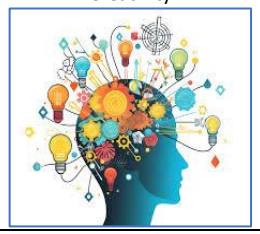
COMPUTING

Newlands Junior School
We are Proud

Health & Wellbeing	Environment	Global Community	Creativity	Possibilities
				

Online Safety: One lesson per half term				
National Curriculum Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact				
	Y3	**Y4**	**Y5**	**Y6**
1.	**I know what to do if something online makes me uncomfortable** • *Recognise unsafe or upsetting content can be found online* • *Know trusted adults they can talk to if something is inappropriate* • *Use the "Report" or "Block" buttons on platforms* Role-play different online scenarios and discuss what action to take (e.g., tell an adult, report content, log off) **Vocabulary: e-safety, trusted, report, block**	**I understand app, game and film age ratings and why they exist** • *Identify which apps, games and films are appropriate for children aged 8–9* • *Know ratings are to protect children from harmful content.* • *Recognise commonly used apps (e.g., WhatsApp, YouTube, Roblox)* Explore age ratings and reasons behind them. Scenario card sorting: "Is this app, film, game okay for me?" **Vocabulary: age rating, age appropriate, age restrictions, content, permission, suitable**	**I understand what safe and respectful online behaviour is** • *Behave respectfully online (netiquette).* • *Behave online the same as you do when you are with others.* • *Would others be proud of you if they read your messages?* Class discussion: What rules do we follow at school/home? What rules should we follow online? Create a class "Online Safety Charter." Role-play correct vs. incorrect online behaviour. **Vocabulary: respectfully, charter** **Red pen link: Acceptable use contract in reading diaries**	**I understand what respectful and responsible online communication is** • *Treat others with courtesy, politeness, and consideration during digital interactions* • *Use appropriate language, respecting privacy, acknowledge different opinions, and avoid behaviour that could be harmful or offensive* • *Recognise the differences between joking, teasing, and bullying* • *Think before you post: is it kind, true, and necessary?* Scenario sort: sort online comments into "kind", "unkind", or "bullying" Discuss how would you feel if someone posted these comments about you? News story of a student suspended for inappropriate comments in a group chat - consequences of your behaviour

				Vocabulary: courtesy, offensive, inappropriate **Red pen link: the impact we have on others wellbeing**
2.	**I know it is importance not to overshare online** • *Never share full name, school, address, or phone number online.* • *Photos and messages can be copied and spread.* Discuss why we don't share information and who could see anything we do share. Sorting game: Students decide whether information is safe to share or not safe to share **Vocabulary: overshare** **Red pen link: How we can try to always keep yourself safe – at home, school, in the community**	**I can use messaging apps with respect and kindness** • *Understand the purpose of messaging apps.* • *There are rules we should set ourselves for safe and respectful messaging.* • *Unkind messages affect our confidence, wellbeing and friendships.* Discuss how messaging apps work (focus on WhatsApp) Identify features (text, voice notes, photos, emojis, group chats) Watch a short role-play: "A message gone wrong" Create a guide "Top 5 WhatsApp Rules for Kids" **Vocabulary: private, respectful, chat, emoji, message, voice note**	**I know what is safe to share online** • *Personal information is my name, address, school, phone number.* • *Don't share personal information online as strangers could access and use this.* Show two online profiles: one safe, one unsafe. Discuss the differences. Safe or Not Safe? - sorting game with pieces of information (e.g., name, school, favourite food) **Vocabulary: Personal information, profile** **Red pen link: safety offline – when out in the streets playing, walking to school**	**I understand what a digital footprint is and how it can affect my future** • *Every post, like, or search adds to your online record* • *Your online actions can be permanent.* • *Employers and schools may look at your digital footprint* Google yourself: or someone you know. Discuss what kind of info can show up. Footprints - list online actions and whether they're positive, neutral, or risky Design a positive digital footprint "tree" – roots are values, branches are actions Watch clips or read articles on real-life examples**:** A teen denied university placement because of old tweets. Man sacked from the England cricket team, TikTok users facing backlash over past videos. **Vocabulary: digital footprint, permanent, risky** **Red pen link: how I could affect my future**
3.	**I understand why strong passwords matter and how to create them** • *Passwords protect accounts and personal information* • *A good password is private, hard to guess, and not shared (except with a parent/guardian)* Discuss why we have passwords, why these should not be shared and the possible consequences if we do. Children create a strong password using a mix of words, numbers and characters (e.g."Tiger7Cake!"). In groups, swap passwords. Can we guess whose they are. If we can't, they are strong passwords **Vocabulary: password, protect, account, private**	**I know how to be kind and respectful online and why this is important** • *Understand the impact of our words online – wellbeing, self-esteem* Roleplay good v bad messaging behaviour Rewrite unkind messages into kind ones On a WhatsApp template write a positive conversation "Digital Compliment Chain" – write nice messages to peers **Vocabulary: tone, kindness, respectful** **Red pen link: would we say these things to someone face to face? Would our parents/grandparents be proud if they read our messages?**	**I know how to respond to uncomfortable or dangerous online situations** • *Learn how to block users on different platforms* • *Know when and how to report something that makes them feel uncomfortable* Watch a child-friendly video (e.g., CEOP's "Jessie & Friends") Practice using reporting and blocking buttons (screenshots/mock platforms) Create a "Worry Guide" showing what to do if something bad happens online **Vocabulary: block, platform, CEOP, screenshot**	**I understand how location tracking works and its risks and benefits** • Tools like Find My**,** Snapchat maps**,** and AirTags can be used to track a person's whereabouts. • Risks of sharing your location publicly are that strangers may be able to locate you. • Risks of turning off location for safety are that your parents won't know where you are if you get into difficulty or you won't be able to locate your phone. Role-play: One person is the tracker, one is the target (using fictional scenarios). Privacy settings challenge: Where to find and change them on a phone.

