Cedar Park School
Be kind ⋆ Be inspired ⋆ Believe

Computing Curriculum Progression

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Computing Systems and Networks	Unit: Technology Around Us **LO: To identify technology** • I can explain how these technology examples help us. • I can explain technology as something that helps us. • I can locate examples of technology in the classroom. **LO: To identify a computer and its main parts** • I can name the main parts of a computer • I can switch on and log into a computer • I can use a mouse to click and drag **LO: To use a mouse in different ways.** • I can click and drag to make objects on a screen • I can use a mouse to create a picture • I can use a mouse to open a program **LO: To use a keyboard to type.** • I can save my work to file • I can tell you that writing on a computer is called typing • I can type my name in a computer **LO: To use the keyboard to edit text.** • I can delete letters • I can open my work from a file • I can use the arrow keys to move the cursor **LO: To create rules for using technology responsibly.** • I can discuss how we benefit from these rules • I can give examples of some of these rules • I can identify rules to keep us safe and healthy when we are using technology in and beyond the home	Unit: Technology Around Us **LO: To recognise the uses and features of information technology.** • I can describe some uses of computers • I can identify examples of computers • I can identify that a computer is a part of information technology **LO: To identify information technology in the home.** • I can explain the purpose of information technology in the home • I can move and resize images • I can open a file **LO: To identify information technology beyond school.** • I can compare types of information technology • I can find examples of information technology • I can talk about uses of information technology **LO: To explain how information technology benefits us.** • I can demonstrate how information technology is used in a shop • I can explain how information technology helps people • I can recognise that information technology can be connected **LO: To show how to use information technology safely.** • I can list different uses of information technology • I can recognise how to use information technology responsibly • I can say how those rules/guides can help me **LO: To recognise that choices are made when using information technology.** • I can enjoy a variety of activities • I can explain simple guidance for using information technology • I can identify the choices that I make when using information technology	Unit: Connecting Computers **LO: To explain how digital devices function.** • I can explain that digital devices accept inputs • I can explain that digital devices produce outputs • I can follow a process **LO: To identify input and output devices.** • I can classify input and output devices • I can design a digital device • I can model a simple process **LO: To recognise how digital devices can change the way we work.** • I can explain how I use digital devices for different activities • I can recognise similarities between using digital devices and non-digital devices • I can suggest differences between using digital devices and non-digital devices **LO: To explain how a computer network can be used to share information.** • I can discuss why we need a network switch • I can explain how messages are passed through multiple connections • I can recognise different connections **LO: To explore how digital devices can be connected.** • I can demonstrate how information can be passed between devices • I can explain the role of a switch, server, and wireless access point in a network • I can recognise that a computer network is made up of a number of devices **LO: To recognise the physical components of a network.** • I can identify how devices in a network are connected with one another • I can identify networked devices around me - I can identify the benefits of computer net	Unit: The Internet **LO: To describe how networks physically connect to other networks.** • I can demonstrate how information is shared across the internet • I can describe the internet as a network of networks • I can discuss why a network needs protecting **LO: To recognise how networked devices make up the internet.** • I can describe the different networked devices and how they connect • I can explain how the internet allows us to view the World Wide Web • I can recognise that the World Wide Web is part of the internet that contains websites and web pages **LO: To outline how websites can be shared via the World Wide Web.** • I can describe how to access websites on the WWW • I can describe where websites are stored when uploaded to the WWW • I can explain the types of media that can be shared on the WWW **LO: To describe how content can be added and accessed on the World Wide Web.** • I can create media which can be found on the websites • I can explain that new content can be created online • I can recognise that I can add content to the WWW **LO: To recognise how the content of the WWW is created by people.** • I can explain that there are rules to protect content • I can explain that websites and their content are created by people • I can suggest who owns the content on websites **LO: To evaluate the consequences of unreliable content.** • I can explain that not everything on the WWW is true • I can explain why I need to think carefully before I share or reshare content • I can explain why some information I find online may not be honest, accurate or legal	Unit: Internet Communication **LO: To Identify how to use a search engine.** • I can compare results from different search engines • I can complete a web search to find specific information • I can refine my search **LO: To describe how search engines select results.** • I can explain why we need tools to find things online • I can recognise the role of web crawlers in creating an index • I can relate a search term to the search engine's index **LO: To explain how search results are ranked.** • I can explain that a search engine follows rules to rank relevant pages • I can explain that search results are ordered • I can suggest some of the criteria that a search engine checks to decide on the order of results **LO: To recognise why the order of results is important, and to whom.** • I can describe some of the ways that search results can be influenced • I can explain how search engines make money • I can recognise some of the limitations of search engines **LO: To recognise how we communicate using technology.** • I can choose methods of communications to suit particular purposes • I can explain the different ways in which people communicate • I can identify that there are a variety of ways of communicating over the internet **LO: To evaluate different methods of online communication.