Allanson Street Primary School – Computing Progression Document

	Early Years	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computer Science	Children learn to follow instructions (Algorithms)

Children learn to spot pattens

Children learn to sequence familiar tasks.

Children learn to use a touch screen ipads and how to select options on screen.

Children learn to input simple commands to control a 'Beebot'. | Understand that when a computer does something, it is following instructions called 'code'

Use code to make objects move when they are clicked on.

Use code to write a computer program where objects in a space scene move when they are clicked on.

Combine start events and click events to make a simple game.

Combine start events and click events to program cars and emergency vehicles in an animated traffic scene.

Use coding knowledge to fix the age-related mistakes in a variety of programmes. | Write code that makes an object move around the screen or change direction when different keys on the keyboard are pressed.

Write code that makes an object change direction when different keys on the keyboard are pressed.

Write code where buttons can be used to make an object move around the screen.

Write code that makes an object change direction when the pointer is pressed and released.

Write the code for a simple game where buttons are used to move a sprite around.

Use coding knowledge to fix the | Write a computer program where different pieces of code execute in a particular sequence.

Create a program that uses sequences for two different objects moving on the screen.

Write code that uses a timer to create a sequence of events.

Use 'hit events' to program a space maze game in which an object reacts to particular conditions.

Use conditional hit events to control the movement of a car on the screen.

Program a simple game where conditional events are used to check whether objects have collided.

Use coding knowledge to fix the age-related mistakes | Understand how a variable can be used to keep track of the score in a game.

Use variables to keep track of the score in a game that uses conditional events

Learn how to use multiple different variables and to set the value of a variable.

Use a loop to do something repeatedly in a program.

Write the code to program a rocket to orbit round the spinning Moon, using the concepts of loops, regular or infinite repetition, and 'if statement' blocks.

Use loops, a variable and if statements to create an animated scene of hot air balloons performing a repeating pattern in the sky. | Use object properties (speed, heading and angle) to create a driving simulation.

Create a sailing game where a boat's position on the screen is controlled by making changes to its co-ordinates.

Write code including *if statements* to make an object rotate, and combine this with conditional events to make a game

Be able to generate and display random numbers and use these within the program for a car racing game.

Write code that uses random numbers to move objects at random speeds and headings and use this to create a game. Links to CAS progression pathway. | Use my knowledge of variables to make a balloon pop game that gets harder as users score more points.

Write the code for a shopping till using variables to store and calculate values.

Write code that detects the properties of an object and passes the value of these properties (or a set of parameters) to other objects, and to use this to create a space game

Make a football game that passes the speed and heading of the pointer's movement to a ball on the screen

Make a game that moves objects around by getting information from events and passing object properties.
Learn how to pass properties from one object to a second in order to make the |

			age-related mistakes in a variety of programmes.	in a variety of programmes.	Use coding knowledge to fix the age-related mistakes in a variety of programmes.	Create a ping-pong game, using random headings in specific ranges. Use coding knowledge to fix the age-related mistakes in a variety of programmes.	second object move relative to the first. Create a golf game by writing code that accesses and uses object properties, including passing the value of these properties to other objects (passing a set of parameters); Use coding knowledge to fix the age-related mistakes in a variety of programmes.
Information Technology	Children learn to play games on a touch screen iPad/laptop using keyboard/ buttons. Children taught how to use some keys on a keyboard. Children taught to sort physical objects, take pictures and discuss it. Children will be taught to identify a chart.	Explain technology as something that helps us Locate examples of technology in the classroom and explain how these technology examples help us. Name the main parts of a computer, switch on and log into a computer and use a mouse to click and drag.	Identify examples of computers, describe some uses of computers and identify that a computer is a part of IT. Identify examples of IT, sort school IT by what it's used for and identify that some IT can be used in more than one way. Find examples of information technology, sort IT by where it is found	Explain the difference between text and images; that they can communicate messages clearly and identify the advantages and disadvantages of using text and images. Change font style, size, and colour for a given purpose and edit text. Explain what 'page orientation' means and identify	Explain that digital devices follow a process; Classify input and output devices and explain how I use digital devices for different activities. Recognise that a computer network is made up of a number of devices, demonstrate how information can be passed between devices and explain the role of a switch, server, and wireless access point in a network.	Explain that computer systems are built using input, process, and output communicating with other devices; identify the human elements of a computer system and explain the benefits of a given computer system. Make use of and refine a web search to find specific information and compare results from different search engines; explain why	Explore a website, discuss the different types of media used on websites and know that websites are written in HTML. Recognise the common features of a web page, suggest media to include on my page and draw a web page layout that suits my purpose. Add content to my own web page, preview what it looks like, evaluate what it looks like on

Children to use iPads to manipulate images i.e. resize images using fingers.

Children can record voice over images to become a character.

Children will learn the difference between videos and photography. Children will record and watch back videos.

