Computing Skills and Knowledge

Knowledge Progression

Year1/2 Cycle 1	Can I explain and give examples of technology that can help us? Do I recognise that a computer is an example of technology? Do I understand that choices are made when using technology? Can I explain why rules are needed?	Can I use the technique of wax resist on paper and fabric? Can I explore different effects using wax resist? Do I understand the colour wheel and how adjoining colours can blend to give a pleasing effect?	Can I understand that a program is a set of commands that a computer can run? Can I recall that a series of instructions can be issued before they are enacted?	Can I recognise that things can be described by their attributes? Can I think of appropriate headings for tally charts and pictograms? Can I create comparison questions about tally charts and pictograms?	Do I know what sounds can be made in Chrome music lab? Do I know the difference between playing a musical instrument and using a computer to make instrument type sounds?	Can I explain and give examples of technology that can help us? Do I recognise that a computer is an example of technology? Do I understand that choices are made when using technology? Can I explain why rules are needed for using technology safely?
Year1/2 Cycle 2	Can I recognise different types of computers used in school? Can I identify that a computer and its features are a part of information technology? Can I talk about uses of information technology? Can I say how rules for using information technology can help us? Can explain how information technology benefits us?	Can I identify that objects can be counted? Can I recognise that information can be presented? Can I recognise that information can be presented in different ways?	Can I predict the outcome of a command on a device? Can I explain what a given command does and match commands to outcomes? Can I choose a command for a given purpose? Can I combine a sequence of commands in a programme?	Do I know which digital devices can take pictures? Do I know how to save a photograph? Do I know that photographs can be edited?	Do I know that a keyboard can enter text on a computer? Do I know that text and its appearance can be edited and changed? Have I thought about the impact of choices made when entering and editing text?	Can I describe a series of instructions as a sequence? Can I describe the difference between two sequences? Can I explain what my algorithm should achieve?
Year 3/4 Cycle 1	Can I describe what an input and output is? Do I recognise that digital devices are made of several parts? Can I explain how computers can be connected together as part of a network? Can I explain the benefits of computer networks?	Can I explain that animation is a sequence of images? Can I explain that smaller movements create smoother animation? Do I know the impact of adding other media to an animation?	Do I understand that programs start because of an input? Do I know what a sequence is? Do I understand that different sequences can produce the same output? Do I understand that different sequences can produce different output?	Can I explain what a branching database is? Do I know how to construct a data set? Do I know how branching databases can be used in the real world?	Do I know why we use text and images in publishing? Can I explain the difference between landscape and portrait? Do I know why I should use different font styles?	Can I describe what an input and output is? Do I recognise that digital devices are made of several parts? Can I explain how computers can be connected together as part of a network? Can I explain the benefits of computer networks?
Year 3/4 Cycle 2	Do I understand that programs start because of an input? Do I know what a sequence is? Do I understand that different sequences can produce the same output? Do I understand that different sequences can produce different output?	Can I explain that the global interconnection of networks is the internet? Can I describe how networks connect to other networks? Can I outline how information can be shared via the World Wide Web? Can I explain how the content of the World Wide Web is created, owned, and shared by people? Can I describe the current limitations of World Wide Web media? Can I explain how the content of the World Wide Web is created, owned, and shared by people? Can I describe the current limitations of World Wide Web media?	Do I understand that sound can be recorded? Do I know that I need an input and output device to record and play audio? Do I know that recorded audio can be stored and edited? Do I understand that audio can be layered in order to play multiple sounds at once?	Can I explain what the word repeat means? Can I find patterns in a sequence? Can I explain how an indefinite loop in a program works?	Do I know why I would crop an image? Can I explain why I chose certain colours? Can I describe the photo I want to create? Can I explain why an image might be edited?	Can I identify and suggest questions that could be answered using a table of data and logged over time? Can I explain that a sensor is an input device that is used for collecting data? Can I explain how a data logger uses sensors to capture and input data over time?
Year 5/6 Cycle 1	Can I explain that a system is a set of interconnected parts or computers, which work together and data can be transferred between? Can I identify that search engines are examples of very large IT systems that take an input, process it and give an output? Can I explain that web crawlers create indices which a ranked for convenience for the user?	Can I name a variety of devices that can record video, and others that can't? Can I explain some benefits and limitations of editing the video on an iPad?	Can I explain the uses of a computer program? Can I explain how tools are used in programs? Can I explain that computer programs can be used to compare data visually?	Can I explain the uses of a computer program? Can I explain how tools are used in programs? Can I explain that computer programs can be used to compare data visually?	Can I explain that a vector drawing consists of separate objects? Have I recognised that each object in a vector drawing is its own layer? Can I explain how the alignment and size guides assist in creating vector drawings? Can I describe how objects can be edited in groups?	Can I define and identify examples of a variable? Can I explain that a variable's name can be used as a placeholder in a program and that variables have a value? Can I explain that variables can be updated and contain letter OR number strings? Can I explain that updating a variable cannot be undone?
Year5/6 Cycle 2	Do I know that data is transferred in packets across networks using agreed protocols? Do I understand that communicating and collaborating via the internet can be public or private? Do I know that different types of media can be shared through the internet?	Do I know that web pages are written by people and can contain different media types? Do I know that a website is a set of hyperlinked web pages? Do I understand the implications of linking to copyrighted content and image ownership?	Do I understand that count-controlled loops contain a condition and run for a set number of iterations? Do I know that condition-controlled loops stop when a condition is met? Do I know that selection can branch and direct the flow of a program?	Do I know what sort of questions can be answered using spreadsheet data? Do I know what software tools are available to us? Can I recognise that cells can be linked?	Can I explain that 3D models can be created and viewed from different angles in a 3D environment on a computer? Do I know that digital tools can be used to create 3D objects? Can I explain how artefacts can be broken down into 3D objects?	Can I define and identify examples of a variable? Can I explain that a variable's name can be used as a placeholder in a program and that variables have a value? Can I explain that variables can be updated and contain letter OR number strings? Can I explain that updating a variable cannot be undone?