** • I can compare different methods of communicating on the internet • I can decide when I should not share • - I can explain that communication on the internet may not be private	Unit: Sharing Information **LO: To explain that computers can be connected together to form systems.** • I can describe that a computer system features inputs, processes and outputs • I can explain that computer systems communicate with other devices • I can explain that systems are built using a number of parts **LO: To recognise the role of computer systems in our lives.** • I can explain the benefits of a given computer system • I can identify tasks that are managed by computer systems • I can identify the human elements of a computer system **LO: To recognise how information is transferred over the internet.** • I can explain that data is transferred over networks in packets • I can explain that networked devices have unique addresses • I can recognise that data is transferred using agreed methods **LO: To explain how sharing information online lets people in different places work together.** • I can explain that the internet allows different media to be shared • I can recognise that connected digital devices can allow us to access shared files stored online • I can send information over the internet in different ways **LO: To contribute to a shared project online.** • I can compare working online with working offline • I can make thoughtful suggestions on my group's work • I can suggest strategies to ensure successful group work **LO: To evaluate different ways of working together online.** • I can explain how the internet enables effective collaboration • I can identify different ways of working together online • I can recognise that working together on the internet can be public or private

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Creating Media A	**Unit: Digital painting** **LO: To describe what different freehand tools do.** • I can draw lines on a screen and explain which tools I used • I can make marks on a screen and explain which tools I used • I can use the paint tools to draw a picture **LO: To use the shape tool and the line tools.** • I can make marks with the square and line tools • I can use the shape and line tools effectively • I can use the shape and line tools to recreate the work of an artist **LO: To make careful choices when painting a digital picture.** • I can use appropriate shapes • I can create appropriate colour choices • I can create a picture in the style of an artist **LO: To explain why I chose the tools I used** • I can choose appropriate paint tools and colours to recreate the work of an artist • I can use say which tools were helpful and why • I know that different paint tools do different jobs **LO: To use a computer on my own to paint a picture.** • I can change the colour and brush sizes • I can make dots of colour on the page • I can use dots of colour to create pictures in the style of an artist on my own **LO: To compare a painting a picture on a computer and on a paper.** • I can explain that pictures can be made in lots of different ways • I can say whether I prefer painting using a computer or using paper • - I can spot the differences between painting on a computer and on paper	**Unit: Digital Photography** **LO: To know what devices can be used to take photographs.** • I can capture digital photos and talk about my experience • I can sort devices into old and new • I can talk about how to take a photograph **LO: To use digital device to take a photograph.** • I can explain the process of taking a good photograph • I can explain why a photograph looks better in a portrait or landscape format • I can take photos in both landscape and portrait format **LO: To describe what makes a good photograph.** • I can discuss how to take a good photograph • I can identify what is wrong with a photograph • I can improve a photograph by retaking it **LO: To decide how photographs can be improved.** • I can experiment with different light sources • I can explore the effect that light has on a photo • I can focus on an object **LO: To use tools to change an image.** • I can explain my choices • I can recognise that images can be changed • I can use a tool to achieve a desired effect **LO: To recognise that images can be changed.** • I can apply a range of photography skills to capture a photo • I can identify which images are real and which have been changed • I can recognise which images have been changed	**Unit: Stop-frame Animation** **LO: To explain that animation is a sequence of drawings or photographs.** • I can create an effective flip book animation • I can draw a sequence of pictures • I can explain how an animation/flip book works **LO: To relate animated movement with a sequence of images.** • I can create an effective stop-frame animation • I can explain why little changes are needed for each frame • I can predict what an animation will look like **LO: To plan an animation.** • I can break down a story into setting, characters and events • I can create a story board • I can describe an animation that is achievable on screen **LO: To identify the need to work consistently and carefully.** • I can evaluate the quality of my animation • I can review a sequence of frames to check my work • I can onion skinning to help me make small changes between frames **LO: To review and improve an animation.** • I can evaluate another learner's animation • I can explain ways to make my animation better • I can improve my animation based on feedback **LO: To evaluate the impact of adding other media to an animation.** • I can add other media to my animation • I can evaluate my final film • I can explain why I added other media to my animation	**Unit: Audio Editing** **LO: To identify that sound can be digitally recorded.** • I can identify digital devices that can record sound and play it back • I can identify the inputs and outputs required to play audio or record sound • I can recognise the range of sounds that can be recorded **LO: To use digital device to record sound.** • I can discuss what other people include when recording sound for a podcast • I can suggest how to improve my recording • I can use a device to record audio and play back sound **LO: To explain that a digital recording is stored as a file.** • I can discuss why it is useful to be able to save digital recordings • I can plan and write the content for a podcast • I can save a digital recording as a file **LO: To explain that audio can be changed through editing.** • I can discuss ways in which audio recordings can be altered • I can edit sections of an audio recording • I can open a digital recording from a file **LO: To show that different types of audio can be combined and played together.** • I can choose suitable sounds to include in a podcast • I can discuss sounds that other people combine • I can use editing tools to arrange sections of audio **LO: To evaluate editing choices made.