Overview of Computing Content 2020-2021

Computer Science and Information Technology

**Computer Science Information Technology**

Basic knowledge Advanced knowledge Deepened Knowledge

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|  | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Year 1 | **Information Technology** Fact files-  Introduction to Word  Using a device with a keyboard.  Creating a new document.  Writing basic facts and locating essential keys on keyboard.  Saving document | **Computer Science**  Green Screen-  Using photos and apps to present information  Using a new platform for presenting facts and information.  Using new software to manipulate a photo setting using photos. | **Computer Science** Beebots-  Introduction to algorithms  Learning to give efficient but basic instruction known as algorithms  Tinkering – using trial and error write algorithms and to solve problems (debugging) | **Computer Science**  App smashing-  Using apps to create artwork  Safe searching for images.  Taking, using and editing photos saved to the camera roll.  Using multiple apps to produce a final product (artwork) | **Information Technology** / **Computer Science**  Computational thinking-  Using IT for pattern recognition  Understanding computational thinking.  Knowing that there are many approaches to solving problems and that one approach many be better than another. | **Computer Science**  Lego Wedo-  Introduction to Lego programming  algorithms and debugging  Creating algorithms  and debugging  Physical programming  Using Lego Wedo coding blocks to program Lego robots. |
| Year 2 | **Computer Science**  Lego WeDo -  Developing our Lego programming  skills  Creating algorithms  and debugging  Physical programming  Using Lego Wedo coding blocks to program Lego robots.  Adapting algorithms to change what the Lego robot can do.  Creating an original robot and programming it to perform simple actions. | **Information Technology** Word  Building our word processing skills.  Creating/opening an existing document.  Editing text to include change in font style/size, underlining, bold  Including pictures in a report.  Carrying out safe searches for photos.  Saving a document. | **Computer Science**  iMovie-  Creating short videos about the Great Fire/Black Death  Taking and saving pictures to the camera roll.  Use the video creator function in iMovies to create a video by sequencing 6 images.  Add a voice over | **Computer Science**  Green Screen-  Comparing landscapes of England and Africa  Using green screen for presenting facts and information.  Using the software to manipulate a video setting using a sequence of photos.  Adding a voice over to a video. | **Computer Science**  Scratch- Programming a dialogue between two sprites  Links to the Industrial Revolution  Learning how to create a basic conversation within a new programming language Scratch.  Using coding blocks for ‘motion’ and ‘looks’ and changing variables (eg. How long a sprite moves for or says something for)  Debugging algorithms within a new programming platform. | **Information Technology** Building our presenting skills - exploring PowerPoint  Presentation about the UK  Using a device with a keyboard.  Creating a new presentation within PowerPoint giving consideration to the title and text format.  Include pictures where appropriate.  Saving document |
| Year 3 | **Computer Science**  Scratch-  Creating a game  Whack-a-mole  Learning how to create basic movements within the programming language Scratch.  Using coding blocks for ‘motion’ and ‘looks’ and changing variables (eg. How long a sprite moves for or says something for)  Using new variables with ‘control’ and ‘operator’ blocks to control a sprite.  Debugging algorithms within the Scratch programming platform. | **Information Technology** PowerPoint -  Creating presentations about the Stone Age  Using a device with a keyboard.  Creating a presentation within PowerPoint  giving consideration to the title and text format.  Edit the font size, style, position and background effects  Include pictures where appropriate.  Save the presentation | **Information Technology** Excel-  An introduction to spreadsheets  Creating a new spreadsheet (workbook)  Become familiar with the layout and features of a ‘sheet’  Using formulas (for addition, subtraction, end results, etc)  Use graphs and charts to represent the data from the spreadsheet. | **Computer Science**  Green Screen-  Science link to Light and Dark  Now you see me, now you don’t.  Exploring the visual effects with the Green Screen  Using green screen for presenting information.  Using the software to create a short video  Using the visual effects to make a subject or object partially or completely disappear. | **Computer Science**  Scratch-  Creating a maze  Learning how to create basic movements within the programming language Scratch.  Developing knowledge of coding blocks for ‘motion’ and ‘looks’ and changing previously unused variables .  Using new variables with ‘event’, ‘control’ and ‘data’ blocks to control a sprite.  Debugging algorithms within the Scratch programming platform | **Information Technology** Databases-  Introduction to databases |
| Year 4 | **Information Technology** Apple Pages-  Fake news - presenting images and text using an alternative to Word  Creating a document.  Adding text to include Subject title and content.  Carrying out safe searches for photos.  Including pictures in the document as necessary.  Changing text in font style/size, underlining, bold.  Saving a document. | **Computer Science**  Scratch-  Creating a quiz about capital cities | **Information Technology** Databases  (unplugged) | **Information Technology**  Keynote/PowerPoint  -Creating a presentation-  How to be a Roman soldier  Creating a presentation within Keynote or PowerPoint  giving consideration to the title and text format.  Edit the font size, style, position and background effects  Include pictures where appropriate.  Include aminations of text or pictures.  Include sound  Save the presentation | **Computer Science**  Scratch-  Adapting our quizzes.  (links to Science)  Creating a Habitats quiz | **Computer Science**  Green Screen-  History Theme |
| Year 5 | **Computer Science**  Scratch-  Creating a Turing Test | **Information Technology**  Blogging-  Using Seesaw to create a class blog | **Computer Science**  iMovie-  Using iMovie as a platform for presenting facts and information about ‘Mountains, Rivers and Lakes’ | **Computer Science**  Green Screen-  Time travelling; Presenting information about the Mayans  (images and videos) | **Computer Science** / **Information Technology**  Garage Band-  Creating our no.1 hits | **Computer Science** / **Information Technology**  Understanding  Networks |
| Year 6 | **Computer Science** / **Information Technology**  App smashing-  Manipulating and presenting images | **Computer Science**  Scratch-  Creating a quiz with levels | **Computer Science**  Crumble-  Physical programming  Creating algorithms within a new programming language.  Physical programming-  using Crumble coding blocks to program moveable robots or objects.  Debugging and adapting algorithms to change what the robots/objects can do. | **Computer Science**  Crumble-  Physical programming  Creating algorithms within Crumble.  To program moveable robots or objects of our own creation  Debugging and adapting algorithms to change what the robots/objects can do.  Designing a project from scratch using knowledge and skills learned from a guided unit. | \* | **Computer Science**  Mindstorms-  Mastering Lego programming  Creating algorithms  and debugging  Physical programming  Using Lego Mindstorms coding blocks to program Lego robots.  Adapting algorithms to change what the Lego robot can do.  Creating an original robot and programming it to perform simple actions. |

\*During Summer 1 the learning focus will be on Online Safety.