Computing Skills and Progression

Skills Progression

Year1/2 Cycle 1	Can I use a piece of technology to do a job? Can I identify the different parts of a computer? Can I use a mouse and keyboard? Can I show how to use a computer safely?	Can I use shape and line, paint and fill tools when precision is needed ? Can I use the undo button to correct a mistake? Can I combine a range of tools to create a piece of artwork?	Can I predict the outcome of a command on a device? Can I choose a command for a given purpose? Can I choose a series of commands that can be run as a program? To combine commands in a program?	Can I collect data on a tally chart? Can I enter data on a computer? Can I use a computer program to present information in different ways ?	Can I create a musical pattern in Chrome music lab? Can I experiment with musical patterns in Chrome Music Lab? Can I use Chrome Music Lab to create a rhythm and melody about a theme? Can I use Chrome Music Lab to play a piece of music in different ways e.g. tempo?	Can I use a piece of technology to do a job? Can I identify the different parts of a computer? Can I use a mouse and keyboard? Can I show how to use a computer safely?
Year1/2 Cycle 2	Can I describe some uses of computers? Can I identify information technology in school? Can I identify information technology beyond school? Can I show how to use information technology safely?	Can I identify attributes and collect data? Can I show that collected data can be counted? Can I group objects by attributes? Can I describe a group of objects? Can I group data to answer questions?	Can I choose a series of words that can be enacted as a program? Can I choose a series of commands that can be run as a program ? Can I run a program on a device?	Can I take a photograph? Can I hold the camera still and use the zoom feature? Can I use simple editing tools to make improvements to a photograph?	Can I use letter, number, space and punctuation keys to enter text? Can I select and remove text? Can I change the appearance of text? Can I undo text?	Can I give clear instructions? Can I use the same instructions to create different algorithms? Can I test and debug my algorithms?
Year 3/4 Cycle 1	Can I identify input and output devices? Can i use an input to produce an output? Can I share information via a network? Can I identify network devices around me?	Can I use a storyboard? Can I capture an image? Can I move a subject in between captures? Can I review and edit an animation?	Can I build a sequence of commands? Can I combine commands in a program? Can I order commands in a program? Can I create a sequence of commands to produce a given outcome?	Do I know how to construct a data set? Do I know how branching databases can be used in the real world?	Can I explain the difference between landscape and portrait? Do I know why I should use different font styles?	Can I identify input and output devices? Can i use an input to produce an output? Can I share information via a network? Can I identify network devices around me?
Year 3/4 Cycle 2	Can I build a sequence of commands? Can I combine commands in a program? Can I order commands in a program? Can I create a sequence of commands to produce a given outcome?	Can I describe how to access the World Wide Web? Can I recognise the need for security on the internet?	Can I record a sound using a computer? Can I play recorded audio? Can I import audio into a project? Can I delete a section of audio? Can I change the volume of tracks in a project?	Can I list everyday tasks as a series of instructions? Can I use count controlled and indefinite loops? Can I create two or more sequences that run at the same time?	Can I crop an image? Can I choose different colour effects? Can I clone an image? Can I combine image and text?	Can I use a digital device to collect data automatically over a pre-chosen time frame? Can I use a computer program to sort and find information in a set of logged data? Can I export information in different formats?
Year 5/6 Cycle 1	Can I demonstrate the input and output of a search engine? Can I demonstrate that different search terms produce different results? Can I evaluate the results of search terms?	Can I plan scenes that will convey my ideas in a simple storyboard? Can I film scenes in a way that match the storyboard? Can I use split, trim and crop to edit videos?	Can I choose ways of viewing data? Can I choose appropriate ways to view and compare data? Can I choose suitable ways to present information to other people?	Can I choose ways of viewing data? Can I choose appropriate ways to view and compare data? Can I choose suitable ways to present information to other people?	Can I add, select and delete one or more objects in a vector drawing? Can I move objects between layers? Can I duplicate, reposition and modify objects? Can I combine objects to create a vector drawing for a given purpose?	Can I demonstrate the input and output of a search engine? Can I demonstrate that different search terms produce different results? Can I evaluate the results of search terms?
Year5/6 Cycle 2	Can I recognise that connections between computers enable access to shared files and allow people to work together from different locations? Can I evaluate different methods of online communication and collaboration? Can I decide what should and should not be shared online?	Can I create a blank web page and add text, hyperlinks, and media? Can I change the appearance and style of text on a web page? Can I preview a web page on different screens or devices?	Can I use selection to switch program flow with 'if... then...' and 'if... then... else...' statements? Can I create condition-controlled loops? Can I choose appropriate conditions to use in a program?	Can I calculate data using a formula for each operation? Can I use functions to create new data? Can I use existing cells within a formula?	Can I position 3D shapes relative to one another? Can I use digital tools to modify 3D objects? Can I combine and resize objects to create digital 3D artifacts? Can I construct a 3D model that reflects a real world object?	Can I identify and experiment with changing the values of an existing variable? Can I decide the location and name of a variable within a program? Can I use an event in a program to update a variable? Can I use variables in conditional statements and more than one part of a program to control the flow of the program?