Computing skills progression 2021-2022

Skills progression:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| E-Safety | Pupils should be taught to use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or their online technologies. | Pupils should be taught to use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour,identify a range of ways to report concerns about content and contact. Be discerning in evaluating digital content. |
| I can keep mypassword private.I can tell you whatpersonal informationis.I can tell an adult when I see somethingunexpected orworrying online.I can talk about whyit’s important to bekind and polite.I can recognise an age appropriate website.I can agree and follow sensible e‐safety rules. | I can explain why I need tokeep my password and personal information private.I can describe the things that happen online that I must tellan adult about.I can talk about why I should go online for a short amount of time.I can talk about why it is important to be kind and polite online and in real life. Iknow that not everyone is who they say they are on theinternet. | I can talk about whatmakes a secure passwordand why they areimportant. I can protect my personalinformation when I do different things online.I can use the safetyfeatures of websites as well as reporting concerns to an adult.I can recognise websites and games appropriate formy age.I can make good choices about how long I spendonline. I ask an adultbefore downloading files and games from the internet.I can post positivecomments online. | I can choose a securepassword when I am using a website. I can talk aboutthe ways I can protect myself and my friends from harm online. I canuse the safety features of websites as well as reporting concerns to anadult.I know that anything I post online can be seen by others.I choose websites and games that areappropriate for my age. I can help my friends makegood choices about the time they spend online.I can talk about why I need to ask a trusted adult before downloading filesand games from theinternet. I commentpositively and respectfully online. | I protect my password andother personal information.I can explain why I need to protect myself and myfriends and the best ways to do this, including reportingconcerns to an adult. I know that anything I post online can be seen, used and mayaffect others. I can talk about the dangers of spending too long online orplaying a game.I can explain the importanceof communicating kindly and respectfully.I can discuss the importanceof choosing an age appropriatewebsite orgame. I can explain why I need to protect my computer or device fromharm. | I protect my password andother personalinformation.I can explain theconsequences of sharing too much information about myself online.I support my friends to protect themselves andmake good choices online, including reportingconcerns to an adult.I can explain theconsequences of spending too much time online or ona game.I can explain theconsequences to myself and others of not communicating kindly andrespectfully.I protect my computer ordevice from harm on the internet. |
| Programming | Pupils should be taught to understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguousinstructions. Create and debug simple programs. Use logical reasoning to predict the behaviour of simple programs. | Pupils should be taught to design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts. Use sequence, selection and repetition in programs;work with variables and various forms of input and output. Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs. Select, use and combine a variety of software (including internet services)on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals. |
| I can give instructions to my friend and follow their instructions to move around.I can describe whathappens when I pressbuttons on a robot.I can press the buttons in the correct order to makemy robot do what I want. I can describe what actionsI will need to do to make something happen andbegin to use the word ‘algorithm’.I can begin to predict what will happen for a short sequence of instructions. Ican begin to usesoftware/apps to create movement and patterns on a screen. I can use theword ‘debug’ when Icorrect mistakes when I Program. | I can give instructions to my friend (using forward, backward and turn) andphysically follow theirinstructions. I can tell you the order I need to do things to make something happen and talk about thisas an algorithm.I can program a robot or software to do a particular task.I can look at my friend’s program and tell you whatwill happen. I can use programming software to make objects move.I can watch a program executeand spot where it goes wrong so that I can debug it. | I can break an open‐ended problem up into smaller parts. I can put programming commands into a sequence to achievea specific outcome.I keep testing my program and can recognise when Ineed to debug it.I can use repeatcommands. I can describe the algorithm I will needfor a simple task. I can detect a problem in an algorithm which could result in a bug in the program. | I can use logical thinking tosolve an open‐endedproblem by breaking it up into smaller parts. I canuse an efficient procedureto simplify a program. I can use a sensor to detecta change which can select an action within my program.I know that I need to keep testing my program while Iam putting it together. I can use a variety of tools to create a program. I can recognise an error in a program and debug it. Ican recognise that analgorithm will help me sequence more complex programs.I recognise that usingalgorithms will also help solve problems in other learning such as maths, science and design technology. | I can decompose a problem into smaller parts to designan algorithm for a specific outcome and use this to write a program. I can refine a procedure using repeat commands toimprove a program.I can use a variable toIncrease programming possibilities.I can change an input to a program to achieve a different output. I can use ‘if’ and ‘then’ commands to select an action.I can talk about how a computer model can provide information about aphysical system.I can use logical reasoning todetect and debug mistakesin a program.I use logical thinking,imagination and creativityto extend a program. | I can deconstruct aproblem into smaller steps,recognising similarities tosolutions used before.I can explain and programeach of the steps in myalgorithm.I can evaluate theeffectiveness and efficiencyof my algorithm while Icontinually test theprogramming of thatalgorithm.I can recognise when I need to use a variable to achieve a required output.I can use a variable and operators to stop a program.I can use different inputs (including sensors) to control a device or onscreen action and predict what will happen.I can use logical reasoningto detect and correcterrors in algorithms and programs. |
