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 informationUsing a new platform for presenting facts and information.Using new software to manipulate a photo setting using photos. | **Computer Science** Beebots-Introduction to algorithmsLearning to give efficient but basic instruction known as algorithmsTinkering – using trial and error write algorithms and to solve problems (debugging) |  **Computer Science**App smashing-Using apps to create artworkSafe 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 recognitionUnderstanding 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 programmingalgorithms and debuggingCreating algorithmsand debuggingPhysical programmingUsing Lego Wedo coding blocks to program Lego robots. |
| Year 2 | **Computer Science** Lego WeDo - Developing our Lego programmingskillsCreating algorithmsand debuggingPhysical programmingUsing 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, boldIncluding pictures in a report.Carrying out safe searches for photos.Saving a document. | **Computer Science** iMovie-Creating short videos about the Great Fire/Black DeathTaking 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 AfricaUsing 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 spritesLinks to the Industrial RevolutionLearning 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 UKUsing 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 gameWhack-a-moleLearning 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 PowerPointgiving consideration to the title and text format.Edit the font size, style, position and background effectsInclude pictures where appropriate. Save the presentation | **Information Technology** Excel-An introduction to spreadsheetsCreating 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 DarkNow you see me, now you don’t.Exploring the visual effects with the Green ScreenUsing 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 mazeLearning 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 WordCreating 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 soldierCreating a presentation within Keynote or PowerPointgiving consideration to the title and text format.Edit the font size, style, position and background effectsInclude pictures where appropriate. Include aminations of text or pictures.Include soundSave 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**UnderstandingNetworks |
| Year 6 | **Computer Science** / **Information Technology**App smashing-Manipulating and presenting images | **Computer Science**Scratch-Creating a quiz with levels | **Computer Science**Crumble-Physical programmingCreating 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 programmingCreating algorithms within Crumble.To program moveable robots or objects of our own creationDebugging 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 programmingCreating algorithmsand debuggingPhysical programmingUsing 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.