				Share AirTag stalking cases, Missing phone found using "Find My iPhone" **Vocabulary: location, privacy settings, stalking**
4.	**I know websites, games, and videos are suitable for different ages** • *Know games, films, apps have an age rating - PEGI* • *Use only age-appropriate apps/games (ratings)* • *Ask an adult before downloading, playing or watching something new* Look at different app, game and film icons/logos and decide if they're appropriate for Year 3 Why are they inappropriate? Is it ok to play/watch things not for our age? **Vocabulary: age rating, appropriate, inappropriate, PEGI** **Red pen link: Rule of Law – here to protect us**	**I know what screen time is and why balance is important** • *Screen time balance is important for maintaining good physical health, mental well-being, and healthy social interactions.* • *Excessive screen time can lead to obesity, sleep problems, and eye strain.* • *Limiting screen time can allow for better sleep and mental health* Look at the NHS recommended screen time. Reflect on our screen time habits – when do we go online, how long? Keep a screen time diary (24-hour log) Create a BAR chart of our digital day. Is it balanced? Does it need to change? **Vocabulary: screen time, break, balance, healthy, offline, online** **Red pen link: What do we miss when we're always online? – friends, physical activity, family, going out, fresh air**	**I know how filters affect what we see and that not everything online is true** • *Websites and apps use filters to show, alter and improve certain content* • *Not all information or images online are real or true* • *Filters can negatively affect people by making them feel inferior* Show edited/filtered vs. real images. Discuss examples of online "tricks" (photographs of people/places, adverts, fake news) Create a "Spot the Fake" checklist **Vocabulary: filters, inferior, edited, fake news** **Red pen link: self-image, loving and respecting ourselves**	**I can recognize how influencers can affect behaviour, sometimes negatively** • *Influencers may seem cool because they often present an aspirational lifestyle filled with exciting activities, trendy products, and seemingly perfect experiences* • *It is important to understand that influencers often carefully curate their online presence, and that the reality of their lives may be different from what is shown* • *Sites like TikTok present benefits and drawbacks. It can be a platform for creative expression, entertainment, and even education, but it also carries risks related to mental health, safety, and potential for harmful content exposure* Watch a safe TikTok trend vs a risky one – compare Look at the "Benadryl Challenge" and how it led to serious harm. Why would people copy this? What should you do? Design a "Safe and Fun" challenge **Vocabulary: influencer, aspirational, platform** **Red pen link: resisting peer pressure**
5.	**I know why it is important to be respectful and positive online** • *Treat others online how you would like to be treated* • *Understand what cyberbullying is and how to respond* • *Understand the impact of cyberbullying on others* Create our own "Online Kindness Pledge" and sign it **Vocabulary: pledge, cyberbully, impact**	**I understand who it is safe to communicate with online** • *It is safest to communicate with people you know in real life, like family, close friends, and classmates.* • *It's important to be cautious about communicating with strangers online, even if they claim to be children.* • *Recognize and report inappropriate contact* Watch a story (e.g., Childnet's "The Smart Crew")	**I can recognise some online pop-ups and ads are too good to be true.** • *Identify what pop-ups and clickbait ads look like.* • *Know if a pop-up appears don't click on it and tell an adult.* Watch/show examples of pop-ups. Sort examples - "Would you click this?" Design a logo: "Don't Click That!" **Vocabulary: pop-ups, clickbaits, logo**	**I know how to stay safe when communicating with others during online games** • *When receiving a friend request or taking part in online chat not everyone is who they say they are* • *Use reporting and blocking tools if you don't know the person or if someone is being abusive* Create a set of rules for online gaming. Role-play: what to do if someone asks for personal info

	Red pen link: respecting other, anti-bullying	Identify trusted adults and establish online rules Create a "My Online Safety Plan" **Key Vocabulary: stranger, trust, block, report, private** **Red pen link: stranger danger**		Look at news of adults posing as children in games –what actions should you take? **Vocabulary: personal information**
6.			**I can apply the online safety lessons to daily digital use** • *I can treat others with respect when online* • *I will not share personal information online* • *I will not click on unsuitable content and will block people I don't know* Create a digital or paper guide for myself and other children. Include tips for: sharing info, blocking/reporting, spotting fake info, dealing with pop-ups **Vocabulary: as above**	**I can apply the online safety lessons to daily digital use** *I know who to talk to if something goes wrong online* *I know how to block and report concerns.* Review our key safety behaviours Make a personal "online code of conduct". Make an Online Promise sheet to protect self (commitments to safe online behaviour). Share real life stories of people who made mistakes online but learned and improved **Vocabulary: protect**, **CEOP NSPCC, UK safer internet centre, Child net, Think u know**

Word Processing: 5 lessons

National Curriculum

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

Continuous: Typing: Learn how to use the home, top and bottom row keys. Practice typing with the left and right hand using the correct fingers.