** • I can discuss the features of a digital recording I like • I can explain that digital recordings need to be exported to share them I can suggest improvements to a digital recording	**Unit: Video Editing** **LO: To recognise video as moving pictures which can include audio.** • I can explain that a video can include both visual and audio media • I can explain the benefits of adding audio to a video • I can plan a video project using a storyboard **LO: To identify digital devices can record video.** • I can choose the most suitable digital device for recording my project • I can identify and name digital devices that can record video and sound • I can locate and identify the working features of a digital device that can record video **LO: To capture video using a digital device.** • I can demonstrate suitable methods of using a digital device to capture my video • I can demonstrate the safe use and handling of devices • I can select a suitable device and software to capture my video **LO: To recognise the features of an effective video** • I can explain why lighting and angle are important in creating an effective video • I can list some of the features of an effective video • I can record a video that demonstrates some of the features of an effective video **LO: To identify that video can be improved reshooting and editing** • I can explain how to improve a video by reshooting and editing • I can select the correct tools to make edits to my video • I can store, retrieve, and export my recording to a computer **LO: To consider the impact of the choices made when making and sharing a video.** • I can evaluate my video and share my opinions • I can make edits to my video and improve the final outcome • I can recognise that my choices when making a video will impact on the quality of the final outcome	**Unit: Web page creation** **LO: To review existing website and consider the structure.** • I can discuss the different types of media used on websites • I can explore a website • I know that websites are written in HTML **LO: To plan the features of a web page.** • I can draw a web page layout that suits my purpose • I can recognise the common features of a web page • I can suggest media to include on my page **LO: To consider ownership and use of images (copyright).** • I can describe what is meant by the term 'fair use' • I can find copyright free images • I can say why I should use copyright free images **LO: To recognise the need to preview pages.** • I can add content to my own web page • I can evaluate what my web page looks like on different devices and suggest/make edits • I can preview what my web page looks like **LO: To outline the need for a navigation path.** • I can describe why navigation paths are useful • I can explain what a navigation path is • I can make multiple web pages and link them using hyperlinks **LO: To recognise the implications of linking to content owned by other people.** • I can create hyperlinks to link to other people's work • I can evaluate the user experience of a website I can explain the implication of linking to content owned by others

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Programming A	**Unit: Moving a robot** **LO: To explain what a given command will do.** • I can match a command to an outcome • I can predict the outcome of a command on a device • I can run a command on a device **LO: To act out a given word.** • I can follow an instruction • I can give directions • I can recall words that can be acted out **LO: To combine forwards and backwards commands to make a sequence**. • I can compare forwards and backwards movements • I can predict the outcome of a sequence involving forwards and backwards commands • I can start a sequence from the same place **LO: To combine four directions commands to make sequences.** • I can compare left and right turns • I can experiment with turn and move commands to move a robot • I can predict the outcome of a sequence involving up to four commands LO: To plan a simple program. • I can choose the order of commands in a sequence • I can debug my program • I can explain what my program should do **LO: To find more than one solution to a problem.** • I can identify several possible solutions • I can plan two programs • - I can use two different programs to get to the same place	**Unit:** Robot Algorithms **LO: To describe a series of instructions as a sequence.** • I can choose a series of words that can be enacted as a sequence • I can follow instructions given by someone else • I can give clear and unambiguous instructions **LO: To explain what happens when we change the order of instructions.** • I can create different algorithms for a range of sequences (using the same commands) • I can show the difference in outcomes between two sequences that consist of the same commands • I can use an algorithm to program a sequence on a floor robot **LO: To use logical reasoning to predict the outcome of a program (series of commands).** • I can compare my prediction to the program outcome • I can follow a sequence • I can predict the outcome of a sequence **LO: To explain that programming projects can have code and artwork.** • I can explain the choices I made for my mat design • I can identify different routes around my mat • I can test my mat to make sure that it is usable **LO: To design an algorithm.** • I can create an algorithm to meet my goal • I can explain what my algorithm should achieve • I can use my algorithm to create a program **LO: To create and debug a program that I have written.** • I can plan algorithms for different parts of a task • I can put together the different parts of my program • - I can test and debug each part of the program	**Unit:** Sequence in Music/Sound **LO To explore a new programming environment.** • I can explain that objects in Scratch have attributes • I can identify the objects in Scratch project (sprites and backdrops) • I can recognise that commands in Scratch are represented as blocks **LO: I can identify that each sprite is controlled by the commands I choose.** • I can choose a word which describes an on-screen action for my design • I can create a program following a design • I can identify that each sprite is controlled by the commands I choose **LO To explain that a program has a start.** • I can create a sequence of connected commands • I can explain that the objects in my project will respond exactly to the code • I can start a program in different ways **LO: To recognise that a sequence of commands can have an order.** • I can combine sound commands • I can explain what a sequence is • I can order notes into a sequence **LO: To change the appearance of my project.** • I can build a sequence of commands • I can describe the actions for each sprite in a program • I can make my design choices for my artwork **LO: To create a project from a task description.** • I can identify and name the objects I will need for a project • I can implement my algorithm as a code • I can relate a task description to a design	**Unit:** Repetition in Shapes **LO: To identify that accuracy in programming is important.