

St Augustine’s Catholic Primary School

Computing Progression

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| **Computing**  | **Control and programming**  | **Spreadsheets/ Modelling and simulations/ Data logging** | **Database/****graphing** | **Internet research** | **Online communication**  | **Word processing/ Desktop publishing/ Multimedia**  | **Paint/Draw/ Photo editing/Animation/ Video**  | **Sound/Podcast/ Composition**  |
| **Reception** | •Can use a range of control toys and devices | • Can use technologyappropriately through roleplay• Can talk about what theyare doing on a computer• Can collect & organisedata for a class activity | • As a class can discuss dataand make simplerepresentations usingpictures | • Can access & use simpleactivities using touchtechnology• Can say if they findsomething on theinternet that makesthem feel bad /sad• Can speak to an adultabout what they haveseen | • Can follow the school’sSafer Internet Rules | • Can use technologyappropriately through roleplay• Can talk about what theyare doing on a computer | • Can use technologyappropriately through roleplay• Can talk about what theyare doing on a computer | • Can explore sound usingtechnology |
| **Year 1** | • Can program a bot by givingsingle commands withimmediate outcomes• Can use the appropriatekeys or commands to makea virtual / floor robot goforward, backward, left andright.• Can use basic symbols torecord directionalinstruction.• Can begin to use adeveloping range oflanguage of control e.g. tiltand turn/instructions todirect a robot. | Can use a mouse/ trackpad/touch screen to move andplace items accurately on ascreen• Can enter data into acomputer simulation/game• Can change variables insimulations that representreal or fantasy situationsand scenarios to createdifferent outcomes andeffects.• Can save work, with support | Can use a suitable on-screenprogram to representinformation with pictures• Can use a graph presentedon screen to answerquestions | • Can control a resource toaccess the information theyrequire e.g. DVD player, website, tablet• Has been involved in theprocess of sharing work tothe school VLE as a class | Can says what information ispersonal and should not beshared online with support.• Knows they can tell an adultif they feel something theysee online is inappropriateor hurtful.• Knows that work can besaved and stored on acomputer. | • Can use a mouse/trackpadto move and place itemsaccurately on a screen.• Can produce text onscreen and make changesto it | • Can use a range of toolspurposefully to create andalter the appearance of animage.• Can use a digital camera orrecording device, withsupport.• Can use simple software torecord a puppet-styleanimation, with support. | • Can use a sound recorder oron screen recorder to collectand store information assound |
| **Year 2** | Can give control devicesinstructions that containnumerical data.(e.g. move2 steps etc)• Can predict the behaviourof a virtual or floor robotfrom a sequence ofinstructions.• Can predict a sequence ofinstructions, record it bysequencing cards or usingan agreed set of symbols,and test the sequence,amending if necessary• Can program a bot tofollow a pre-plannedsequence by giving singlecommands | • Can change variables insimulations that representreal or fantasy situationsand scenarios to createdifferent outcomes andeffects.• Can change the variablesin a simulation and usethem to make and testpredictions• Be able to save andretrieve work withsupport• Be involved in the processof transferring files fromone device to another | • Can use different types ofgraphs to represent datacollected• Can enter data intographing software• Can enter data accuratelyto provide the answers toquestions• Be able to perform sortingand grouping activities tofind answers to questions• Can as a group search apre-prepared database | • Can navigate a websiteusing links• Can find a website byfollowing links set up bythe teacher, by usingFavourites or by typinginto the address bar.• Can use a search engine tosearch for giveninformation to answerquestions, sorting by text,pictures, sound and video | Can make digitalcomments as a class onother people's work• Can follow andunderstand school rulesfor staying safe online.• Can say what informationis personal and should notbe shared online withsupport.• Can save, print andretrieve work withsupport. | Can add and edit text,considering style, colourand layout of font• Can make use of basicediting skills e.g. shift keyand caps lock for uppercase, question marks andspaces after punctuation | • Can use different effectssuch as symmetry andfilters to manipulateimages or make changes.• Can select appropriatepaint tools within a paintpackage to create picturesthat communicate theirideas• Can transfer imagesbetween devices or appswith help• Can use ipadsindependently to capturestill images and videofootage.• Can sequence and arrangepictures or video clips fora purpose• Can create simpleanimations with supportusing suitable software | • Can create short musicalphrases to suit a purpose,focusing on types ofsound and/or rhythmusing digital technology• Can select / recordmusical phrases, soundeffects or voice-overs toenhance multimedia work |
