**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 | Technology  Share  Create  Internet | Buttons  Equipment  Sounds  Movement | Screen  Mouse  Images  Keyboard  Paint | Screen  Mouse  Images  Keyboard  Paint | Technology  Share  Create  Internet  Bee bot  Journey | Technology  Share  Create  Internet  Bee bot  Journey |
| 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 | DT  Science | PSHE |  |  | Science  DT | English |
| Key Vocabulary | Input  Output  Uses  Laptop  Mouse  Keyboard  Screen | Touch type  Word processing  Storing information  Keyboard shortcuts  Edit  Copy & paste  Online Safety | Programming  Forward  Backward  Right angle turn  Sequence  Debug  Predict  Algorithm | Programming  Forward  Backward  Right angle turn  Sequence  Debug  Predict  Algorithm | Data collection  Mouse skills  Keyboard skills  Sensor monitors  Algorithm  Data | Animation  Storyboard  Frames  Film  Models |
| 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 | Email  Attachment  Features  Online responsibility  Cyberbullying  Spam  Junk  Phishing | Instruction  Input/output  Algorithm  Purpose  Hard drive  Component | Databases  Records  Fields  Data  Digital database  Sort and filter | Storyboard  Photos  Multimedia  Presentation  Voiceover  Transition styles | Sequence  Instruction  Debugging  Test and improve  Commands  Programming | Network  Device  Wireless  Journey  Operations |
| 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 |  |  |  | Reading  Music |  |  |
| Key Vocabulary | Online safety  Danger  Stop motion  Animation  Storyboards  Editing | BBC micro: bit  Programming  Algorithm  Polling programme  Animation  Debugging | Research  Accurate information  Fake information  Relevant  Canva  Web index  Page rank  Web crawlers | Sonic Pi  Debugging  Programming  Loops  Adapting | Data  Data transfer  Binary code  Random access memory  Robot  Programming | Pixel  Digital image  RAM  ROM  3D 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 | History  Maths  English | | Art & Design  Maths | Science |  |  |
| Key Vocabulary | Code breaking  Radio play  Record & edit  Console  Mobile phone  design  Password hacking  Enigma code  Secure  Password  Digital literacy | | Create  Design  Loops  Nested loops  Text based programming | Barcode  QR code  Infrared waves  Data transmission  RFID | Data transfers  Wifi  Mobile data  Big data  privacy | Design  Evaluate  Debug  Software  Website  Advert |

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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.  Science  Maths | Science  DT  Maths  History |
| Key Vocabulary | Purpose  Online tools  Communication  Rules online  Private information  Photos  Technology | Buttons  Instructions  Robots  Patterns  Program  Navigate | Algorithm  Instructions  Input/ output  Siri | Photo story  Editing  Filter  Search engine  Text | Data  Pictogram  Chart  Information  database | Keyboard  Keys  Type  Sequence |
| 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 work  Google Docs  Presentation  Create  Google forms  Data  Spreadsheet |  | Google sites  Features  Review  Showcase  Webpage  Site link | HTML  Code  Content  Layout  Fake news  Text  image | Data  Spreadsheet  Design  Gather  Search engine  Green screen | Abstraction  Algorithm design  Decomposition  Pattern recognition |
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