

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 technology  appropriately through role  play  • Can talk about what they  are doing on a computer  • Can collect & organise  data for a class activity | • As a class can discuss data  and make simple  representations using  pictures | • Can access & use simple  activities using touch  technology  • Can say if they find  something on the  internet that makes  them feel bad /sad  • Can speak to an adult  about what they have  seen | • Can follow the school’s  Safer Internet Rules | • Can use technology  appropriately through role  play  • Can talk about what they  are doing on a computer | • Can use technology  appropriately through role  play  • Can talk about what they  are doing on a computer | • Can explore sound using  technology |
| **Year 1** | • Can program a bot by giving  single commands with  immediate outcomes  • Can use the appropriate  keys or commands to make  a virtual / floor robot go  forward, backward, left and  right.  • Can use basic symbols to  record directional  instruction.  • Can begin to use a  developing range of  language of control e.g. tilt  and turn/instructions to  direct a robot. | Can use a mouse/ trackpad/  touch screen to move and  place items accurately on a  screen  • Can enter data into a  computer simulation/game  • Can change variables in  simulations that represent  real or fantasy situations  and scenarios to create  different outcomes and  effects.  • Can save work, with support | Can use a suitable on-screen  program to represent  information with pictures  • Can use a graph presented  on screen to answer  questions | • Can control a resource to  access the information they  require e.g. DVD player, web  site, tablet  • Has been involved in the  process of sharing work to  the school VLE as a class | Can says what information is  personal and should not be  shared online with support.  • Knows they can tell an adult  if they feel something they  see online is inappropriate  or hurtful.  • Knows that work can be  saved and stored on a  computer. | • Can use a mouse/trackpad  to move and place items  accurately on a screen.  • Can produce text on  screen and make changes  to it | • Can use a range of tools  purposefully to create and  alter the appearance of an  image.  • Can use a digital camera or  recording device, with  support.  • Can use simple software to  record a puppet-style  animation, with support. | • Can use a sound recorder or  on screen recorder to collect  and store information as  sound |
| **Year 2** | Can give control devices  instructions that contain  numerical data.(e.g. move  2 steps etc)  • Can predict the behaviour  of a virtual or floor robot  from a sequence of  instructions.  • Can predict a sequence of  instructions, record it by  sequencing cards or using  an agreed set of symbols,  and test the sequence,  amending if necessary  • Can program a bot to  follow a pre-planned  sequence by giving single  commands | • Can change variables in  simulations that represent  real or fantasy situations  and scenarios to create  different outcomes and  effects.  • Can change the variables  in a simulation and use  them to make and test  predictions  • Be able to save and  retrieve work with  support  • Be involved in the process  of transferring files from  one device to another | • Can use different types of  graphs to represent data  collected  • Can enter data into  graphing software  • Can enter data accurately  to provide the answers to  questions  • Be able to perform sorting  and grouping activities to  find answers to questions  • Can as a group search a  pre-prepared database | • Can navigate a website  using links  • Can find a website by  following links set up by  the teacher, by using  Favourites or by typing  into the address bar.  • Can use a search engine to  search for given  information to answer  questions, sorting by text,  pictures, sound and video | Can make digital  comments as a class on  other people's work  • Can follow and  understand school rules  for staying safe online.  • Can say what information  is personal and should not  be shared online with  support.  • Can save, print and  retrieve work with  support. | Can add and edit text,  considering style, colour  and layout of font  • Can make use of basic  editing skills e.g. shift key  and caps lock for upper  case, question marks and  spaces after punctuation | • Can use different effects  such as symmetry and  filters to manipulate  images or make changes.  • Can select appropriate  paint tools within a paint  package to create pictures  that communicate their  ideas  • Can transfer images  between devices or apps  with help  • Can use ipads  independently to capture  still images and video  footage.  • Can sequence and arrange  pictures or video clips for  a purpose  • Can create simple  animations with support  using suitable software | • Can create short musical  phrases to suit a purpose,  focusing on types of  sound and/or rhythm  using digital technology  • Can select / record  musical phrases, soundeffects or voice-overs to  enhance multimedia work |
