Gorse Hill Primary School

Computing: Skills Progression

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| **E-Safety** | * Can identify what personal information is and understand that they should keep this private online
* Can consider other people’s feelings on the internet
* Can recognise a variety of devices that connect users with other people (Xbox, PSP, Phones etc.)
* Know where to go for help and support if they have concerns
 | * Can identify a number of online dangers
* Can question the ‘validity’ of what they see on the internet
* Can recognise appropriate and inappropriate online behaviours
* Know where to go for help and support if they have concerns
* Can use technology safely, respectfully and responsibly
 | * Can explore options for privacy levels in a range of online settings (e.g. online gaming, social media)
* Can clearly identify levels of online risk
* Can identify and appropriately use social networking sites/features, making good judgements
* Can use technology safely, respectfully and responsibly
 |
| **Generic Skills** | Can print work using the Print iconCan use both hands on the keyboardCan load programs with supportCan save work with supportCan retrieve work with supportCan talk about how they are using ICTCan start to use appropriate ICT vocabulary | Can load programs independentlyCan save work independentlyCan retrieve work independentlyCan plan what they are going to doCan edit their workCan practise keyboard skills using both hands, try to use more than two fingers, and try to use the thumb on the spacebarCan explain their work and how they have usedICTCan annotate their work samples using promptsCan use appropriate ICT vocabulary | Can use a range of ICT equipment and software with supportCan create and name new folders, withsupportCan print work using the drop down menuCan make changes to their workCan consolidate keyboard skillsCan highlight/select itemsCan use cut, copy and pasteCan explain their work and how they haveused ICT | Can choose an appropriate program, with support.Can create and name new folders, independentlyCan use Print PreviewCan understand that work can be saved in different places e.g.network, writeable CD ROM, Pen Drive, Cloud storageCan plan what they are going to do and evaluate the resultsCan describe their work and explain how and why they have used ICT | Can choose an appropriate program to perform a taskCan understand and use the hierarchical file systemCan combine information from various sourcesCan describe and discuss their work and explain how and why they have used ICT | Can choose and combine the use of appropriate ICT tools to complete a taskCan critically evaluate the fitness for purpose of work as it progresses.Can annotate their work samples using prompt questions |
| **Information Technology** | Recognise uses of technology in their homes and in their communityUnderstand that there are online tools that can help them create and communicate | Begin to understand there are a variety of sources of information and begin to recognise the differencesBegin to understand what the Internet is and the purposes that it is used forUnderstand the different types of content on websites and that some things may not be true or accurate | Save work on the school network, on the Internet and on individual devicesTalk about the parts of a computerUse appropriate tools to collaborate on-lineUse appropriate tools to communicate on-lineUse simple search tools and find appropriate websitesTalk about the owner of information online | Talk about the school network & the different resources they can access, including the InternetFrame questions & identify key words to search for information on the InternetConsider reliability of information & ways it may influence youCheck who the owner is before copying photos, clipart or text   | Identify different parts of computing devices.Identify different parts of the InternetChoose appropriate tools for communication and collaboration and use them responsiblyUse effective strategies to search with appropriate search enginesTalk about the different elements on web pagesFind out who the information presented on a webpage belongs to. | Describe different services provided by the Internet & how information moves around the InternetDescribe different parts of a computing device & how it connects to the Internet. Connect a computing device to a keyboard, mouse or printerIdentify appropriate forms of online communication for different audiences.Use search engines as part of an effective research strategyDescribe how search results are selected & rankedAcknowledge who resources belong to that they have found on the internet |
| **Digital Literacy** | Record their own voices and play back to an audienceUse a video or stills camera to record an activityCreate sounds and simple music phrases using ICT toolsAdd text and images to a template document using an image & word bankUse index fingers (left and right hand) on a keyboard to build words & sentencesKnow when & how to use the space bar (thumbs) to make spaces between wordsTake photographs, video and record sound to record learning experiencesLook at how data is representing digitallyContribute to and interpret a pictogram | Use an increasing variety of tools and effects in paint programs and talk about their choicesUse templates to make electronic books individually and in pairsExplore the effects of sound and music in animation and videoCreate own documents, adding text and imagesUse keyboard to enter text (index fingers left & right hand)Know when and how to use the return/ enter key. Use shift & caps lock to enter capital letters. Use delete & backspace buttons to correct text. Create sentences, save & edit laterTake and save photographs, video & record sound to capture learningUse microscopes or other devices to capture and save magnified imagesAsk questions and consider how they will collect informationCollect data, generate graphs and charts to find answersSave & retrieve the data to show to othersCreate paper/ object decision trees & explore a branching databaseInvestigate different types of digital data e.g. online encyclopaedias | Explore & begin to evaluate the use of multimedia to enhance communicationCreate & begin to edit presentation documents & text, experimenting with fonts, size, colour, alignment for emphasis & effectUse a range of effects in art programs including brush sizes, repeats, reflectionsExplore the use of video, animation & green screeningUse ICT tools to create musical phrasesAmend text & save changes.Use individual fingers to input text & use shift key to type charactersAmend text by highlighting & using select/ delete & copy/ pasteLook at own work & consider how it can be improved for