**Computing Long Term Plan 2020-2021**

Computing at Ashurst Wood Primary is complemented by the Kapow Primary scheme.

The scheme is from EYFS to Year 6. Kapow offers full coverage of the KS1 and KS2 Computing curriculum and is categorised into three areas:

* Digital Literacy and Online Safety
* Computational Thinking
* Computers and Hardware

In EYFS, there are 5 units, with 5 lessons within each unit. There is guidance for resourcing a continuous and enhanced provision, and enhancing computing skills through play. Teachers are encouraged to use technology to support children’s learning in other area and introduce the concept of digital safety. Each lesson within each unit, is linked to the EYFS Outcomes.

Across KS1 and KS2, there are 6 units, with 5 lesson within each unit.

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| Cycle A |
|  | Autumn | Spring | Summer |
| Owls 1  |  | **Exploring hardware** | **All about instructions** | **Programming: Bee-Bots** | **Introduction to Data: Sorting and Categorising** | **Using a computer** |
|  | **30-50 Months**Knows how to operate simple equipment, e.g. turns on CD player and uses remote control.Shows an interest in technological toys with knobs or pulleys, or real objects. | **30-50 Months**Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.Knows that information can be retrieved from computers | **40-60 Months**Completes a simple program on a computer.Interacts with age-appropriate computer software. | **40-60 Months**Completes a simple program on a computer.Interacts with age-appropriate computer software.**ELG**Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. | **Exceeding Descriptor**Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need – for example in deciding how best to make a record of a special event in their lives, such as a journey on a steam train.  | **Exceeding Descriptor**Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need – for example in deciding how best to make a record of a special event in their lives, such as a journey on a steam train. |
| Personalisation and Subject Links | Personalisation changed year by year linked to children’s interests each cohort. | Personalisation changed year by year linked to children’s interests each cohort. | Personalisation changed year by year linked to children’s interests each cohort. | Personalisation changed year by year linked to children’s interests each cohort. | Personalisation changed year by year linked to children’s interests each cohort. | Personalisation changed year by year linked to children’s interests each cohort. |
| Key Vocabulary  | TechnologyShareCreateInternet  | Buttons EquipmentSoundsMovement  | ScreenMouseImagesKeyboardPaint | ScreenMouseImagesKeyboardPaint | TechnologyShareCreateInternetBee bot Journey  | TechnologyShareCreateInternetBee botJourney  |
| Owls 2  | **What is a computer?****Inputs/Outputs and Uses** | **Word Processing and Online Safety****Touch typing and staying safe online** | **Programming: Scratch JR****Programming apps** | **Algorithms and Debugging programming****Plugged-In and Unplugged** | **International Space Station****Data collection, display and interpretation** | **Stop motion****Storyboarding then creating simple animations** |
| Personalisation and Subject Links | DTScience | PSHE |  |  | ScienceDT | English |
| Key Vocabulary | InputOutputUses LaptopMouseKeyboardScreen | Touch typeWord processingStoring information Keyboard shortcutsEditCopy & pasteOnline Safety | ProgrammingForwardBackwardRight angle turnSequenceDebugPredictAlgorithm | ProgrammingForwardBackwardRight angle turnSequenceDebugPredictAlgorithm | Data collectionMouse skillsKeyboard skillsSensor monitorsAlgorithmData | AnimationStoryboardFramesFilmModels |
|  Falcons  | **Emailing****With attachments and cyberbullying** | **Journey Inside a computer****Inputs/outputs and purpose** | **Top trumps databases****Data and observing computing skills through play. bases****Understanding and using databases** | **Digital Literacy****Creating book trailers** | **Programming: Scratch****Scratch****Programming apps** | **Network and the Internet****Sharing information and the internet** |
| Personalisation and Subject Links | English |  | Maths | English |  |  |
| Key Vocabulary | EmailAttachment FeaturesOnline responsibilityCyberbullyingSpam JunkPhishing  | InstructionInput/outputAlgorithmPurposeHard drive Component | DatabasesRecordsFieldsData Digital databaseSort and filter | StoryboardPhotosMultimediaPresentationVoiceoverTransition styles | SequenceInstructionDebuggingTest and improveCommandsProgramming | Network Device WirelessJourneyOperations |
| Kestrels  | **Online Safety****Potential dangers and safety** | **Micro:bit****The meaning and purpose of programming** | **Search engines****Research skills and finding accurate information** | **Music programming apps** **Sonic Pi** | **Mars Rover 1****Data transfer and binary code** | **Mars Rover 2****3D design skills** |
| Personalisation and Subject Links |  |  |  | ReadingMusic |  |  |
| Key Vocabulary | Online safetyDangerStop motionAnimationStoryboardsEditing | BBC micro: bitProgrammingAlgorithm Polling programmeAnimation Debugging | ResearchAccurate informationFake informationRelevantCanvaWeb indexPage rankWeb crawlers | Sonic PiDebuggingProgrammingLoopsAdapting  | DataData transferBinary codeRandom access memoryRobotProgramming  | PixelDigital imageRAMROM3D design  |
| Eagles | **Bletchley Park 1 &2 (10 lessons)****1: Code breaking and password hacking****2: WWII and the first computers** | **Intro to Python****Using the programming language of Python** | **Big Data 1****Barcodes, QR codes and RFID** | **Big Data 2****Data usage and smart schools** | **Skills Showcase****Designing and promoting a new product** |
| Personalisation and Subject Links | HistoryMathsEnglish | Art & DesignMaths | Science |  |  |
| Key Vocabulary | Code breakingRadio playRecord & editConsoleMobile phonedesignPassword hackingEnigma codeSecurePasswordDigital literacy | CreateDesignLoopsNested loopsText based programming  | BarcodeQR codeInfrared wavesData transmissionRFID | Data transfers WifiMobile dataBig dataprivacy | Design EvaluateDebugSoftwareWebsiteAdvert |