| **Year 3** | • Know that robots and onscreen characters share acommon language• Can sequence a list ofcommands/blocks e.g. toproduce a pre-drawn shape• Can use the “repeat”command to program moreefficiently• Can amend programmes• Can use conditionalstatements to enable thecharacter to interact withother characters or sensors(if and when commands)• Knows the importance oftime within a program (e.g.using wait)• Can write instruct | • Can enter data into acomputer simulation• Can explore the effect ofchanging the variables insimulations and use them tomake and test predictions• Can use a keyboard as aninput device to program acharacter to move (output)and interact with othercharacter or objects• Program an object andcharacter to behave indifferent ways (conditionalstatements)• As part of a classinvestigation, experiencethe use of a data loggerattached to an interactivewhiteboard• interpret the graph createdby the data logger and makepredictions | • Can collect information bydesigning and using a simplequestionnaire to recordnumbers, text and choices.• As a class, can design whatinformation needs to go onrecord cards• Can create record cards tostore collected information• Can transfer records to adigital database• Can use a database togenerate bar charts andgraphs• Can answer questions bysearching and sorting thedatabase• Can choose print andannotate appropriategraphs, to answer simplequestions | • Can develop key questionsto search for specificinformation• Can identify key words tonarrow searches• Can begin to understandhow a search engine locatesinformation and thatinformation is not alwayssuitable• Can use a range oftechniques to navigate agiven site• Can begin to evaluate howappropriate a given site is• Can access suitable sitesselected by the teacher byfollowing links; sharesuitable sites with others inthe class | • Can begin to personaliseown profile page online• Can access a shared space tofollow web links and readinstructions for work• Can upload work to a sharedspace• Can contribute to an onlinediscussion considerrelevance of contributions• Knows the internet safetyrules, understands why theyare in place and can abideby them• Can explain how to keepsafe and the importance ofbeing polite online | • Can organise and presentinformation for a specificaudience electronically• Can evaluate design andmake suitableimprovements• Can recognise the differenceand dis/advantagesbetween electronic andprinted mediaWhen word processingchildren can:• use font sizes and effectsappropriately• recognise key features oflayout and design such astext boxes, columns,borders, WordArt• use spell checker | • Can use still and videocameras, independently• Can take photographs with adigital microscope• Can evaluate quality offootage taken• Know importance of keepingthe camera still• Can create a simpleanimation either by usingstop-motion techniques• Can sequence still imagesand video to create apresentation | • Can select and recordsounds in multimediasoftware• Can use music software toorganise and reorganisesounds• Can locate, record, save andretrieve sounds• Can begin to layer soundsusing music compositionsoftware |
| **Year 4** | Can use the 'repeat' and'repeat until'command/block toprogram a bot moreefficiently.• Know that groups ofinstructions can be namedas a procedure.• Use and change a prewritten procedure.• Can begin to predict,program, test and amendinstructions (code) toachieve an intendedobjective.• Understand that manyreal-world devices (suchas traffic lights, washingmachines) are controlledusing computer programs.