	Y3	Y4	Y5	Y6
1.	**I can use the correct keys to type on a keyboard** • *Use the space bar in between words* • *Use enter to start a new line/paragraph* • *Use backspace or delete to reverse mistakes* Type up phrases using space bar, enter for new line and backspace to delete errors. **Vocabulary: space bar, enter, backspace, delete**	**I can highlight text in different colours** • *Drag the cursor across the words that are to be highlighted* • *Click on the paintbrush (text highlight colour* • *Click on the arrow to select different colours* • *Click outside the page to remove the paintbrush* On a piece of prepared text, read together and ask children to highlight different words and phrases in different colours. Use the highlighter tool in close reading. **Vocabulary: highlighter, tool, drag, cursor**	**I can resize and crop images and place them within text** • *Resize images by clicking on the corner and dragging in or out* • *Right click on the image and click crop to select the part of the image you wish to save* • Wrap the text in a variety of ways by clicking layout options and selecting *tight, through, in front, top and bottom* Insert pictures into a word document. Resize, crop and position these. Add cations. Alter the layout for each one using layout options. **Vocabulary: resize, image, drag, crop, wrap, insert**	**I know which keys to use to copy, paste and cut in a word document** • *"Ctrl + C" copies the selected item to the clipboard* • *"Ctrl + V" pastes the content of the clipboard into the current location* • *"Ctrl+Z" is a shortcut used to undo the last action performed. It is a way to reverse mistakes or undo unwanted changes* Copy and paste a variety of information (words and pictures) into a document. Use ctrl z to undo. **Vocabulary: copy, paste, undo, reverse**
2.	**I can add punctuation using Caps Lock and shift keys** • *Type sentences using capital letters by using the Caps Lock tool* • *Add full stops and commas to sentences* • *Add question marks and exclamation marks by using the shift key* Type up a number of sentences using the correct keys in order to add the correct punctuation. **Vocabulary: shift key, Caps Lock**	**I can use bullet points to layout information and alter the spacing of text** • *Use home, bullet points to lay out text* • *Use a variety of different bullets and numbers* • *Use home, line spacing to alter the layout of the text* • *Add and remove spaces between paragraphs* **Vocabulary: home, bullet point, spacing**	**I can insert a hyperlink into a document to take me to a website** • *Select the text: Highlight the word(s) or phrase you want to be the hyperlink.* • *Go to the Insert tab: On the top menu ribbon, click on Insert.* • *Choose Link: In the Links group, click on Link or the icon with two overlapping circles.* • *Enter the URL: In the "Insert Hyperlink" dialog box that appears, type or paste the web address (URL) into the "Address" field.* • *Click OK: Click OK to create the hyperlink.*	**I can insert a text box into a word document and edit** • *Use the insert tool and text box to add a feature to a word document* • *Use theme styles, shape outline, shape fill and shape effects to alter borders, colours and effects* Insert a variety of text boxes into a text changing the borders, colours, effects. **Vocabulary: insert, text box, border, effect**

			Type a piece of topic work including a hyperlink to a related website. **Vocabulary: hyperlink, document, website**	
3.	**I can change the appearance of text using formatting tools** • *Open a word document* • *Change the font, size and colour of text for different effects* • *Use italics, bold and underline tools* • *Use File and Save as to save a document in child's folder* Write a variety of words and phrases in different styles and colours. Can you match effects to the meanings of the words e.g. bold – shout, blue- cold. **Vocabular: document, font, text, format, tool, effect, italics, bold, underline, folder**	**I can insert a table and add information** • *Use insert to draw tables with varying rows and columns* • *Use layout to insert rows and columns above, below, left and right* • *Position text within the table and change text direction* Use findings from a science/maths activity to make a table and add in the data. Edit the table to add in further rows, columns and position the text in different ways. **Vocabulary: insert, row, column, position, direction**	**I can insert and edit tables in a document** • *Use insert to draw tables with varying rows and columns* • *Use layout to distribute the rows/columns evenly* • *Use table design to change colours and borders for effect* Create a table to use to insert science/maths data. Change the size of the columns/rows, the colours and borders. **Vocabulary: edit, distribute, layout, borders**	**I can use Save As to rename a new document** • *Use File, Save As to rename a document* • *Select where file is to be saved e.g. children's folder* • *Find in the saved place and open the document* Make alterations to a previous document and resave so both documents are available. **Vocabulary: Save As, document, file, folder**
4.	**I can locate and use the text effects tool to create titles and headings** • *Click on the downward arrow to see the different designs* • *Add shadows and reflections* • *Outline letters with a variety of colours and weights* Create a number of titles and headings using different designs, effects, outlines and colours. **Vocabulary: effect, design, outline, weight**	**I can insert pictures into a piece of text** • *Use the copy and paste keys in order to insert a picture* • *Use the cut key to remove any unwanted pictures* • *Copy pictures from the computer and online* Find, copy and paste a variety of pictures on a given theme. Find a wide variety e.g. cartoon, photos, drawings. **Vocabulary: insert, paste**	**I can make changes to a table for a given purpose** • *Use merge cells and split cells in order to alter the amount of rows and columns* • *Use split table to create 2 separate tables* • *Use autofit window to fit the table to the page when extra columns have been added* Edit a given table to add/remove cells, split and fit to page. **Vocabulary: merge, cell, autofit**	**I can split the screen in order to view two documents at the same time** • *Press Windows key + Left Arrow or Right Arrow to snap the active window to the left or right half of the screen* • *Press Windows key + Up Arrow to maximize the window* • *Press Windows key + Down Arrow to minimize the window or restore it if maximized* In history compare a primary and secondary resource side by side extracting similar information **Vocabulary: split screen, minimise, maximise**
5.	**I can align text in different ways on a page**	**I can insert and edit shapes in a word document** • *Click insert, shapes, select shape*	**I can make layout changes to a text** • *Use Layout, margins to alter the borders*	**I can use tools to check and edit a word document**