Children will learn to take photographs Children will learn to use 'Paint' programmes to create art.

Children will be taught to record sounds with different resources

Children will be taught find ways to change your | Use a mouse to open a program, click and drag to make objects on a screen and use a mouse to create a picture.

Say what a keyboard is for, type my name and save my work to a file.

Open my work from a file, use the arrow keys to move the cursor and delete letters

Open a word processor and recognise, identify and find keys on a keyboard.

Enter text into a computer using letters, numbers, space keys and use backspace to remove text. | and can talk about uses of information technology.

Recognise common types of technology, demonstrate how IT devices work together and can say why we use IT.

Identify the choices that I make when using IT and can explain the need to use IT in different ways

Organise and recognise data in a tally chart; represent a tally count as a total and compare totals in a tally chart.

Enter data onto a computer and use a computer to view data in a different format; use pictograms to answer simple | placeholders and say why they are important; create a template for a particular purpose

Choose the best locations for my content and identify different layouts; paste text and images to create a magazine cover and make changes to content after I've added it

Match a layout to a purpose and choose a suitable layout for a given purpose

Identify the uses of desktop publishing in the real world and say why desktop publishing might be helpful; compare work made on desktop publishing to work created by hand.

Improve an image by | Identify how devices in a network are connected together and identify networked devices around me and identify the benefits of computer networks.

Describe the internet as a network of networks; is used to provide many services; how information is shared across the internet that the World Wide Web contains websites and web pages and discuss why a network needs protecting

Describe where websites are stored when uploaded to the WWW; how to access websites; the types of media that can be shared on the WWW and explain that internet services can be used to create content online. | we need tools to find things online and recognise the role of web crawlers in creating an index.

Order a list by rank, explain that a search engine follows rules to rank results using certain criteria and how these results can be influenced; recognise some of the limitations of search engines and how they make money.

Explain that internet devices have addresses that computers use to access websites; Identify and explain the main parts of a data packet and that data is transferred over networks and the internet in packets.

Recognise how to access shared files | different devices and suggest/make edits.

Explain what a navigation path is, describe why they are useful, make multiple web pages and link them using hyperlinks

Explain the implication of linking to content owned by others, create hyperlinks to link to other people's work and evaluate the user experience of a website.

Explain that video is a visual media format and identify and compare features in different videos.

Identify and find features on a digital video recording device and experiment with different camera angles and recognise |

	voice (tube, tin can, shouting to create an echo) Children will be able to record sounds/voices in storytelling and explanations	Type capital letters, identify the toolbar and use bold, italic, and underline Select a word by double-clicking and select all the text by clicking and dragging; Change the font Say what tool I used to change the text, decide if my changes have improved my writing and use 'Undo' to remove changes Make changes to text on a computer; explain the differences between typing and writing and say why I prefer typing or writing.	questions about objects. Use a tally chart to create a pictogram and explain what the pictogram shows. Tally objects using a common attribute and create a pictogram to arrange these; answer more than/less than, most/least questions about an attribute. I can choose a suitable attribute to compare people; collect the data I need and create a pictogram to draw conclusions from it. Use a computer program to present information is different ways share what I have found out using a computer; give simple examples of why information should not be	rotating it and explain why I might crop an image; Use photo editing software to crop an image Explain that different colour effects make you think and feel different things, why you chose them and experiment with them. Add to the composition of an image by cloning and remove parts of an image using cloning and identify how a photo edit can be improved Experiment with tools to select and copy part of an image and use a range of tools to copy between images and explain why photos might be edited Describe the image I want to create and choose suitable images for my project; create a	I can plan a branching story Create slide templates and organise slides with hyperlinks. Add theme, transitions and animation to a presentation. Use hyperlinks. Insert audio and video. Evaluate slide layout and make improvements.	stored online and send information over the internet in different to enable effective collaboration in public or private. Collect data; suggest how to structure my data and enter data into a spreadsheet. Explain what an item of data is and choose and apply an appropriate format to a cell. Explain which data types can be used in calculations and construct a formula in a spreadsheet identifying that changing inputs changes outputs. Calculate data using different operations; create a formula which includes a range of cell and apply a formula to	those angles in a video. Suggest filming techniques for a given purpose and capture video using a range of filming techniques. Outline the scenes of my video, decide filming techniques and save video content. Store, retrieve, and export my recording to a computer; explain how to improve a video by reshooting and editing and select the correct tools to make edits to my video Recognise that my choices when making a video will impact the quality of the final outcome; evaluate my video and share my opinions.