| **Year 3** | • Know that robots and onscreen characters share a  common language  • Can sequence a list of  commands/blocks e.g. to  produce a pre-drawn shape  • Can use the “repeat”  command to program more  efficiently  • Can amend programmes  • Can use conditional  statements to enable the  character to interact with  other characters or sensors  (if and when commands)  • Knows the importance of  time within a program (e.g.  using wait)  • Can write instruct | • Can enter data into a  computer simulation  • Can explore the effect of  changing the variables in  simulations and use them to  make and test predictions  • Can use a keyboard as an  input device to program a  character to move (output)  and interact with other  character or objects  • Program an object and  character to behave in  different ways (conditional  statements)  • As part of a class  investigation, experience  the use of a data logger  attached to an interactive  whiteboard  • interpret the graph created  by the data logger and make  predictions | • Can collect information by  designing and using a simple  questionnaire to record  numbers, text and choices.  • As a class, can design what  information needs to go on  record cards  • Can create record cards to  store collected information  • Can transfer records to a  digital database  • Can use a database to  generate bar charts and  graphs  • Can answer questions by  searching and sorting the  database  • Can choose print and  annotate appropriate  graphs, to answer simple  questions | • Can develop key questions  to search for specific  information  • Can identify key words to  narrow searches  • Can begin to understand  how a search engine locates  information and that  information is not always  suitable  • Can use a range of  techniques to navigate a  given site  • Can begin to evaluate how  appropriate a given site is  • Can access suitable sites  selected by the teacher by  following links; share  suitable sites with others in  the class | • Can begin to personalise  own profile page online  • Can access a shared space to  follow web links and read  instructions for work  • Can upload work to a shared  space  • Can contribute to an online  discussion consider  relevance of contributions  • Knows the internet safety  rules, understands why they  are in place and can abide  by them  • Can explain how to keep  safe and the importance of  being polite online | • Can organise and present  information for a specific  audience electronically  • Can evaluate design and  make suitable  improvements  • Can recognise the difference  and dis/advantages  between electronic and  printed media  When word processing  children can:  • use font sizes and effects  appropriately  • recognise key features of  layout and design such as  text boxes, columns,  borders, WordArt  • use spell checker | • Can use still and video  cameras, independently  • Can take photographs with a  digital microscope  • Can evaluate quality of  footage taken  • Know importance of keeping  the camera still  • Can create a simple  animation either by using  stop-motion techniques  • Can sequence still images  and video to create a  presentation | • Can select and record  sounds in multimedia  software  • Can use music software to  organise and reorganise  sounds  • Can locate, record, save and  retrieve sounds  • Can begin to layer sounds  using music composition  software |
| **Year 4** | Can use the 'repeat' and  'repeat until'  command/block to  program a bot more  efficiently.  • Know that groups of  instructions can be named  as a procedure.  • Use and change a prewritten procedure.  • Can begin to predict,  program, test and amend  instructions (code) to  achieve an intended  objective.  • Understand that many  real-world devices (such  as traffic lights, washing  machines) are controlled  using computer programs.  • Be able to make use of  sensors as part of a linear  program in a planned way | Know sensing devices can  be used to monitor  changes in environmental  conditions and are  present in a variety of  real-life situations  • Can collect data from  internet research, digital  surveys and digital devices  • Can read and interpret bar  and line graphs created  through data logging  • Know that computing can  create graphs for different  purposes  • Can enter data into a  graphing package and use  it to create a range of  graphs & interpret results  • Know that spreadsheets  perform calculations  • Can enter data into a  spreadsheet, change data  and observe changes in  results. | • Know that ‘yes/no’  questions can be used to  divide a set of objects into  sub-sets and that a  sequence of ‘yes/no’  questions can identify an  object  • Can create and use a  branching database to  organise, reorganise and  