	• *Use the align icons to position text at the left, right or centre of a page* Type 3 paragraphs of topic work one aligned left, one right and one centre. **Vocabulary: align, left, right, centre**	• *Click on the page for shape to appear* • *Edit shape by clicking shape fill, shape outline or shape effects* Create patterns using the shapes. **Vocabulary: insert, edit, fill, outline, effect**	• *Insert headers/footers on pages* • *Use Layout, columns to alter the layout* • *Use Layout, orientation to change the page to portrait/landscape* Type up topic work using the different layouts. **Vocabulary: layout, portrait, landscape, header, footer, orientation, column, margin, border**	• *Use spell and grammar checks to ensure there are no errors* • *Find and change words to improve vocabulary choices* Edit a piece of text with spelling/grammatical errors and improve basic vocabulary. **Vocabulary:**

Presentation: 4 lessons				
National Curriculum Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information				
	Y3	**Y4**	**Y5**	**Y6**
1.	**I can import pictures and text using pic collage** • *Import pictures and use inbuilt stickers* • *Add and format text (size, font, colour)* Insert pictures and add captions to display information on a given topic. **Vocabulary: import, format, font, text**	**I can import photographs and text to make an Apple Clips presentation** • *Know how to start a new project* • *Import photos* • *Add and format text (size, font, colour)* Add in photos and write captions using different fonts, size, colours. **Vocabulary: presentation, import, format, font, text**	**I can insert text and images into PowerPoint making it engaging for the audience** • *Explore PowerPoint: slides, title, designs* • *Add text formatting fonts (size, colour, style)* • *Insert images (insert, pictures) from the computer or powerpoint* • *Save the file in student's folder* Discuss what presentations are and where we see them - school, business Create a 1-slide presentation with title, text and an image **Vocabulary: insert, slides, format**	**I can insert text and pictures in a variety of ways** • *Recap the features learnt in year 5* • *Use animations to add variety to text and images (e.g. appear, fly in, 1 feature/sentence at a time, fade)* Select a topic for us to make a presentation. Build up each session adding in new taught features. **Vocabulary: animate, animations, feature**
2.	**I can arrange images and text in different layouts to present information** • *Arrange photos, images and stickers in different grid or freestyle arrangements* Create a presentation page using images from a topic thinking about layout features. Gallery technique – share pictures and say which ones you prefer and why. **Vocabulary: image, text, freestyle, grid**	**I can add video, music and audio speech to Apple Clips** • *Upload photos, videos, music and speech to present information* • *Change backgrounds and colours to enhance the appearance of the clip* Add audio to the photos and cations. **Vocabulary: upload, background, enhance, audio**	**I can edit images and layout** • *Explore further the different tools on PowerPoint* • *Add new slides with different layouts* • *Resizing, moving and rotating images adding shapes (arrows, circles) and use drawing tools* • *Use design themes and background colours (solid, gradient, patterns)* Manipulate photos and slides to present in different ways. **Vocabulary: tools, layout, resize, rotate, solid, gradient**	**I can make various transitions between slides to engage the audience** • *Control the order and timing of animations* • *Add transitions between slides (e.g. fade, push) to create a visually engaging presentation* Build up the number of slides with a variety of transitions and timings. **Vocabulary: animations, transitions, fade, push**
3/4	**I can use images, text, and stickers in PicCollage to present information** • Make pic collages to display topic work using the learnt skills • Edit work so it is clear and attractive **Vocabulary: present, edit**	**I can use images, clips, text, and sound in Apple Clips to present information** • Make Apple Clips to present topic work using the learnt skills • Edit work so it is clear and attractive (reorder, trim, add transitions or music) • Present work to others	**I can add text and images to a PowerPoint presentation and make changes to the designs** • Make a presentation using all learned skills • Use play slideshow and present to a targeted audience **Vocabulary: slideshow, audience**	**I can insert music and videos to a PowerPoint presentation** • *Add hyperlinks to embed videos and music* Add hyperlinks to previous slides made. **Vocabulary: hyperlinks, embed**

		Vocabulary: presentation, edit, reorder, trim, transitions		
4/5				**I can use animations, transitions and music/video to present information creatively** • Complete the presentation using all learned skills. • Present to a targeted audience. **Vocabulary: targeted audience**

Programming/Coding: 6 lessons

National Curriculum

Use sequence, selection, and repetition in programs.
Work with variables and various forms of input and output.
Design, write and debug programs that accomplish specific goals, including controlling or simulating physical system.
Solve problems by decomposing them into smaller parts.
Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.