			shared.	project that is a combination of other images and review images against a given criteria. Use feedback to guide making changes; combine text and my image to complete the project.		multiple cells by duplicating it. Explain why data should be organised and apply a formula to calculate the data I need to answer questions. Produce a chart and use it to show the answer to questions; suggest when to use a table or chart.	
Digital Literacy	Children will be taught about 'Stranger Danger' and how we can and should say, 'No and tell and adult. Children will be taught some ways in which we can communicate using technology. Children will be shown how things can be put on the internet (DoJo/ Website).	Identify, give examples of, and discuss how we benefit from rules to keep us safe and healthy when we are using technology in and beyond the home. Know when and why to take breaks from device time and consider the feelings of people around them, even when engaged in fun online activities.	List different uses of information technology, talk about different rules for using IT and how they can help keep me safe. Understand the importance of being safe, responsible and respectful online and learn the "Pause & Think Online" song to remember basic digital citizenship concepts.	Understand that being a good digital citizen means being safe and responsible online and to take a pledge to be a good digital citizen. Recognise the ways in which digital devices can be distracting; Identify how they feel when others are distracted by their devices and identify ideal device-free moments for themselves and others.	Explain that websites and their content are created by people, suggest who owns the content on websites and can explain that there are rules to protect content; that some information I find online may not be honest, accurate, or legal and why I need to think carefully before I share or reshare content. Examine both online and in-person	Compare different methods of communicating on the internet, decide when I should and should not share information online and explain that communication on the internet may not be private. Learn the "What? When? How Much?" framework for describing their media choices; use it and their emotional responses to evaluate how	Say why I should use copyright-free images, find copyright-free images and describe what is meant by the term 'fair use.' Consider what "media balance" means and how it applies to them; create a personalised plan for healthy and balanced media use. Define "the curiosity gap". Explain how clickbait uses the curiosity gap to get

Children will be taught and shown how to be kind to others. Children will be taught who they can go to if others are not being kind to them. Children will be shown how the internet can be used to find information using a search engine. Children will be taught to keep personal information such as name and where they live private and not to tell strangers. Children will be able to describe people they trust. Children will	Learn why it's important to be aware and respectful of people while using devices; Learn the "Pause! Breathe! Finish Up!" routine as a self-regulation strategy for transitioning from technology to face-to-face interactions. Discover that the internet can be used to visit faraway places and learn new things; Compare how staying safe online is similar to staying safe in the real world and explain rules for travelling safely on the internet.	Recognise the different kinds of feelings they can have when using technology and know what to do when they don't have a good feeling when using technology. Understand that being safe online is similar to staying safe in real life and learn to identify websites and apps that are "just right" and "not right" for them. Know how to get help from an adult if they are unsure about a website.	Recognise the kind of information that is private and understand that they should never give out private information online. Learn that the information they share online leaves a digital footprint or "trail". Explore what information is OK to be shared online. Compare and contrast how they are connected to different people and places, in person and on the internet. Understand what online meanness can look like and how it can make people feel and identify ways to respond to mean words online, using "S-T-O-P". Explain how giving credit is a sign of respect for people's work and learn how to give credit in their schoolwork for	responsibilities of themselves and others and describe the "Rings of Responsibility" as a way to think about how our behaviour affects ourselves and others. Understand what a strong password is, why it is important and practise creating a memorable and strong password. Consider how posting selfies or other images will lead others to make assumptions about them; reflect on the most important parts of their unique identities and identify ways they can post online to best reflect who they are. Define what a community is, both in person and online; Explain how having norms helps people in a community achieve their goals and create and pledge to adhere	healthy different types of media choices are to develop a healthy media balance. Identify the reasons why people share information about themselves online; explain the difference between private and personal information and why it is risky to share private information online. Define the term "digital footprint" and identify the online activities that contribute to it; the ways they are -- and are not -- in control of their digital footprint and their responsibilities for it. Define "social interaction" and describe the positives and negatives of social interaction in online games.	your attention and use strategies for avoiding clickbait. Define "gender stereotypes" and describe how they can be present online and how they can lead to unfairness or bias. Compare and contrast the benefits and risks of different kinds of online-only friendships and describe how to respond to an online-only friend if the friend asks something that makes them feel uncomfortable. Recognise similarities and differences between in-person bullying, cyberbullying and being mean; empathise with the targets of cyberbullying and identify strategies and ways they can be an upstander for those being bullied. Understand the purposes of different

	identify rules that help keep us safe and healthy in and beyond the home when using technology

Children will be taught about putting their name on the back of things to show they belong to them. | | | content they use from the internet. | to shared norms for being in an online community.

Decide what kinds of statements are OK to say online and which are not, because everyone interprets things differently and identify ways to respond to mean words online, using S-T-O-P.

Recognise that photos and videos can be altered digitally and why someone might alter a photo or video. | Reflect on the characteristics that make someone an upstanding digital citizen; recognise what cyberbullying is and show ways to be an upstander.

Define "copyright" and explain how it applies to creative work; Describe their rights and responsibilities as creators and apply copyright principles to real-life scenarios. | parts of an online news page; identify the parts and structure of an online news article and learn about things to watch out for when reading online news pages, such as sponsored content and advertisements. |