** -I can create a code snippet for a given purpose -I can explain the effect of changing a value of a command -I can program a computer by typing commands **LO: To create a program in a text-based language.** -I can test my algorithm in a text-based language -I can use a template to create a design for my program -I can write an algorithm to produce a given outcome **LO: To explain what 'repeat' means.** -I can identify everyday tasks that include repetition as part of a sequence e.g. brushing teeth, dance moves -I can identify patterns in a sequence e.g. step 3 times means the same as step, step, step -I can use a count-controlled loop to produce a given outcome **LO: To modify a count-controlled loop to produce a given outcome.** -I can choose which values to change in a loop -I can identify the effect of changing the number of times a task is repeated -I can predict the outcome of a program containing a count-controlled loop **LO: To decompose a program into parts.** -I can explain that a computer can repeatedly call a procedure -I can identify 'chunks' of actions in the real world -I can use a procedure in a program **LO: To create a program that uses count-controlled loops to produce a given outcome.** -I can design a program that includes count-controlled loops -I can develop my program by debugging it -I can make use of my design to write a program	**Unit:** Selection in Physical Computing **LO: To control a simple circuit connected to the computer.** -I can build a simple circuit to connect a microcontroller to a computer -I can explain why I used an infinite loop -I can program a microcontroller to light an LED **LO: To write a program that includes count-controlled loops.** -I can connect more than one output device to a microcontroller -I can decide which input devices I control with a count-controlled loop -I can design sequences for given output devices **LO: To explain that a loop can stop when a condition is met.** -I can experiment with a 'do until' loop -I can explain that a condition is something that can either be true or false -I can program a microcontroller to respond to an input **LO: To conclude that a loop can be used to repeatedly check whether a condition has been met.** -I can explain that a condition being met can start an action -I can identify a condition and an action in my project -I can use selection to direct the flow of a program **LO: To design a physical project that includes selection.** -I can create a detailed drawing of my project -I can describe what my project will do -I can identify a condition to start an action **LO: To create a controllable system that includes selection.** -I can test and debug my project -I can use selection to produce an intended outcome -I can write an algorithm to control lights and a motor	**Unit:** Variables in Games **LO: To define a 'variable' as something that is changeable.** - I can explain that the way that a variable changes can be defined - I can identify examples of information that is variable - I can identify that variables can hold numbers or letters **LO: To explain why a variable is used in a program.** - I can explain that a variable has a name and a value - I can identify a program variable as a placeholder in memory for a single value - I can recognise that the value of a variable can be changed **LO: To choose how to improve a game by using variables.** - I can decide where in a program to change a variable - I can make use of an event in a program to set a variable - I can recognise that the value of a variable can be used by a program **LO: To design a project that builds on a given example.** - I can choose the artwork for my project - I can create algorithms for my project - I can explain my design choices **LO: To use my design to create a project.** - I can choose a name that identifies the role of a variable - I can create the artwork for my project - I can test the code that I have writen **LO: To evaluate my project.** - I can extend my game further using more variables - I can identify ways that my game could be improved - I can share my game with others

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Data and Information	**Unit:** Grouping Data **LO: To label objects.** - I can describe objects using labels - I can identify the label for a group of objects - I can match objects to groups **LO: To identify that objects can be counted.** - I can count a group of objects - I can objects - I can group objects **LO: To describe objects in different ways.** - I can describe a property of an object - I can describe an object - I can find objects with similar properties **LO: T count objects with the same properties.** - I can group objects in more than one way - I can group similar objects - I can count how many objects share a property **LO: To compare groups of objects.** - I can choose how to group objects - I can describe groups of objects - I can record how many objects are in a group **LO: To answer questions about groups of objects.** - I can compare groups of objects - I can decide how to group objects to answer a question - I can record and share what I have found	**Unit:** Pictograms **LO: To recognise that we can count and compare objects using tally charts.** - I can compare totals in a tally chart - I can record data in a tally chart - I can represent a tally count as a total **LO: To recognise that objects can be represented as pictures.** - I can enter data onto a computer - I can use a computer to view data in a different format - I can use pictograms to answer simple questions about objects **LO: To create a pictogram.** - I can explain what the pictogram shows - I can organise data in a tally chart - I can use a tally chart to create a pictogram **LO: To select objects by attribute and make comparisons.** - I can answer more than/ less than and most/least questions about an attribute - I can create a pictogram to arrange objects by an attribute - I can tally objects using a common attribute **LO: To recognise that people can be described by attributes.** - I can choose a suitable attribute to compare people - I can collect data I need - I can create a pictogram and draw conclusions from it **LO: To explain that we can present information using a computer.** - I can give simple examples of why information should not be shared - I can share what I have found out using a computer - I can use a computer program to present information in different ways	**Unit:** Branching Databases **LO: To create questions with yes/no answers.** -I can create two groups of objects separated by one attribute -I can investigate questions with yes/no answers -I can make up a yes/no question about a collection of objects **LO: To identify the object attributes needed to collect relevant data.** -I can arrange objects into a tree structure -I can create a group of objects within an existing group -I can select an attribute to separate objects **LO: To create a branching database.