	Y3	Y4	Y5	Y6
1	**I can write algorithms using coding blocks in Scratch** • *Explain what an algorithm is* • *Identify different types of coding blocks and know where to find them* • *Create a sequence of blocks to write an algorithm* • *Know it is important to test and debug an algorithm* Look at the Scratch interface and the names of the areas. Explain what coding is: writing a set of instructions that will tell a computer what to do (also known as computer programming). When coding, we need to sequence our instructions in a logical order that makes a computer program work. This sequence of instructions is called an algorithm. In Scratch, algorithms are referred to as scripts. You create your algorithms by dragging coding blocks into the Code Area. Explain there are five main steps to writing any algorithm: 1. Identify it 2. Break it down 3. Write it 4. Test it 5. Debug it	**I understand how to use and compare different types of quizzes** • *Take part in a quiz* • *Identify what makes a successful quiz* • *Identify the pros and cons of different types of quizzes* • *Identify the difference between open and closed questions* Identify different types of quizzes: 1. Multiple choice 2. True or false 3. Filling in the blanks 4. Numerical answers Explain that questions can be open and closed. Open questions have more than one answer. Closed questions tend to have a right or wrong answer. Children are to play a variety of quizzes identifying the pros and cons of paper-based and online quizzes. **Vocabulary: quiz, pros, cons, open, closed, multiple choice, true, false, blanks, numerical**	**I can design and program a maze game** • *Draw and rename a backdrop using blocks to make a maze* • *Select and edit a sprite* • *Program commands that control the movement of a sprite* • *Program consequences for specific actions* Recap prior learning. Evaluate a maze game. Children are to make their own maze game: 1. Choose a sprite 2. Edit a sprite 3. Choose a backdrop 4. Design a backdrop Identify what should happen when the game is first launched, how the sprite is controlled, and what happens when an obstacle is touched and the green exit is reached. **Vocabulary: rename, select, edit, program, commands, consequences**	**I can create appropriate animations** • *Select appropriate sprites to fit within a scene* • *Use costume changes for a motion effect* • *Use a repeat command to create gradual movement* • *Use a succession of glide commands* Explain control, motion, looks and sound blocks. These will be used to create an interactive animated story based on a haunted castle. Children will animate a scene. They will add sprites with sound effects for each one, change their size and define a starting point. Test and debug their work so far. **Vocabulary: appropriate, scene, motion effect, repeat command, gradual movement, glide commands**

	Children are to write some code in Scratch using the 'Meet and Greet' task. **Vocabulary: coding, instructions, algorithm, logical order, scripts, coding blocks**			
kn2	**I can use a loop to repeat an action or sequence multiple times** • *Explain what a loop is* • *Know there are different types of loops* • *Know when to use a repeat loop* • *Customise repeat blocks to repeat an action a specified number of times* Recap where to find coding blocks. Explain that sometimes we need to be able to repeat instructions easily and quickly. Explain what a loop is (a sequence of instructions that is repeated until a certain condition is met, or an order to stop is received). Loops make writing code much easier. Explain there are three different loops in Scratch: repeat, forever, repeat until. Explain repeat loops. Children are to use count-controlled repeat blocks to use repletion to complete the 'Octopus Antics' task. **Vocabulary: loop, sequence, instructions, conditions, repeat, forever, repeat until, count-controlled**	**I can use selection, duplication and sequencing to create a short quiz** • *Create a sequence of questions* • *Identify how operators work* • *Use if, then, else statements to produce different outcomes* • *Use the duplicate function* Recap types of quizzes and questions. Explain how if, then, else statements work: if the then option cannot be completed, the else option will take its place. Recap operators blocks and programming a question using events, sensing, control and operators blocks. Explain that sequences of blocks can be duplicated to avoid creating questions block by block. Children are to create a short maths quiz using the duplication function. They are then to test and debug a partner's quiz. **Vocabulary: sequence, questions, operators, if, then, else, outcomes, duplicate, debug**	**I can design and program the next level for my maze game** • *Draw a sprite and make a more complex maze backdrop* • *Program commands that change the backdrop* • *Program consequences for specific actions* • *Test and debug a program after making changes* Add a next level to the Maze game. It needs to be harder than the first level. Choose a backdrop, change its colour, use a gradient fill. Create more obstacles and change the position of the green exit. Create an enemy sprite for this level, identifying what happens if the enemy is touched. **Vocabulary: complex, consequences, specific, test, debug**	**I can structure and control the timing of events** • *Use the broadcast message block* • *Use the receive broadcast block* • *Combine broadcasts in code to sequence actions* Improve the look of the animation by having the sprites appear one at a time in sequence, rather than all at once. This can be done by broadcast and receive blocks. These can be used to trigger more than one action or sprite. Control the timing of the animations too. Test and debug their own and a partner's work. **Vocabulary: broadcast, receive, combine, sequence, timing**
3	**I can use a loop to repeat a sequence of instructions for a specific task** • *Identify where an algorithm repetition will be useful* • *Customise a repeat block for a specific purpose*	**I can make a quiz more visually appealing by adding backdrops and changing sprites** • *Add and switch backdrops* • *Explore different ways to change backdrops* • *Select sprites*	**I can add a final level, further enhancing the code in a maze game** • *Add sounds as a consequence of an action* • *Create new backdrops, creating progression in a maze game*	**I can control when sprites are visible** • *Locate and insert the show and hide blocks into an algorithm* • *Locate the correct place for a sprite to appear visible* • *Make a sprite invisible when it is not active in the code*

