

**Athersley South Primary School**

**Progression Ladder for Computing**

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| **Computing Progression** | **Algorithms** | **Programming and Development** | **Data and Data Representation** | **Hardware and Processing** | **Communication and Networks** | **Information Technology** |
| **Foundation Stage** | Can understand and follow instructions and begin to write own algorithms.  | Completes a simple program on a computer or device.Begins to write own program/sequences. | Uses data to answer questions e.g. favourite colour of class. Uses computers to make a table or list of data.Begins to collect data on a data logging device.Begin to recognise that digital content can be in many forms.  | Uses ICT hardware to interact with age appropriate computer software. Start to recognise that computers need programs to function.  | Uses digital devices and computers to communicate e.g. webcams. Accesses and saves information on a class network folder.Begins to obtain content from the world wide web using a web browser.  | Use computer devices and software to create, research and store data.Uses drawing software to design a poster for a purpose. Knows some common uses of information technology beyond the classroom. |
|  | [Computing systems and networks – Technology around us](https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-technology-around-us) | [Creating media – Digital painting](https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-painting) | [Programming A – Moving a robot](https://teachcomputing.org/curriculum/key-stage-1/programming-a-moving-a-robot) | [Data and information – Grouping data](https://teachcomputing.org/curriculum/key-stage-1/data-and-information-grouping-data) | [Creating media – Digital writing](https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-writing) | [Programming A – Robot algorithms](https://teachcomputing.org/curriculum/key-stage-1/programming-a-robot-algorithms)(from Y2) |
| **KS1****Cycle 1** **2021-2022**  | - I can explain how technology helps us- I can explain technology as something that helps us- I can locate examples of technology in the classroom- 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- 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- I can save my work to a file- I can tell you that writing on a computer is called typing- I can type my name on a computer- I can delete letters- I can open my work from a file- I can use the arrow keys to move the cursor- I can discuss how we benefit from rules- I can give examples of some rules- I can identify rules to keep us safe and healthy when we are using technology in and beyond the home | - 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- 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- I can choose appropriate shapes- I can create a picture in the style of an artist- I can make appropriate colour choices- I can choose appropriate paint tools and colours to recreate the work of an artist- I can say which tools were helpful and why- I know that different paint tools do different jobs- 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 a picture in the style of an artist on my own- 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 | - 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- I can follow an instruction- I can give directions- I can recall words that can be acted out- 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- 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- I can choose the order of commands in a sequence- I can debug my program- I can explain what my program should do- I can identify several possible solutions- I can plan two programs- I can use two different programs to get to the same place | - I can describe objects using labels- I can identify the label for a group of objects- I can match objects to groups- I can count a group of objects- I can count objects- I can group objects- I can describe a property of an object- I can describe an object- I can find objects with similar properties- I can count how many objects share a property- I can group objects in more than one way- I can group similar objects- I can choose how to group objects- I can describe groups of objects- I can record how many objects are in a group- 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 | - I can identify and find keys on a keyboard- I can open a word processor- I can recognise keys on a keyboard- I can enter text into a computer- I can use backspace to remove text- I can use letter, number, and space keys- 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- I can change the font- I can select a word by double-clicking- I can select all of the text by clicking and dragging- 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- 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 | - 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- 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- I can compare my prediction to the program outcome- I can follow a sequence- I can predict the outcome of a sequence- 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- 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- 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 |
|  | [Computing systems and networks – IT around us](https://teachcomputing.org/curriculum/key-stage-1/computing-systems-and-networks-it-around-us) | [Creating media – Digital photography](https://teachcomputing.org/curriculum/key-stage-1/creating-media-digital-photography) | [Programming B – Introduction to animation](https://teachcomputing.org/curriculum/key-stage-1/programming-b-introduction-to-animation)(from Y1) | [Data and information – Pictograms](https://teachcomputing.org/curriculum/key-stage-1/data-and-information-pictograms) | [Creating media – Making music](https://teachcomputing.org/curriculum/key-stage-1/creating-media-making-music) | [Programming B – An introduction to quizzes](https://teachcomputing.org/curriculum/key-stage-1/programming-b-an-introduction-to-quizzes) |
| **KS1****Cycle 1** **2022-2023** | - 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- I can explain the purpose of information technology in the home- I can move and resize images- I can open a file- I can compare types of information technology- I can find examples of information technology- I can talk about uses of information technology- 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- 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- I can enjoy a variety of activities (not just on screen)- I can explain simple guidance for using information technology in different environments and settings- I can identify the choices that I make when using information technology | - 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- I can explain the process of taking a good photograph- I can explain why a photo looks better in portrait or landscape format- I can take photos in both landscape and portrait format- 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- I can experiment with different light sources- I can explore the effect that light has on a photo- I can focus on an object- I can explain my choices- I can recognise that images can be changed- I can use a tool to achieve a desired effect- 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 | - I can compare different programming tools- I can find which commands move a sprite- I can use commands to move a sprite- 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- I can change the value- I can find blocks which have numbers- I can say what happens when I change a value- 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- I can choose appropriate artwork for my project- I can create an algorithm for each sprite- I can decide how each sprite will move | - 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- 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- 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- 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- I can choose a suitable attribute to compare people- I can collect the data I need- I can create a pictogram and draw conclusions from it- 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 | - I can describe how music makes me feel, e.g. happy or sad- I can identify simple differences in pieces of music- I can listen with concentration to a range of music (links to the Music curriculum)- 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- I can connect images with sounds- I can relate an idea to a piece of music- I can use a computer to experiment with pitch and duration- 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- I can describe an animal using sounds- I can explain my choices- I can save my 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 | - I can identify that a program needs to be started- I can identify the start of a sequence- I can show how to run my program- I can change 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- I can build the sequences of blocks I need- I can decide which blocks to use to meet the design- I can tell the actions of a sprite in an algorithm- I can choose backgrounds for the design- I can choose characters for the design- I can create a program based on the new design- I can build sequences of blocks to match my design- I can choose the images for my own design- I can create an algorithm- I can compare my project to my design- I can debug- I can improve my project by adding features |