** -I can group objects using my own yes/no questions -I can prove my branching database works -I can select objects to arrange in a branching database **LO: To identify objects using a branching database.** -I can create questions and apply them to a tree structure -I can select a theme and choose a variety of objects -I can use my branching database to answer questions **LO: To explain why it is helpful for a database to be well structured.** -I can compare two branching database structures -I can create yes/no questions using given attributes -I can explain that questions need to be ordered carefully to split objects into similarly sized groups **LO: To compare the information shown in a pictogram with a branching database.** -I can compare two ways of presenting information -I can explain what a branching database tells me -I can explain what a pictogram tells me	**Unit:** Data logging **LO: to explain that data gathered over time can be used to answer questions.** -I can choose a data set to answer a given question -I can identify data that can be gathered over time -I can suggest questions that can be answered using a given data set **LO: To use a digital device to collect data automatically.** -I can explain that sensors are input devices -I can identify that data from sensors can be recorded -I can use data from a sensor to answer a given question **LO: To explain that a data logger collects data points from sensors over time.** -I can identify a suitable place to collect data -I can identify the intervals used to collect data -I can talk about the data that I have captured **LO: to use data collected over a long duration to find information.** -I can import a data set -I can use a computer program to sort data -I can use a computer to view data in different ways **LO: To identify the data needed to answer questions.** -I can plan how to collect data using a data logger -I can propose a question that can be answered using logged data -I can use a data logger to collect data **LO: to use collected data to answer questions.** -I can draw conclusions from the data that I have collected -I can explain the benefits of using a data logger -I can interpret data that has been collected using a data logger	**Unit:** Fact-file Databases **LO: To use a form to record information.** -I can create multiple questions about the same field -I can explain how information can be recorded -I can order, sort, and group my data cards **LO: To compare paper and computer-based databases.** -I can choose which field to sort data by to answer a given question -I can explain what a 'field' and a 'record' is in a database -I can navigate a flat-file database to compare different views of information **LO: To outline how grouping and then sorting data allows us to answer questions.** -I can combine grouping and sorting to answer more specific questions -I can explain how information can be grouped -I can group information to answer questions **LO: To explain that tools can be used to select specific data** -I can choose multiple criteria to answer a given question -I can which field and value are required to answer a given question -I can outline how 'AND' and 'OR' can be used to refine data selection **LO: To explain that computer programs can be used to compare data visually** -I can explain the benefits of using a computer to create graphs -I can refine a chart by selecting a particular filter -I can select an appropriate chart to visually compare data **LO: To apply my knowledge of a database to ask and answer real-world questions** -I can ask questions that will need more than one field to answer -I can present my findings to a group -I can refine a search in a real-world context	**Unit:** Introduction to Spreadsheets **LO: To identify questions which can be answered using data.** - I can answer questions from an existing data set - I can ask simple relevant questions which can be answered using data - I can explain the relevance of data headings **LO: To explain that objects can be escribed using data.** - I can apply an appropriate number format to a cell - I can build a data set in a spreadsheet application - I can explain what an item of data is **LO: To explain what formula can be used to produce calculated data.** - I can construct a formula in a spreadsheet - I can explain the relevance of a cell's data type - I can identify that changing inputs changes outputs **LO: To apply formula to data including duplicating.** - I can apply a formula to multiple cells by duplicating it - I can create a formula which includes a range of cells - I can recognise that data can be calculated using different operations **LO: To create a spreadsheet to plan an event.** - I can apply a formula to calculate the data I need to answer questions - I can explain why data should by organised - I can use a spreadsheet to answer questions **LO: To choose suitable ways to present data.** - I can produce a graph - I can suggest when to use a table or graph - I can use a graph to show the answer to questions

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Creating Media B	**Unit:** Digital Writing **LO: To use a computer to write.** - I can identify and find keys on a keyboard - I can open a word processor - I can recognise keys on a keyboard **LO: To add and remove text on a computer.** - I can enter text into a computer - I can use backspace to remove text - I can use letter, number and space keys **LO: To identify that the look of text can be changed on a computer.** - I can explain what the keys that I have learnt about already do - I can identify the toolbar and use bold, italic and underline - I can type capital letters **LO: To make careful choices when changing text.** - I can change the font - I can select a word by doubling-clicking - I can select all of the text by clicking and dragging **LO: To explain why I used the tools that I chose.** - I can decide if my changes have improved my writing - I can say what tool I used to change the text - I can use 'undo' to remove changes **LO: To compare writing on a computer with writing on paper.** - I can compare using a computer with using a pencil and paper - I can say which method I like best - I can write a message on a computer and on paper	**Unit: Digital Music** **LO: To say how music can make us feel.** - I can describe how music makes me feel - I can identify simple differences in pieces of music - I can listen with concentration to a range of music **LO: To identify that there are patterns in music.** - I can create a rhythm pattern - I can explain that music is created and played by humans - I can play an instrument following a rhythm pattern **LO: To describe how music can be used in different ways.** - I can connect images with sounds - I can relate an object to a piece of music - I can use a computer to experiment with pitch and duration **LO: To show how music is made from a series of notes.