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| Cycle B |
|  | Autumn | Spring | Summer |
| Owls 1  | **Getting Started****Login, navigate and mouse skills** | **Programming:****Bee-Bots****Programming functions and capabilities** | **Algorithms Unplugged**Algorithms in real life | **Digital Imagery****Photo capture and editing** | **Introduction to Data****Gathering and recording animal data** | **Rocket to the moon****Keyboard skills, sequencing and debugging in a rocket project** |
| Owls 2  |
| Personalisation and Subject Links | Children to take photos of how they use technology in the home. Art & Design, Maths | Asking children to create story maps linking to their English work and Traditional Tales.English |  | Using the talking app to make photos from the Fire of London talk. Characters talking about what is happening.English, history | Link to Minibeasts and weather.ScienceMaths | Science DTMathsHistory |
| Key Vocabulary  | PurposeOnline toolsCommunicationRules onlinePrivate informationPhotosTechnology | ButtonsInstructionsRobotsPatternsProgramNavigate | AlgorithmInstructionsInput/ outputSiri | Photo storyEditingFilterSearch engineText | DataPictogramChartInformationdatabase | KeyboardKeysTypeSequence |
| Falcons  | **Collaborative Learning****Google Docs, Slides, Form and Sheet** | **Further coding with Scratch****Scratch****Programming apps****(introduction and execution of variables in code script)** | **Website design****Website creation and Google Sites** | **HTML****Editing the HTML and CSS of a web page** | **Investigating Weather****Researching and storing data and green screen video** | **Computational thinking****Plugged and unplugged activities to develop the four areas of computational thinking** |
| Kestrels  |  |  |
| Personalisation and Subject Links |  |  | History |  | Science and Geography. |  |
| Key Vocabulary  | Collaborative workGoogle DocsPresentationCreateGoogle formsDataSpreadsheet |  | Google sitesFeaturesReviewShowcaseWebpageSite link | HTMLCodeContentLayoutFake newsTextimage | DataSpreadsheetDesignGatherSearch engineGreen screen | AbstractionAlgorithm designDecompositionPattern recognition |
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