|  | [Computing systems and networks – Connecting computers](https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-connecting-computers) | [Creating media – Animation](https://teachcomputing.org/curriculum/key-stage-2/creating-media-animation) | [Programming A – Sequence in music](https://teachcomputing.org/curriculum/key-stage-2/programming-a-sequence-in-music) | [Data and information – Branching databases](https://teachcomputing.org/curriculum/key-stage-2/data-and-information-branching-databases) | [Creating media – Desktop publishing](https://teachcomputing.org/curriculum/key-stage-2/creating-media-desktop-publishing) | [Programming A – Repetition in shapes](https://teachcomputing.org/curriculum/key-stage-2/programming-a-repetition-in-shapes)(from Y4) |
| **LKS2****Cycle 1****2021-2022**  | - I can explain that digital devices accept inputs- I can explain that digital devices produce outputs- I can follow a process- I can classify input and output devices- I can design a digital device- I can model a simple process- I can explain how I use digital devices for different activities- I can recognise similarities between using digital devices and non-digital tools- I can suggest differences between using digital devices and non-digital tools- I can discuss why we need a network switch- I can explain how messages are passed through multiple connections- I can recognise different connections- 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- 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 networks | - I can create an effective flip book-style animation- I can draw a sequence of pictures- I can explain how an animation/flip book works- 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- I can break down a story into settings, characters and events- I can create a storyboard- I can describe an animation that is achievable on screen- I can evaluate the quality of my animation- I can review a sequence of frames to check my work- I can use onion skinning to help me make small changes between frame- I can evaluate another learner’s animation- I can explain ways to make my animation better- I can improve my animation based on feedback- 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 | - I can explain that objects in Scratch have attributes (linked to)- I can identify the objects in a Scratch project (sprites, backdrops)- I can recognise that commands in Scratch are represented as blocks- 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- 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- I can combine sound commands- I can explain what a sequence is- I can order notes into a sequence- I can build a sequence of commands- I can decide the actions for each sprite in a program- I can make design choices for my artwork- I can identify and name the objects I will need for a project- I can implement my algorithm as code- I can relate a task description to a design | - 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- 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- 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- 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- 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- 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 | - I can explain the difference 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- I can change font style, size, and colours for a given purpose- I can edit text- I can explain that text can be changed to communicate more clearly- 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- 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- I can choose a suitable layout for a given purpose- I can identify different layouts- I can match a layout to a purpose- 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 helpful | - 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- I can test my algorithm in a text-based language (Logo)- I can use a template to create a design for my program- I can write an algorithm to produce a given outcome- I can identify everyday tasks that include repetition as part of a sequence, eg brushing teeth, dance moves- I can identify patterns in a sequence, eg ‘step 3 times’ means the same as ‘step, step, step’- I can use 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- 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- 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 |
|  | [Computing systems and networks – The Internet](https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-the-internet) | [Creating media – Audio editing](https://teachcomputing.org/curriculum/key-stage-2/creating-media-audio-editing) | [Programming B – Events and actions](https://teachcomputing.org/curriculum/key-stage-2/programming-b-events-and-actions)(from Y3) | [Data and information – Data logging](https://teachcomputing.org/curriculum/key-stage-2/data-and-information-data-logging) | [Creating media – Photo editing](https://teachcomputing.org/curriculum/key-stage-2/creating-media-photo-editing) | [Programming B – Repetition in games](https://teachcomputing.org/curriculum/key-stage-2/programming-b-repetition-in-games) |
| **LKS2****Cycle 2****2022-2023**  | - 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- 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 the part of the internet that contains websites and web pages- 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 World Wide Web (WWW)- I can create media which can be found on websites- I can explain that new content can be created online- I can recognise that I can add content to the WWW- 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- I can explain that not everything on the World Wide Web is true.- I can explain why I need to think carefully before I share or re-share content- I can explain why some information I find online may not be honest, accurate, or legal | - 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- 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- 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- 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- 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- 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 | - 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- I can choose a character for my project- I can choose a suitable size for a character in a maze- I can program movement- 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- 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)- I can match a piece of code to an outcome- I can modify a program using a design- I can test a program against a given design- I can evaluate my project- I can implement my design- I can make design choices and justify them | - 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- 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- 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- 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- 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- 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 | - 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- 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- 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- 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- I can combine parts of images to create new images- I can sort images into ‘fake’ or ‘real’ and explain my choices- I can talk about fake images around me- I can compare the original image with my completed publication- I can consider the effect of adding other elements to my work- I can evaluate the impact of my publication on others through feedback | - 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- 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- 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- 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- 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- I can build a program that follows my design- I can evaluate the steps I followed when building my project- I can refine the algorithm in my design |
