessing age appropriate content.	Understand the terms plagiarism and copyright and be aware of the implications of copying and sharing content without permission.	Explain the importance of a balanced lifestyle with respect to technology use. Explain the importance of a positive ‘digital footprint’.	



		<p>Behave in a kind and considerate way to others in the real and virtual world.</p> <p>Understand that the internet is fun but just like there are rules in the real world to keep you safe there are rules for keeping them safe in the online world.</p>	<p>many people in their life (real life and online).</p> <p>Be polite and respectful when communicating & playing games online.</p> <p>Talk to a trusted adult before sharing information about themselves online</p> <p>Know that some of the people they interact with online may not be who they say they are.</p>	<p>Explain the possible consequences of sharing personal information online</p> <p>Know that bullying through the use of technology is called online bullying and how to report it.</p> <p>Understand that not all information you access online is accurate or reliable.</p>	<p>Explain the possible consequences of submitting personal information online</p> <p>Ensure information submitted online is only accessed by the people they trust</p> <p>Identify the similarities and differences of virtual and real world communication to develop an understanding of positive online communication.</p> <p>Use strong passwords for all online accounts and devices.</p>	<p>Use blocking / unsubscribing / reporting mechanisms appropriately.</p> <p>Control who they interact with online and the information they share.</p> <p>Describe the causes and consequences of online bullying and discuss behaviours and strategies to prevent and stop online bullying.</p>	<p>Appropriately configured and secure all devices used to access personal data</p> <p>Evaluate whether games, websites and social media are appropriate for specific ages.</p>
	Information Literacy						
	Links to prior learning	<p>Review different media used at home and in school</p>	<p>Review finding information online</p> <p>Review the need for different sources of information</p>	<p>Review what search engines are</p> <p>Review website layout and why this is important</p>	<p>Review using website and finding information from them</p>	<p>Review advanced search engines</p> <p>Review keyword searching</p>	<p>Review the need for different types of information</p> <p>Review validating information sourced online</p> <p>Review using different types of media to source information</p>



		<p>Access information from a variety of different sources and understand technology allows quick access to these resources.</p> <p>Explore a variety of digital information as part of a given topic.</p> <p>Find / access information using technology</p>	<p>Identify information through a range of appropriate forms of media.</p> <p>Recognise the layout of a web page and interact with it appropriately</p> <p>Search for information using child friendly search engines</p>	<p>Use search technologies effectively by identifying specific keywords.</p> <p>Find and choose appropriate information and use it in other digital forms.</p> <p>Locate specific information online and recognise that web pages can be organised in different ways</p>	<p>Carry out and modify searches developing keywords to improve search accuracy.</p> <p>Check the relevancy and accuracy of search results.</p> <p>Locate online content using some of the available advanced features in search engines</p>	<p>Interpret and validate information from a range of online sources.</p> <p>Recognise that the Internet may contain material that is irrelevant, bias, implausible and inappropriate.</p> <p>Search for and save differing types of media using search engine functions.</p> <p>Use more advanced features of search engines.</p>	<p>Check plausibility of information from a variety of chosen sources on the same topic</p> <p>Make informed judgments as to the validity of information on a website and be aware of bias.</p> <p>Understand how search engines work and rank results.</p>
<p>Beebots</p> <p>Camera App</p> <p>Garage Band (Very Basic)</p> <p>Do ink(Basic)</p>	Where Apps or Programs are first used	<p>Scratch Junior</p> <p>Book Creator</p> <p>Pic Collage</p> <p>Bee-Bot</p>	<p>Google Earth</p> <p>Microsoft Word</p> <p>YouTube Kids</p> <p>A.L.E.X</p> <p>Scratch Junior</p> <p>Puppet pals HD</p> <p>Directors Pass</p>	<p>Scratch 3 (Links between both Scratch and Scratch Jnr are made clear)</p> <p>Explain Everything</p> <p>Green Screen app</p>	<p>Makey-Makey</p> <p>Virtuali-tee</p> <p>YouTube</p> <p>Scratch 3</p> <p>iMovie</p>	<p>Microsoft PowerPoint</p> <p>Microsoft Publisher</p> <p>Sphero</p> <p>Tinkercad</p>	<p>Python</p> <p>Micro bit</p> <p>Stop motion studio pro</p>
	Vocabulary	<p>Algorithm</p> <p>Programme</p> <p>Control</p> <p>Outcome</p> <p>Digital</p> <p>Content</p> <p>Internet</p>	<p>Algorithm</p> <p>Programme</p> <p>Control</p> <p>Outcome</p> <p>Digital</p> <p>Content</p> <p>Internet</p> <p>Virtual</p> <p>Graphic</p>	<p>Algorithm</p> <p>Programme</p> <p>Control</p> <p>Outcome</p> <p>Digital</p> <p>Content</p> <p>Internet</p> <p>Virtual</p> <p>Graphic</p>	<p>Algorithm</p> <p>Programme</p> <p>Control</p> <p>Outcome</p> <p>Digital</p> <p>Content</p> <p>Internet</p> <p>Virtual</p> <p>Graphic</p>	<p>Algorithm</p> <p>Programme</p> <p>Control</p> <p>Outcome</p> <p>Digital</p> <p>Content</p> <p>Internet</p> <p>Virtual</p> <p>Graphic</p>	<p>Algorithm</p> <p>Programme</p> <p>Control</p> <p>Outcome</p> <p>Digital</p> <p>Content</p> <p>Internet</p> <p>Virtual</p> <p>Graphic</p>



Ashdene Primary School

passionate about learning

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