analyse information  • Know some real-life  examples of branching  databases, such as NHS  direct diagnostic site, or  cinema telephone booking  system | • Know that content on the  internet can be located  efficiently but is not  always relevant  • Can use key words for  effective Internet  searches  • Can select relevant  information (pictures,  text, sound and video) to  use in other software | Knows work can be  uploaded to a learning  platform  • Can use at least two  online communication  methods (e.g. online  discussion, surveys,  quizzes, blogs, wikis,  shared online folders  • Know and be able to talk  about and how to use the  Internet safely  • Knows that the school’s  Learning Platform is a safe  enclosed environment,  but it is important to keep  passwords and other  personal information  secure  • Knows that the internet  has potential dangers and  be able to explain how to  keep yourself safe online  • Can save work to both  personal and shared areas  and know the benefits of  each | Can evaluate a range of  electronic multimedia,  appropriate to task e.g.  website, photo story,  leaflet, and recognise key  features of layout, design  and presentation  • Can with support, plan the  structure and layout of  document/ presentation  • Can when typing, begin to  hold two hands over  different halves of the  keyboard and use more  than two fingers to enter  text | Can import a photograph,  explore the effects which  can be created and use a  range of visual effects  such as filters, hues and  painting over photographs  to give different effects  • Can sequence and edit  video footage and still  images once transferred  from a digital camera to  computer  • Can add text, sound  effects and other graphic  effects to video.  • Can create a stop-frame  animation using a camera  with built-in stop motion  software or an on-screen  stop animation package.  • Can evaluate and improve  digital work with a view to  audience and purpose | • Can layer sounds using  music composition  software  • Can evaluate and rerecord sound recordings  where appropriate |
| **Year 5** | Can:  • Use “when and if”  commands to create  responses.  • Use “say” commands to  give information  • Test and debug regularly  • Use “and” “or” and “not”  blocks to change  responses  • Program responses to  inputs from sensors.  • Knows when to use  “repeat", and "forever if"  • Knows what 'events' are  and can use them within  programs to start and  stop scripts.  • Understands what  variables and procedures  are in real life and be able  to create them within a  computer program to  store and retrieve data.  • Can think logically that  when x happens y is the  result | Know sensing devices can  be used to monitor  changes in environmental  conditions and are  present in a variety of  real-life situations  Can  • As a class, plan an  investigation using data  logging.  • Carry out the investigation  independently  • Download and interpret  results.  • Draw conclusions from  data and present findings | Can:  • Organise data by  designing fields and  records in a database  • Design questions using  key words, to search a  large pre-prepared  database  • Use graphs to provide  supporting evidence for  conclusions  • Present results of  database research | Can:  • Search the internet for  specific information using  different search criteria  • Skim read and sift  information found online  • Check information for  accuracy  • Identify irrelevant  information  • Use hyperlinks to trail an  idea  • Use a range of search  engines and select the  most appropriate based  on the tools they provide  (e.g. Google or Bing)  • Use information from  internet to make notes  and present  • Save media from the  internet to be uploaded to  an online platform.  • Knows that some media is  copyrighted and cannot  be used without  permission | • Knows how to upload  informative to a VLE  /school website  • Knows importance of  considering the quality of  work before posting  • Can take part in  collaborative learning  using a variety of methods  e.g. email, discussions,  blogs  • Knows how to use the  social media and internet  search engines safely.  • Knows & understands  rules for personal internet  safety  • Knows & understands  code of conduct for online  collaboration, and can  explain what to do in  cases of cyberbullying | Can:  • Format / justify text  • Cut and paste between  applications.  • Delete/insert and replace  text  • Make corrections using a  spell checker  • Select appropriate  software for the  task/audience  • Plan structure and layout  of a multimedia  presentation  • Evaluate and select  suitable information and  media from a range of  electronic resources  • Use a multimedia  authoring program to  organise, refine and  present information for a  specific audience  • Create a range of  hyperlinks to produce a  non-linear presentation  • As a class can evaluate /  make suitable  improvements | Can  • Select, cut and paste  within applications  • Explore techniques to  improve photographs  • Use different filming  techniques  • Plan a video or animation  by drawing a storyboard  • Film, create, edit and  refine to ensure quality | Can:  • Select and edit sounds,  text, movie clips and other  effects to suit purpose  and audience  • Collect sounds from a  variety of sources (sound  editing software, online,  digital sound recorder)  • Import sounds, (recorded  vocals, samples (digital  sound files) and  recordings from real  instruments) into sound  editing software  • Layer and edit sounds  • Save multimedia work as a  web compatible format  for uploading and sharing  online |