| Handling Data | Pupils should be taught to use technology purposefully to organise and manipulate digital content. | Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. |
| I can talk about thedifferent ways in whichinformation can beshown. I can usetechnology to collectinformation, includingphotos, video andsound. I can sortdifferent kinds ofinformation andpresent it to others.I can add informationto a pictograph andtalk to you about what I have found out. | I can talk about the differentways I use technology tocollect information, includinga camera, microscope orsound recorder.I can make and save a chart orgraph using the data I collect.I can talk about the data thatis shown in my chart or graph.I am starting to understand abranching database.I can tell you what kind ofinformation I could use tohelp me investigate aquestion. | I can talk about thedifferent ways data can be organised.I can search a ready‐made database to answer questions.I can collect data to help me answer a question. I can add to a database. I can make a branchingdatabase.I can use a data logger to monitor changes and can talk about the information collected. | I can organise data indifferent ways.I can collect data andidentify where it could be inaccurate.I can plan, create andsearch a database toanswer questions.I can choose the best way to present data to my friends.I can use a data logger to record and share my readings with my friends. | I can use a spreadsheet anddatabase to collect and record data.I can choose an appropriatetool to help me collect data.I can present data in an appropriate way.I can search a database using different operators torefine my search.I can talk about mistakes in data and suggest how itcould be checked. | I can plan the processneeded to investigate the world around me.I can select the mosteffective tool to collect data for my investigation.I can check the data Icollect for accuracy and plausibility. I can interpret the data I collect. I canpresent the data I collect in an appropriate way.I use the skills I havedeveloped to interrogate a database. |
| Multimedia | Pupils should be taught to use technology purposefully to organise and manipulate digital content. | Pupils should be taught to select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals. |
| I can be creative withdifferent technologytools. I can usetechnology to createand present my ideas. Ican use the keyboardor a word bank on mydevice to enter text. Ican save information ina special place andretrieve itagain | I can use technology toorganise and present myideas in different ways.I can use the keyboard on mydevice to add, delete andspace text for others to read.I can tell you about an onlinetool that will help me to sharemy ideas with other people.I can save and open files onthe device I use. | I can create differenteffects with differenttechnology tools.I can combine amixture of text,graphics and soundto share my ideasand learning.I can use appropriatekeyboard commandsto amend text on mydevice, includingmaking use of aspellchecker.I can evaluate mywork and improve itseffectiveness.I can use an appropriate tool toshare my workonline. | I can use photos, video and sound to create an atmosphere when presenting to differentaudiences.I am confident to explore newmedia to extend what I canachieve.I can change the appearance oftext to increase itseffectiveness.I can create, modify and present documents for a particular purpose.I can use a keyboard confidently and make use of a spellcheckerto write and review my work.I can use an appropriate tool toshare my work and collaborate online.I can give constructive feedbackto my friends to help them improve their work and refine my own work. | I can use text, photo, soundand video editing tools torefine my work.I can use the skills I havealready developed to createcontent using unfamiliartechnology.I can select, use andcombine the appropriatetechnology tools to createeffects that will have animpact on others.I can select an appropriateonline or offline tool to create and share ideas.I can review and improve my work and support othersto improve their work. | I can talk about audience,atmosphere and structurewhen planning a particularoutcome.I can confidently identifythe potential of unfamiliartechnology to increase mycreativity.I can combine a range ofmedia, recognising thecontribution of each toachieve a particularoutcome.I can tell you why I select aparticular online tool for aspecific purpose.I can be digitally discerningwhen evaluating the effectiveness of my workand the work of others. |
| Technology in our lives | Pupils should be taught to use technology purposefully to store and retrieve digital content and to recognise common uses of information technology beyond school. | Pupils should be taught to understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content. |
| I can recognise the way we use technology inour classroom.I can recognise waysthat technology is used in my home andcommunity. I can use links to websites to find information.I can begin to identifysome of the benefits of using technology. | I can tell you why I use technology in the classroom.I can tell you why I use technology in my home and community.I am starting to understand that other people havecreated the information I use.I can identify benefits of using technology including findinginformation, creating and communicating.I can talk about thedifferences between the internet and things in the physical world. | I can save and retrieve work on the internet, theschool network or my own device.I can talk about the parts of a computer.I can tell you ways tocommunicate with others online.I can describe the World Wide Web as the part ofthe internet that contains websites. I can use searchtools to find and use an appropriate website. I can think about whether Ican use images that I find online in my own work. | I can tell you whether a resourceI am using is on theinternet, the schoolnetwork or my owndevice.I can identify key words to use when searching safelyon the World Wide Web. I think about the reliabilityof information I read on the World Wide Web. I can tell you how to checkwho owns photos, text and clipart. I can create a hyperlink to are source on the World Wide Web. | I can describe different partsof the internet.I can use different online communication tools fordifferent purposes.I can use a search engine to find appropriate information and check its reliability.I can recognise and evaluate different types of information I find on theWorld Wide Web.I can describe the different parts of a webpage.I can find out who the information on a webpage belongs to. | I can tell you the internetservices I need to use for different purposes.I describe how information is transported on theinternet.I can select an appropriate tool to communicate andcollaborate online.I can talk about the way search results are selected and ranked.I can check the reliability of a website.I can tell you aboutcopyright and acknowledgethe sources of information that I find online. |