	• *Write algorithms to draw regular polygons* • *Use loops for repetitions in order to improve code* Recap algorithms and loops. Identify regular polygons. Demonstrate drawing a square. Show how you can use a loop to cut down the instructions. Children practice drawing a square and then other regular polygons. **Vocabulary: repetition, repeat**	• *Change a sprite's costume* Recap debugging. Explain how to add effects by adding a backdrop, changing a sprite, and changing a sprite's costume, colour and size. Children are to experiment with adding effects and then explore someone else's quiz to identify the effects they have used. **Vocabulary: backdrop, sprite, costume, colour, size**	• *Create algorithms to switch backdrops as a consequence of an action* Explain that in this lesson, we will be making our third and final level. This level has got to be harder than the previous levels. Add a game over circle. Design and add final backdrops to the game. Add sound effects too. Play and evaluate someone else's game too. Carry out termly pupil voice to ensure children can articulate this. **Vocabulary: switch**	Introduce show and hide blocks and how we can use them to make sprites visible only when we want them to be. Then use show and hide blocks to switch backdrops. Test and debug their own and a partner's work. **Vocabulary: show, hide, visible, invisible, active, inactive**
4	**I can use a forever loop to repeat instructions continuously** • *Know the difference between a repeat loop and a forever loop* • *Know when to use a forever loop* • *Use forever loops in algorithms for a particular purpose* • *Explain why loops are useful* Recap repeat blocks. Explain forever loops (infinite loops) and that you only use them if you want an action or sequence of actions to be repeated continuously without ending. Children are to use 'Disco Dancers' activity to create crazy disco dancers. **Vocabulary: forever, infinite, continuous**	**I can use special effects, backdrops, sounds and scoring systems to enhance a quiz** • *Add effects to a sprite* • *Add sounds to a sprite* • *Create a variable* • *Add a score to a quiz* Recap improvements to quizzes from last lesson. Explain that today we will be adding special effects, sounds and scores. Experiment with the different types of special effects, sound effects and scoring systems (by creating or changing a variable). Play a friend's quiz to identify the effects they have used. **Vocabulary: effects, backdrops, sounds, scoring systems, variable**	**I can design and program a game within Scratch using Boolean operators** • *Use decomposition to plan algorithms* • *Understand what Boolean operators are* • *Use Boolean operators in algorithms* • *Debug algorithms* Explain that Boolean logic is the evaluation of data to determine it to be true or false. Boolean operators include the statements and, or, not. Children will make their own Splat! Game. They will create a backdrop, add a sprite and decompose the problem. **Vocabulary: Boolean, and, or, not**	**I can plan a sequence events to create a story narrative** • *Plan an animated story by selecting appropriate sprites and backdrops* • *Plan the sequence of an animated story using timings* • *Plan an algorithm to make sprites and backdrops work in a sequence* Explain that today we are going to be adding more coding blocks to make the characters tell a longer story. Children will then plan the next part of their story. Include any new backdrops, a story ending, speech. **Vocabulary: plan, sequence, timings,**
5	**I can use a repeat until loop to repeat actions until a certain condition is met** • *Explain what happens in a repeat until loop* • *Know that a repeat until loop is a condition-controlled loop*	**I can create a new racing quiz using operators, variables and sensing blocks** • *Design a racetrack backdrop* • *Use operators and variables blocks together* • *Use touching edge sensing blocks*	**I can program costume changes for a sprite in a game** • *Add effects to enhance a game* • *Design new costumes for an existing sprite* • *Amend algorithms to switch a sprite's costume*	**I can sequence events to create a story narrative** • *Order a series of backdrop settings* • *Narrate events with the required timing* • *Use algorithms on sprites and backdrops to create a story*

	• *Add an operators block into a repeat until loop* • *Customise an operators block to set a condition* Recap repeat and forever loops. Explain repeat until loops. They repeat the instructions inside the loop over and over and over again until a certain condition is met. Children are to complete the 'Pop' challenge, blowing balloons up to make them pop. **Vocabulary: repeat until, condition-controlled, operators, condition**	• *Use motion blocks to move a sprite along in a quiz* Identify the advantages and disadvantages of using the ask and wait sensing block in a quiz and what types of quizzes they would work best for. Explain that today we are going to make a new quiz – a racing game where players will battle against another person, have a goal or finish point, use a timer **Vocabulary: touching edge sensing block, motion blocks, goal, timer**	• *Add appropriate sound effects to complement a costume change* Children will work on their Splat! Game. They will add new coding blocks to add costume changes. They will then add different sound effects. **Vocabulary: amend, complement**	Children will use their animated story planning from last week to write their algorithms and develop their code. Test and debug their own and a partner's work. **Vocabulary: backdrops, narrate**
6	**I can design a simple catching game making use of appropriate loops** • *Solve a problem by decomposing it into smaller parts* • *Design, write and debug algorithms to solve problems* • *Identify the three types of loops and select the most appropriate loop for a particular task* • *Add a variable* Recap repeat, forever and repeat until loops. Explain that today we will be designing a catching game for younger children. In order to do so we have to break the game down into smaller sections. This is called decomposition and these are the stages we will go through: 1. Make a sprite follow the mouse pointer left and right 2. Make a sprite fall down and then go back to the top of the stage 3. Add a score when the ball is caught in the bowl **Vocabulary: decomposition, variable**	**I can add additional features to complete a multiplication quiz** • *Add sounds to a quiz* • *Add a second sprite to a quiz* • *Use costumes to improve a quiz* • *Evaluate how engaging a quiz is* Children will add a second sprite to their racing quiz and rename the cars. Add sound to be played in the background. They will then create their final multiplication two-player quiz, finishing off with testing and evaluation their own and someone else's quiz. **Vocabulary: additional, sounds, engaging**	**I can add a point-scoring system and further features to a game** • *Create a variable and use code to increase the value of that variable* • *Add relevant messages that are linked to a scoring system* • *Create my own backdrop* • *Implement backdrop changes using coding blocks* Identify what can be added to the Splat! Game to improve it and give it a competitive edge. Add a scoring system by creating a variable. Amend the existing code to add and lose points. HA children could add a high score too. Finish by adding a game over backdrop and pop-up messages too. **Vocabulary: variable, code, relevant, messages, scoring system, competitive, high score, pop-up messages**	**I can add voice sounds to enhance an animated story** • *Record my own voice sounds* • *Insert blocks to play my recordings* • *Match the timing of sounds with speech bubbles* Explain that today children will be recording and adding audio to their algorithms and will enhance their animated story by giving voices to their characters. They must match the timings so that the speech and sound blocks play together. Review and debug their own and a partner's animated story. **Vocabulary: voice sounds, match timings, speech bubbles, audio**