** - I can identify that music is a sequence of notes - I can refine my musical pattern on a computer - I can use a computer to create a musical pattern using three notes **LO: To create music for a purpose.** - I can describe an animal using sounds - I can explain my choices - I can save my work **LO: To review and refine our computer work.** - I can explain how I made my work better - I can listen to music and describe how it makes me feel - I can reopen my work	**Unit:** Desktop Publisher **LO: To recognise how text and images convey information.** -I can explain the differences between text and images -I can identify the advantages and disadvantages of using text and images -I can recognise that text and images can communicate messages clearly **LO: To recognise that text and layout can be edited.** -I can change font style, size, and colour for a given purpose -I can edit text -I can explain that text can be changed to communicate more clearly **LO: To choose appropriate page settings.** -I can create a template for a particular purpose -I can define the term page orientation -I can recognise placeholders and say why they are important **LO: To add content to a desktop publishing publication.** -I can choose the best locations for my content -I can make changes to content after I've added it -I can paste text and images to create a magazine cover **LO: To consider how different layouts can suit different purposes.** -I can choose a suitable layout for a given purpose -I can identify different layouts -I can match a layout to a purpose **LO: To consider the benefits of desktop publishing.** -I can compare work made on desktop publishing to work created by hand -I can identify the uses of desktop publishing in the real world -I can say why desktop publishing might be useful	**Unit:** Photo Editing **LO: To explain that digital images can be changed.** -I can explain the effect that editing can have on an image -I can explore how images can be changed in real life -I can identify changes that we can make to an image **LO: To change the composition of an image.** -I can change the composition of an image by selecting parts of it -I can consider why someone might want to change the composition of an image -I can explain what has changed in an edited image **LO: To describe how images can be changed for different uses.** -I can choose effects to make my image fit a scenario -I can explain why my choices fit a scenario -I can talk about changes made to images **LO: To make good choices when selecting different tools.** -I can choose appropriate tools to retouch an image -I can give examples of positive and negative effects that retouching can have on an image -I can identify how an image has been retouched **LO: To recognise that not all images are real.** -I can combine parts of an image to create new images -I can sort images into 'fake' or 'real' and explain my choices	**Unit:** Vector drawing **LO: To identify that drawing tools can be used to produce different outcomes.** -I can discuss how a vector drawing is different from paper-based drawings -I can identify the main drawing tools -I can recognise that vector drawings are made using shapes **LO: To create a vector drawing by combining shapes.** -I can explain that each element added to a vector drawing is an object -I can identify the shapes used to make a vector drawing -I can move, resize, and rotate objects I have duplicated **LO: To use tools to achieve a desired effect.** -I can explain how alignment grids and resize handles can be used to improve consistency -I can modify objects to create different effects -I can use the zoom tool to help me add detail to my drawings **LO: To recognise that vector drawings consist of layers.** -I can change the order of layers in a vector drawing -I can identify that each added object creates a new layer in the drawing -I can identify which objects are in the front layer or in the back layer of a drawing **LO: To group objects to make them easier to work with.** -I can copy part of a drawing by duplicating several objects -I can group to create a single object -I can reuse a group of objects to further develop my vector drawing **LO: To evaluate my vector drawing.** -I can apply what I have learned about vector drawings -I can suggest improvements to a vector drawing -I can create alternatives to vector drawings	**Unit:** 3D Modelling **LO: To use a computer to create and manipulate three-dimensional (3D) digital objects.** - I can discuss the similarities and differences between 2D and 3D shapes - I can explain why we might represent 3D objects on a computer - I can select, move, and delete a digital 3D shape" **LO: To compare working digitally with 2D and 3D graphics.** "- I can change the colour of a 3D object - I can identify how graphical objects can be modified - I can resize a 3D object" **LO: To construct a digital 3D model of a physical object.** "- I can position 3D objects in relation to each other - I can rotate a 3D object - I can select and duplicate multiple 3D objects" **LO: To identify that physical objects can be broken down into a collection of 3D shapes.** "- I can create digital 3D objects of an appropriate size - I can group a digital 3D shape and a placeholder to create a hole in an object - I can identify the 3D shapes needed to create a model of a real-world object" **LO: To design a digital model by combining 3D objects.** "- I can choose which 3D objects I need to construct my model - I can modify multiple 3D objects - I can plan my 3D model" **LO: To develop and improve a digital 3D model.** "- I can decide how my model can be improved - I can evaluate my model against a given criterion - I can modify my model to improve it"

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Programming B	**Unit:** Programming Animations **LO: To choose a command for a given purpose.** - I can compare different programming tools - I can find which commands move a sprite - I can use commands to move a sprite **LO: To show that a series of commands can be joined together.** - I can run my program - I can use a start block in a program - I can use more than one block by joining them together **LO: To identify the effect of changing a value.** - I can change the value - I can find blocks which have numbers - I can say what happens when I change a value **LO: To explain that each sprite has its own instructions.** - I can add blocks to each of my sprites - I can delete a sprite - I can show that a project can include more than one sprite **LO: To design the parts of a project.** - I can choose appropriate artwork for my project - I can create an algorithm for each sprite - I can decide how each sprite will move **LO: to use my algorithm to create a program.** - I can test the programs I have created - I can use sprites which match my design - I can add programming blocks based on my algorithm	**Unit:** A introduction to quizzes **LO: To explain that a sequence of commands has a start.