| **Year 6** | Can:  • Use “when and if”  commands to create  responses.  • Use “say” commands to  give information  • Test and debug regularly  • Use “and” “or” and “not”  blocks to change  responses and understand  what they do  • Program responses to  inputs from sensors.  • Knows when to use  “repeat", "repeat until"  and "forever if" loops to  make programs shorter  and more efficient and be  able to use them  (understanding the  differences between  them).  • Knows what 'events' are  and can use them  efficiently within  programs to start and  stop scripts.  • Understands what  variables and procedures  are in real life and be able  to create them within a  computer program to  store and retrieve data.  • Can think logically that  when x happens y is the  result and show this using  code, flowcharts,  diagrams or explanations. | Can:  • Identify a problem which  can be solved by  collecting data and can  identify which data to  collect.  • Carry out an investigation,  ensuring efficiency and  accuracy  • Interpret results, using a  range of searches and  graphs, draw conclusions  and analyse the  effectiveness of the  technology  • Draw conclusions from  data and present findings  • Justify reasons for their  choices and explain why  other methods were not  appropriate | Can:  • Organise data by  designing fields and  records in a database  • Design questions using  key words, to search a  large pre-prepared  database  • Use graphs to provide  supporting evidence for  conclusions  • Check for accuracy by  checking data and looking  at graphs  • Present results of  database research | n:  • Search the internet for  specific information using  tools such as Google  Advanced Search (Boolean  searches)  • Skim read and sift  information found online  • Check information for  accuracy  • Identify irrelevant, biased,  implausible and  inappropriate information  • Use hyperlinks to trail an  idea  • Use a range of search  engines and select the  most appropriate based  on the tools they provide  (e.g. Google or Bing)  • Use information from  internet to make notes  and present without using  copied/ pasted text  • Save media from the  internet to be uploaded to  an online platform.  • Knows that some media is  copyrighted and cannot  be used without  permission | • Knows how to upload  informative and  interesting content to a  VLE including various  media.  • Can initiate and take part  in collaborative learning  using a variety of methods  e.g. email, discussions,  blogs  • Knows how to use the  social media and internet  search engines safely.  • Knows & understands  rules for personal internet  safety  • Knows & understands  code of conduct for online  collaboration, and can  explain what to do in  cases of cyberbullying | Can:  • Format / justify text  • Cut and paste between  applications.  • Delete/insert and replace  text  • Make corrections using a  range of tools (e.g. spell  check, find & replace)  • Select appropriate  software for the  task/audience  • Plan structure and layout  of a multimedia  presentation  • Evaluate and select  suitable information and  media from a range of  electronic resources  • Use a multimedia  authoring program to  organise, refine and  present information for a  specific audience  • Create a range of  hyperlinks to produce a  non-linear presentation  • Self-evaluate / make  suitable improvements via  peer assessment | Can  • Select, copy, cut and paste  within and between  applications  • Explore “airbrush” &  other techniques to  improve photographs,  • Use different filming  techniques / camera  angles e.g. zoom, panning,  wide shot etc. to create  different  mood/perspective  • Plan a video or animation  by drawing a storyboard  • Film, create, edit and  refine to ensure quality;  present to an audience | Can:  • Select and edit sounds,  text, movie clips and other  effects to suit purpose  and audience  • Collect sounds from a  variety of sources (sound  editing software, online,  digital sound recorder)  • Import sounds, (recorded  vocals, samples (digital  sound files) and  recordings from real  instruments) into sound  editing software  • Layer and edit sounds  • Save multimedia work as a  web compatible format  for uploading and  podcasting; share online |