Research 2 lessons

National Curriculum

Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content

	Y3	Y4	Y5	Y6
	<u>Understand that bookmarking and favouriting a page makes accessing a webpage quick and easy.</u> • What do children already know about bookmarks/ favourites? • Locate safari on iPads. • Show on flipchart – icons (visual) and some webpages we will use often: Hit the button, TTrockstars, Get Epic **Vocabulary: internet, Safari, bookmarks, favourites, current webpages**	**<u>I can use effective searching to answer questions</u>** • Recap vocabulary from last week and introduce the new vocab • Discuss top tips when searching for an answer eg no need to write in full sentences/ no need to punctuate • Working in pairs, the children answer a range of questions by deciding the most effective question to put into a search engine **Vocabulary: search engine, results page, internet, rank, order, key words**	**<u>I understand how internet search engines work</u>** • Understand search engines use the internet. Key words must be used in order for efficient search results to be created • Evidence: underlined key words to then be searched to find accurate information **Vocabulary: search, engine, WWW, internet, key words, images, results,**	**<u>I know why Tim Berners-Lee is important to computer research</u>** • Tim Berners Lee invented the World Wide Web for sharing, collaborating and communicating which made research possible. • Children will be provided with facts, information and website links about Tim Berners-Lee on Seesaw. • They must make a pic collage explaining how and why Berners-Lee is important to computer research. **Vocabulary: www, sharing, collaborating, communicating, research.**
	<u>I understand what a search engine is and how it works</u> • Learn how to turn google safe search and filtering. This is done for us on our school devices but now we will know how to apply this at home. • Learn what an internet browser is • Know what a search engine is and how to use a search engine for research purposes. **Vocabulary: safe search, filtering, internet browser, search engine**	**<u>I understand that information on the internet isn't always reliable</u>** • Share ways of checking the reliability of information on line • Watch clip – 'Fake News' • The children will be given 2 cards on the same subject. The children need to decide which card is true and which is false. How do they know? **Vocabulary: reliability, fake, spoof website**	**<u>I understand and appreciate how search results are selected and ranked using web crawlers</u>** • Children understand web crawlers are used by search engines to find information and prioritise results within an index • Children create class database as if they were web crawlers finding and ordering search results of everyday classroom objects **Vocabulary: search, engine, WWW, internet, key words, images, results, web crawlers**	
	<u>I can apply research techniques when using a search engine</u> • Talk about reliability of information we read online. • Remember what a search engine is and how it works. • Children (in pairs) will use google search engine effectively to find the answer to questions from our topic learning (sticky knowledge quiz)			

	• Pairs must make sure they find the same answer x 2 to check its reliability – if it brings up a different answer to options on the quiz write this down. • Challenge – write some more questions about the Stone Age for which you want to know the answer to. **Vocabulary: reliable, effective**			