** - I can identify the start of a sequence - I can identify that a program needs to be started - I can show how to run my program **LO: To explain that a sequence of commands has an outcome.** - I can predict the outcome of a sequence of commands - I can match two sequences with the same outcome - I can predict the outcome of a sequence of commands **LO: To create a program using a given design.** - I can work out the actions of a sprite in an algorithm - I can decide which blocks to use to meet the design - I can build the sequences of blocks I need **LO: To change a given design.** - I can choose backgrounds for the design - I can choose characters for the design - I can create a program based on the new design **LO: To create a program using my own design.** - I can choose the images for my own design - I can create an algorithm - I can build sequences of blocks to match my design **LO: To decide how my project can be improved.** - I can compare my project to my design - I can improve my project by adding features - I can debug	**Unit:** Events and actions **LO: To explain how a sprite moves in an existing project.** -I can choose which keys to use for actions and explain my choices -I can explain the relationship between an event and an action -I can identify a way to improve a program **LO: To create a program to move a sprite in four directions.** -I can choose a character for my project -I can choose a suitable size for my character in a maze -I can program movement **LO: To adapt a program to a new context.** -I can choose blocks to set up my program -I can consider the real world when making design choices -I can use a programming extension **LO: To develop my program by adding features.** -I can build more sequences of commands to make my design work -I can choose suitable keys to turn on additional features -I can identify additional features (from a given set of blocks) **LO: To identify and fix bugs in a program.** -I can match a piece of code to an outcome -I can modify a program using design -I can test a program against a given design **LO: To design and create a maze-based challenge.** -I can evaluate my project -I can implement my design -I can make design choices and justify them	**Unit:** Repetition in Games **LO: To develop the use of count-controlled loops in a different programming environment.** -I can list an everyday task as a set of instructions including repetition -I can modify a snippet of code to create a given outcome -I can predict the outcome of a snippet of code **LO: To explain that in programming there are infinite loops and count controlled loops.** -I can choose when to use a count-controlled and an infinite loop -I can modify loops to produce a given outcome -I can recognise that some programming languages enable more than one process to be run at once **LO: To develop a design which includes two or more loops which run at the same time.** -I can choose which action will be repeated for each object -I can evaluate the effectiveness of the repeated sequences used in my program -I can explain what the outcome of the repeated action should be **LO: To modify an infinite loop in a given program.** -I can explain the effect of my changes -I can identify which parts of a loop can be changed -I can re-use existing code snippets on new sprites **LO: To design a project that includes repetition.** -I can develop my own design explaining what my project will do -I can evaluate the use of repetition in a project -I can select key parts of a given project to use in my own design **LO: To create a project that includes repetition.** -I can build a program that follows my design -I can evaluate the steps I followed when building my project -I can define the algorithm in my design	**Unit:** Selection in quizzes **LO: To explain ow selection is used in computer programs.** -I can identify conditions in a program -I can modify a condition in a program -I can recall how conditions are used in selection **LO: To relate that a conditional statement connects a condition to an outcome.** -I can create a program with different outcomes using selection -I can identify the condition and outcomes in an if..then…else statement -I can use selection in an infinite loop to check a condition **LO: To explain ow selection directs the flow of a program.** -I can design the flow of a program which contain s if… then… else…. -I can explain that program flow can branch according to a condition -I can show that a condition can direct program flow in one or two ways **LO: To design a program which uses selection.** -I can identify the outcome of user input in an algorithm -I can outline a given task -I can use a design format to outline my project **LO: To create a program which uses selection.** -I can implement my algorithm to create the first section of my program -I can share my program with others -I can test my program **LO: To evaluate my program.** -I can extend my program further -I can identify ways the program could be improved -I can identify what setup code my program needs	**Unit:** Sensing **LO: To create a program to run on a controllable device.** - I can apply my knowledge of programming to a new environment - I can test my program on an emulator - I can transfer my program to a controllable device **LO: To explain that selection can control the flow of a program.** - I can determine the flow of a program using selection - I can identify examples of conditions in the real-world - I can use a variable in an if….then…else statement to select the flow of a program **LO: To update a variable with a user input.** - I can experiment with different physical inputs - I can explain that if you read a variable the value remains - I can use a condition to change a variable **LO: To use additional statement to compare variable to a value** - I can explain the importance of the order of conditions in else if statements - I can modify a program to achieve a different outcome - I can use an operand in an if …. Then …. statement **LO: To design a project that uses inputs and outputs on a controllable device.** - I can decide what variables to include in a project - I can design the algorithm for my project - I can design the program flow for my project **LO: To develop a program to use inputs and outputs on a controllable device.** - I can create a program based on my design - I can test my program against my design - I can use a range of approaches to find and fix bugs