• Be able to make use ofsensors as part of a linearprogram in a planned way | Know sensing devices canbe used to monitorchanges in environmentalconditions and arepresent in a variety ofreal-life situations• Can collect data frominternet research, digitalsurveys and digital devices• Can read and interpret barand line graphs createdthrough data logging• Know that computing cancreate graphs for differentpurposes• Can enter data into agraphing package and useit to create a range ofgraphs & interpret results• Know that spreadsheetsperform calculations• Can enter data into aspreadsheet, change dataand observe changes inresults. | • Know that ‘yes/no’questions can be used todivide a set of objects intosub-sets and that asequence of ‘yes/no’questions can identify anobject• Can create and use abranching database toorganise, reorganise andanalyse information• Know some real-lifeexamples of branchingdatabases, such as NHSdirect diagnostic site, orcinema telephone bookingsystem | • Know that content on theinternet can be locatedefficiently but is notalways relevant• Can use key words foreffective Internetsearches• Can select relevantinformation (pictures,text, sound and video) touse in other software | Knows work can beuploaded to a learningplatform• Can use at least twoonline communicationmethods (e.g. onlinediscussion, surveys,quizzes, blogs, wikis,shared online folders• Know and be able to talkabout and how to use theInternet safely• Knows that the school’sLearning Platform is a safeenclosed environment,but it is important to keeppasswords and otherpersonal informationsecure• Knows that the internethas potential dangers andbe able to explain how tokeep yourself safe online• Can save work to bothpersonal and shared areasand know the benefits ofeach | Can evaluate a range ofelectronic multimedia,appropriate to task e.g.website, photo story,leaflet, and recognise keyfeatures of layout, designand presentation• Can with support, plan thestructure and layout ofdocument/ presentation• Can when typing, begin tohold two hands overdifferent halves of thekeyboard and use morethan two fingers to entertext | Can import a photograph,explore the effects whichcan be created and use arange of visual effectssuch as filters, hues andpainting over photographsto give different effects• Can sequence and editvideo footage and stillimages once transferredfrom a digital camera tocomputer• Can add text, soundeffects and other graphiceffects to video.• Can create a stop-frameanimation using a camerawith built-in stop motionsoftware or an on-screenstop animation package.• Can evaluate and improvedigital work with a view toaudience and purpose | • Can layer sounds usingmusic compositionsoftware• Can evaluate and rerecord sound recordingswhere appropriate |
| **Year 5**  | Can:• Use “when and if”commands to createresponses.• Use “say” commands togive information• Test and debug regularly• Use “and” “or” and “not”blocks to changeresponses• Program responses toinputs from sensors.• Knows when to use“repeat", and "forever if"• Knows what 'events' areand can use them withinprograms to start andstop scripts.• Understands whatvariables and proceduresare in real life and be ableto create them within acomputer program tostore and retrieve data.• Can think logically thatwhen x happens y is theresult | Know sensing devices canbe used to monitorchanges in environmentalconditions and arepresent in a variety ofreal-life situationsCan• As a class, plan aninvestigation using datalogging.• Carry out the investigationindependently• Download and interpretresults.• Draw conclusions fromdata and present findings  | Can:• Organise data bydesigning fields andrecords in a database• Design questions usingkey words, to search alarge pre-prepareddatabase• Use graphs to providesupporting evidence forconclusions• Present results ofdatabase research | Can:• Search the internet forspecific information usingdifferent search criteria• Skim read and siftinformation found online• Check information foraccuracy• Identify irrelevantinformation• Use hyperlinks to trail anidea• Use a range of searchengines and select themost appropriate basedon the tools they provide(e.g. Google or Bing)• Use information frominternet to make notesand present• Save media from theinternet to be uploaded toan online platform.• Knows that some media iscopyrighted and cannotbe used withoutpermission | • Knows how to uploadinformative to a VLE/school website• Knows importance ofconsidering the quality ofwork before posting• Can take part incollaborative learningusing a variety of methodse.g. email, discussions,blogs• Knows how to use thesocial media and internetsearch engines safely.• Knows & understandsrules for personal internetsafety• Knows & understandscode of conduct for onlinecollaboration, and canexplain what to do incases of cyberbullying | Can:• Format / justify text• Cut and paste betweenapplications.