AI: 5 lessons				
National Curriculum Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.				
	Y3	**Y4**	**Y5**	**Y6**
	I understand what AI is and how it is different from human intelligence • AI learns and can improve tasks by not repeating mistakes • AI helps us in daily life, for example; SATNAV face recognition to unlock phones, new music suggestions • AI is not a human as it does not think, feel or have emotions – it follows instructions • AI is a tool designed to assist with jobs, speed up tasks and spark creativity **Vocabulary: AI, artificial intelligence, technology, tasks, tool**	**I know what AI technologies can and can't do** • AI technologies can capture and analyse data, recognise and respond to voice commands, simulate human conversations • AI technologies can't fell emotions or understand feelings such as love and/or justice. They can't generate truly unique content or know the difference between right and wrong. **Vocabulary: Artificial intelligence, computer-based system, programmed**	**I know the advantages and disadvantages of generative AI** • Generative AI is a computer-based system that processes information, recognises patterns, and completes jobs tasks automatically • Generative AI follows programmed instructions and uses data to improve accuracy over time • Generative AI starts with an input (prompt), AI models use networks to find patterns and then algorithms generate new content in response to the prompt • Types of generative AI include; visual imagery, language models and audio/speech • Advantages include; improved content, analysing large amounts of data and saving time • Disadvantages include; can be costly for businesses, quality of content generated and copyright. **Key vocabulary: computer-based system, instructions, content, models**	**I can explain why there are many fake and AI-generated images online** • AI-generated images and videos are common online • It is very difficult to identify fake images and videos • People may use fake images/videos for many different purposes including to trick or manipulate others. • People use fake imagery to push a message they believe in e.g. image generation to make it look like something has happened (fake news/phishing) **Key vocabulary: generate, realistic, identify, fake news, phishing**
	I understand how AI is used in daily life • AI is a tool that may not be seen used in everyday life which helps with routine tasks, learning and entertainment (Alexa) • Examples of AI in daily life include smart assistants, streaming services (Netflix) recommendations, learning tools, gaming. • Know how AI effects our daily choices	**I know how to respond if using AI makes me feel worried, upset or confused** • Chn identify uses of AI in life including their own • Children identify scenarios and explain how the people in them might be feeling and why they are feeling this way • Children understand the ways to seek support if they are made to feel upset, worried or confused such as reaching	**I can explain some of the limitations of using AI chatbots** • Introduce what an AI chatbot is and how people may use them, then examines the limitations of using AI chatbots for support and alternative places where young people can get help if they need it. • Children identify if they have used a chatbot before, and what they used it for.	**I know the use of prompts creates effective responses from an AI model** • Children understand the relationship between the use of good quality and effective prompts and the responses that are given • Using an AI model/chatbot, children identify what information they want to know and how they can effectively use an AI model to retrieve the best information.

	Vocabulary: AI, artificial intelligence, technology, tasks, tool, routines, streaming	out to a trusted adult/helplines/reporting icons online • Children identify ways they can support each other. Children give recommendations of how they would support the people within the scenarios **Vocabulary: AI, artificial intelligence, misuse, responding, trusted adults, report**	• People use chatbots when they need help with their emotions – emphasise this is a conversation best had with a person/trusted adult • Children use true/false scenarios to emphasise the correct use of chatbots especially when focusing on emotions etc. **Vocabulary: chatbots, limitations, support networks**	• Children understand that follow-up prompts are usually needed in order to gain a deeper, more detailed or precise response to their initial question. **Key vocabulary: chatbots, prompts, response, AI model**
	I can apply my knowledge to identify uses of AI that are safe and responsible, or that are a misuse. (okay or not okay) • Chn identify scenarios of which AI is used to either trick or hurt people's feelings alongside positive uses such as creating songs or research • Chn identify whether it is okay or not okay to use AI in such ways as identified in scenarios. **Vocabulary: AI, artificial intelligence, technology, tasks, tool, routines, streaming, responsible, misuse**	**I know when I should use AI technologies** Read the scenarios and decide whether it is a good opportunity to use AI technologies or if it is something children could do another way. Think about whether they should seek help from a trusted adult or elsewhere, such as Childnet or Childline. **Vocabulary: AI, artificial intelligence, misuse, responding, trusted adults, report, use of AI**	**I know how to spot AI generated media** • AI-generated media is entirely made by a computer program which can include, images, videos and audio • AI tools can also be used manipulate content to change or alter it e.g. remove people from photos or change expressions • Chn identify list of criteria to help spot AI-generated media e.g. looking too perfect, unnatural features, odd positioning of libs etc, repeating patterns and glitches. **Vocabulary: AI-generated, content, human-made, deepfakes**	**I know how deepfakes can be used for different purposes** • Deepfakes are fake images, videos or audio recordings generated by AI programs to show something that didn't really happen but looks real. Deepfakes are made using a subset of machine learning known as deep learning. • Children identify the positive and negative use of deepfakes • Deepfakes can cause significant emotional distress and have a long-term impact on a person's digital footprint - for instance, if a video of them appearing to make racist comments is circulated on social media, it can impact their job prospects. • People who create deepfakes are also at risk of breaking the law. Images or videos depicting minors in a manner that could be deemed sexual is considered an offence under the Child Protection Act, and perpetrators may face criminal investigation and prosecution. **Key vocabulary: deepfake, digital footprint, distress, prosecution**

Databases: 3 lessons				
National Curriculum Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information				
	Y3	**Y4**	**Y5**	**Y6**

Drawing: 4 lessons				
National Curriculum				
	Y3	Y4	Y5	Y6

Computer Science: 3 lessons				
National Curriculum Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities for communication and collaboration				
	Y3	**Y4**	**Y5**	**Y6**
	Steve Jobs is widely recognized as a pioneer of the personal computer revolution of the 1970s and 1980s.	**Alan Turing** - highly influential in the development of theoretical computer science, providing the concepts of algorithm and computation with the Turing machine, considered a model of a general-purpose computer.	**Arthur C Clarke** British science fiction writer, science writer and futurist, inventor, undersea explorer, and television series host. Proposed idea of setting up a satellite communication system – computer science.	**Charles Babbage** 1791 -1871 English polymath. A mathematician, philosopher, inventor and mechanical engineer. Babbage is credited with inventing the first mechanical computer – the analytical engine. Considered Father of Computing.
				Tim Berners Lee invented the World Wide Web for sharing, collaborating and communicating which made research possible.