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E-Safety	**BEING SAFE** **Learning Objectives**: • Know when and why to take breaks from device time. • Consider the feelings of people around them, even when engaged in fun online activities. **MEDIA BALANCE & WELL-BEING** **Learning Objectives**: • 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. **PRIVACY & SECURITY** **Learning Objectives**: • 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. • Explain rules for travelling safely on the internet.	**BEING SAFE** **Learning Objectives**: • Understand the importance of being safe, responsible, and respectful online. • Learn the "Pause & Think Online" song to remember basic digital citizenship concepts. **MEDIA BALANCE & WELL-BEING** **Learning Objectives**: • Recognize the different kinds of feelings they can have when using technology. • Know what to do when they don't have a good feeling when using technology. **PRIVACY & SECURITY** **Learning Objectives**: • Understand that being safe online is similar to staying safe in real life. • 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.	**BEING SAFE** **Learning Objectives**: • Understand that being a good digital citizen means being safe and responsible online. • Take a pledge to be a good digital citizen. **MEDIA BALANCE & WELL-BEING** **Learning Objectives**: • Recognize the ways in which digital devices can be distracting. • Identify how they feel when others are distracted by their devices. • Identify ideal device-free moments for themselves and others. **PRIVACY & SECURITY** **Learning Objectives**: • Recognize the kind of information that is private. • Understand that they should never give out private information online. **DIGITAL FOOTPRINT & IDENTITY** **Learning Objectives**: • Learn that the information they share online leaves a digital footprint or "trail" • Explore what information is OK to be shared online **RELATIONSHIPS & COMMUNICATION** **Learning Objectives**: • Compare and contrast how they are connected to different people and places, in person and on the internet • Demonstrate an understanding of how people can connect on the internet **CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH** **Learning Objectives**: • Understand what online meanness can look like and how it can make people feel • Identify ways to respond to mean words online, using S-T-O-P **NEWS & MEDIA LITERACY** **Learning Objectives**: • Explain how giving credit is a sign of respect for people's work • Learn how to give credit in their schoolwork for content they use from the internet	**MEDIA BALANCE & WELL-BEING** • Examine both in-person and online responsibilities. • Describe the Rings of Responsibility as a way to think about how our behaviour affects ourselves and others. • Identify examples of online responsibilities to others. **PRIVACY & SECURITY** • Define the term "password" and describe a password's purpose. • Understand why a strong password is important. • Practice creating a memorable and strong password. **DIGITAL FOOTPRINT & IDENTITY** **Learning Objectives**: • Consider how posting selfies or other images will lead others to make assumptions about them. • Reflect on the most important parts of their unique identity. • Identify ways they can post online to best reflect who they are. **RELATIONSHIPS & COMMUNICATION** **Learning Objectives**: • Define what a community is, both in person and online. • Explain how having norms helps people in a community achieve their goals. • Create and pledge to adhere to shared norms for being in an online community. **CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH** **Learning Objectives**: • Understand that it's important to think about the words we use, because everyone interprets things differently. • Identify ways to respond to mean words online, using S-T-O-P. • Decide what kinds of statements are OK to say online and which are **NEWS & MEDIA LITERACY** **Learning Objectives**: • Recognize that photos and videos can be altered digitally. • Identify different reasons why someone might alter a photo or video. • Analyse altered photos and videos to try to determine why.	**MEDIA BALANCE & WELL-BEING** **Learning Objectives**: • Learn the "What? When? How Much?" framework for describing their media choices. • Use this framework and their emotional responses to evaluate how healthy different types of media choices are. • Begin to develop their own definition of a healthy media balance. **PRIVACY & SECURITY** **Learning Objectives**: • Identify the reasons why people share information about themselves online. • Explain the difference between private and personal information. • Explain why it is risky to share private information online. **DIGITAL FOOTPRINT & IDENTITY** **Learning Objectives**: • Define the term "digital footprint" and identify the online activities that contribute to it. • Identify ways they are -- and are not -- in control of their digital footprint. • Understand what responsibilities they have for the digital footprints of themselves and others. **RELATIONSHIPS & COMMUNICATION** **Learning Objectives**: • Define "social interaction" and give an example. • Describe the positives and negatives of social interaction in online games. • Create an online video game cover that includes guidelines for positive social interaction. **CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH** **Learning Objectives**: • Reflect on the characteristics that make someone an upstanding digital citizen. • Recognize what cyberbullying is. • Show ways to be an upstander by creating a digital citizenship superhero comic strip. **NEWS & MEDIA LITERACY** **Learning Objectives**: • Define "copyright" and explain how it applies to creative work. • Describe their rights and responsibilities as creators. • Apply copyright principles to real-life scenarios.	**MEDIA BALANCE & WELL-BEING** **Learning Objectives**: • Reflect on how balanced they are in their daily lives. • Consider what "media balance" means, and how it applies to them. • Create a personalized plan for healthy and balanced media use. **PRIVACY & SECURITY** **Learning Objectives**: • Define "the curiosity gap." • Explain how clickbait uses the curiosity gap to get your attention. • Use strategies for avoiding clickbait. **DIGITAL FOOTPRINT & IDENTITY** **Learning Objectives**: • Define "gender stereotypes" and describe how they can be present online. • Describe how gender stereotypes can lead to unfairness or bias. • Create an avatar and a poem that show how gender stereotypes impact who they are. **RELATIONSHIPS & COMMUNICATION** **Learning Objectives**: • Compare and contrast different kinds of online-only friendships. • Describe the benefits and risks of online-only friendships. • Describe how to respond to an online-only friend if the friend asks something that makes them feel uncomfortable. **CYBERBULLYING, DIGITAL DRAMA & HATE SPEECH** **Learning Objectives**: • Recognise similarities and differences between in-person bullying, cyberbullying and being mean. • Empathise with the targets of cyberbullying. • Identify strategies for dealing with cyberbullying and ways they can be an upstander for those being bullied. **NEWS & MEDIA LITERACY** **Learning Objectives**: • Understand the purposes of different parts of an online news page. • Identify the parts and structure of an online news article. • Learn about things to watch out for when reading online news pages, such as sponsored content and advertisements.