• Delete/insert and replacetext• Make corrections using aspell checker• Select appropriatesoftware for thetask/audience• Plan structure and layoutof a multimediapresentation• Evaluate and selectsuitable information andmedia from a range ofelectronic resources• Use a multimediaauthoring program toorganise, refine andpresent information for aspecific audience• Create a range ofhyperlinks to produce anon-linear presentation• As a class can evaluate /make suitableimprovements | Can• Select, cut and pastewithin applications• Explore techniques toimprove photographs• Use different filmingtechniques• Plan a video or animationby drawing a storyboard• Film, create, edit andrefine to ensure quality | Can:• Select and edit sounds,text, movie clips and othereffects to suit purposeand audience• Collect sounds from avariety of sources (soundediting software, online,digital sound recorder)• Import sounds, (recordedvocals, samples (digitalsound files) andrecordings from realinstruments) into soundediting software• Layer and edit sounds• Save multimedia work as aweb compatible formatfor uploading and sharingonline |
| **Year 6**  | Can:• Use “when and if”commands to createresponses.• Use “say” commands togive information• Test and debug regularly• Use “and” “or” and “not”blocks to changeresponses and understandwhat they do• Program responses toinputs from sensors.• Knows when to use“repeat", "repeat until"and "forever if" loops tomake programs shorterand more efficient and beable to use them(understanding thedifferences betweenthem).• Knows what 'events' areand can use themefficiently withinprograms to start andstop scripts.• Understands whatvariables and proceduresare in real life and be ableto create them within acomputer program tostore and retrieve data.• Can think logically thatwhen x happens y is theresult and show this usingcode, flowcharts,diagrams or explanations. | Can:• Identify a problem whichcan be solved bycollecting data and canidentify which data tocollect.• Carry out an investigation,ensuring efficiency andaccuracy• Interpret results, using arange of searches andgraphs, draw conclusionsand analyse theeffectiveness of thetechnology• Draw conclusions fromdata and present findings• Justify reasons for theirchoices and explain whyother methods were notappropriate | Can:• Organise data bydesigning fields andrecords in a database• Design questions usingkey words, to search alarge pre-prepareddatabase• Use graphs to providesupporting evidence forconclusions• Check for accuracy bychecking data and lookingat graphs• Present results ofdatabase research | n:• Search the internet forspecific information usingtools such as GoogleAdvanced Search (Booleansearches)• Skim read and siftinformation found online• Check information foraccuracy• Identify irrelevant, biased,implausible andinappropriate information• Use hyperlinks to trail anidea• Use a range of searchengines and select themost appropriate basedon the tools they provide(e.g. Google or Bing)• Use information frominternet to make notesand present without usingcopied/ pasted text• Save media from theinternet to be uploaded toan online platform.• Knows that some media iscopyrighted and cannotbe used withoutpermission | • Knows how to uploadinformative andinteresting content to aVLE including variousmedia.• Can initiate and take partin collaborative learningusing a variety of methodse.g. email, discussions,blogs• Knows how to use thesocial media and internetsearch engines safely.• Knows & understandsrules for personal internetsafety• Knows & understandscode of conduct for onlinecollaboration, and canexplain what to do incases of cyberbullying | Can:• Format / justify text• Cut and paste betweenapplications.• Delete/insert and replacetext• Make corrections using arange of tools (e.g. spellcheck, find & replace)• Select appropriatesoftware for thetask/audience• Plan structure and layoutof a multimediapresentation• Evaluate and selectsuitable information andmedia from a range ofelectronic resources• Use a multimediaauthoring program toorganise, refine andpresent information for aspecific audience• Create a range ofhyperlinks to produce anon-linear presentation• Self-evaluate / makesuitable improvements viapeer assessment | Can• Select, copy, cut and pastewithin and betweenapplications• Explore “airbrush” &other techniques toimprove photographs,• Use different filmingtechniques / cameraangles e.g. zoom, panning,wide shot etc. to createdifferentmood/perspective• Plan a video or animationby drawing a storyboard• Film, create, edit andrefine to ensure quality;present to an audience | Can:• Select and edit sounds,text, movie clips and othereffects to suit purposeand audience• Collect sounds from avariety of sources (soundediting software, online,digital sound recorder)• Import sounds, (recordedvocals, samples (digitalsound files) andrecordings from realinstruments) into soundediting software• Layer and edit sounds• Save multimedia work as aweb compatible formatfor uploading andpodcasting; share online |