effectivenessFind out information from a pre-prepared database, asking straightforward questionsContribute towards a databaseConstruct and use a branching databaseRecord data in a variety of waysPresent data for othersUse a data logger to monitor changes and talk about the outcomes seen | Explore how multimedia can create atmosphere & appeal to different audiencesBe confident in creating & modifying text & presentation documents to achieve a specific purposeUse art programs & online tools to modify photos for a specific purpose using a range of effectsExplore the use of video, animation, & green screening for a specific audienceUse ICT tools to create music phrases for a specific purposeUse a keyboard effectively, including the use of keyboard shortcutsUse font sizes & effects such as bullet points appropriatelyKnow how to use a spell checkLook at their own, and a friend’s work & provide feedback that is constructive & specificPlan and create a database to answer questionsIdentify different types of dataAsk questions carrying out simple searches on a databaseIdentify inaccurate dataPresent data in appropriate format for an audienceUse a data logger to record and compare individual readings. | Select an appropriate ICT or online tool to create and share ideas.Explore the effects of multimedia (photos, video, sound) in a presentation or video and show how they can be modifiedDevelop skills using transitions and hyperlinks to enhance the stricture of presentationsUse a wide range of effects in art programs and online tools, discussing the choices made and their effectivenessKnow how to use text and video editing tools in programs to refine their workUse online tools to create and share presentations and filmsCollect and record information using spreadsheets and databasesCarry out complex searches (e.g. using and/or; ≤ / ≥)Solve problems and present answers using data toolsAnalyse information and question dataIdentify poor quality dataSelect appropriate use of a data logger for an investigation and interpret the findings | Identify the purpose for selecting an appropriate online toolDiscuss audience, atmosphere and structure of a presentation or videoCollect information and media from a range of sources (considering copyright issues) into a presentation for a specific audienceUse sound, images, text, transitions, hyperlinks and HTML code effectively in presentationsStore presentations and videos online where they can be accessed by themselves and shared with othersEvaluate the effectiveness of their own work and the work of othersUse the whole data process – generate, process, interpret, store, and present information – realising the need for accuracy and checking plausibilitySelect appropriate data toolIdentify and present resultsInterrogate a database, refining searches to provide answers to questionsPlan investigations using the outcomes from a data logger to show findings |
| **Computer Science** | Physically follow & give each other instructions to move aroundExplore outcomes when buttons are pressed in sequences on a robotBegin to use software to create movement & patterns on a screenBegin to identify an algorithm to achieve a specific purposeExecute a program on a floor robot to achieve an algorithmUse the word debug to correct any mistakes when programming a floor robotBegin to predict what will happen for a short sequence of instructions in a program | Physically follow and give each other forward, backward & turn (right-angle) instructionsArticulate an algorithm to achieve a purposePlan and enter a sequence of instructions to achieve an algorithm, with a robot specifying distance & turn and drawing a trailExplore outcomes when giving instructions in a simple Logo programWatch a Logo program execute & debug any problemsPredict what will happen & test resultsTalk about similarities & differences between floor robots and logo on screen | Plan & enter a sequence of instructions on a robot specifying distance & turn to achieve specific outcomes, debug the sequence where necessaryTest & improve / debug programmed sequences.Begin to type logo commands to achieve outcomes.Explore outcomes when giving sequences of instructions in Logo softwareUse repeat to achieve solutions to tasksSolve open-ended problems with a floor robot & Logo including creating simple regular polygons, making sounds & planning movements such as a danceCreate an algorithm to tell a joke or a simple storySequence pre-written lines of programming into orderTalk about algorithms planned by others & identify any problems & the expected outcome | Create & edit procedures typing logo commands including pen up, pen down & changing the trail of the turtleSolve open-ended problems with a floor robot, Logo & other software using efficient procedures to create shapes & lettersExperience a variety of resources to extend knowledge & understanding  of programming.Create an algorithm & a program that will use a simple selection command for a gameBegin to correct errors (debug) as they program devices & actions on screen, & identify bugs in programs written by othersUse an algorithm to sequence more complex programming into orderLink the use of algorithms to solve problems to work in Maths, Science & DT. | Explore procedures using repeat to achieve solutions to problems with Logo & a floor robotTalk about procedures as parts of a programRefine procedures to improve efficiencyUse a variable to replace number of sides in a regular shapeExplore instructions to control software or hardware with an input & using if... then... commandsExplore a computer model to control a physical systemChange inputs on a model to achieve different outputsRefine & extend a programIdentify difficulties & articulate a solution for errors in a programGroup commands as a procedure to achieve a specific outcome within a programWrite down the steps required (an algorithm) to achieve the outcome that is wanted and refer to this when programming. | Record in some detail the steps (the algorithm) that are required to achieve an outcome & refer to this when programmingPredict the outputs for the steps in an algorithmIncrease confidence in the process to plan, program, test & review a programWrite a program which follows an algorithm to solve a problem for a floor robot or other modelWrite a program which follows an algorithm to achieve a planned outcome for appropriate programming softwareControl on screen mimics & physical devices using one or more input & predict the outputsUnderstand how sensors can be used to measure input in order to activate a procedure or sequence & talk about applications in societyCreate variables to provide a score/trigger an action in a gameLink errors in a program to problems in the original algorithm |