|  | [Computing systems and networks – Sharing information](https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-sharing-information) | [Creating media – Video editing](https://teachcomputing.org/curriculum/key-stage-2/creating-media-video-editing) | [Programming A – Selection in physical computing](https://teachcomputing.org/curriculum/key-stage-2/programming-a-selection-in-physical-computing) | [Data and information – Flat-file databases](https://teachcomputing.org/curriculum/key-stage-2/data-and-information-flat-file-databases) | [Creating media – Vector drawing](https://teachcomputing.org/curriculum/key-stage-2/creating-media-vector-drawing) | [Programming A – Variables in games](https://teachcomputing.org/curriculum/key-stage-2/programming-a-variables-in-games)(from Y6) |
| **UKS2****Cycle 1****2021-2022**  | - 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- 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- I can explain that data is transferred over networks in packets- I can explain that networked digital devices have unique addresses- I can recognise that data is transferred using agreed methods- 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- 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- 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 | - 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- 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- 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- 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- 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- 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 | - 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- I can connect more than one output device to a microcontroller- I can decide which output devices I control with a count-controlled loop- I can design sequences for given output devices- I can experiment with a ‘do until’ loop- I can explain that a condition is something that can either be true or false (e.g. whether a value is more than 10, or whether a button has been pressed)- I can program a microcontroller to respond to an input- 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 (an ‘if… then…’ statement) to direct the flow of a program- I can create a detailed drawing of my project- I can describe what my project will do (the task)- I can identify a condition to start an action (real world)- 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 | - 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- 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- 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- I can choose multiple criteria to answer a given question- I can choose 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- 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- 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 | - 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- 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- 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- 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- 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- I can apply what I have learned about vector drawings- I can suggest improvements to a vector drawing- I create alternatives to vector drawings | - 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- 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- 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- I can choose the artwork for my project- I can create algorithms for my project- I can explain my design choices- 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 written- 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 |
|  | [Computing systems and networks – Communication](https://teachcomputing.org/curriculum/key-stage-2/computing-systems-and-networks-communication) | [Creating media – Web page creation](https://teachcomputing.org/curriculum/key-stage-2/creating-media-web-page-creation) | [Programming B – Selection in quizzes](https://teachcomputing.org/curriculum/key-stage-2/programming-b-selection-in-quizzes)(from Y5) | [Data and information – Spreadsheets](https://teachcomputing.org/curriculum/key-stage-2/data-and-information-spreadsheets) | [Creating media – 3D Modelling](https://teachcomputing.org/curriculum/key-stage-2/creating-media-3d-modelling) | [Programming B – Sensing](https://teachcomputing.org/curriculum/key-stage-2/programming-b-sensing) |
| **UKS2****Cycle 2****2022-2023**  | - I can compare results from different search engines- I can complete a web search to find specific information- I can refine my search- 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- 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- 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- I can choose methods of communication 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- I can compare different methods of communicating on the internet- I can decide when I should and should not share- I can explain that communication on the internet may not be private | - I can discuss the different types of media used on websites- I can explore a website- I know that websites are written in HTML- 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- 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- 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- 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- 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 | - I can identify conditions in a program- I can modify a condition in a program- I can recall how conditions are used in selection- 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- I can design the flow of a program which contains ‘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 of two ways- 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- 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- I can extend my program further- I can identify ways the program could be improved- I can identify what setup code my project needs | - 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- 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- 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- 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- I can apply a formula to calculate the data I need to answer questions- I can explain why data should be organised- I can use a spreadsheet to answer questions- 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 | - 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- I can change the colour of a 3D object- I can identify how graphical objects can be modified- I can resize a 3D 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- 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- I can choose which 3D objects I need to construct my model- I can modify multiple 3D objects- I can plan my 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 | - 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- 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- 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- 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 (e.g. <>=) in an if… then… statement- 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- 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 |