

# Asterdale Primary School

## Whole-school long-term **Computing** curriculum overview:

2023/24:



Build knowledge about:	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>EYFS</b>	<p><b>Using a computer</b> <i>(Computing through continuous provision)</i></p> <p>Do they understand what computer is? Can they explain what a computer can be used for?</p>	<p><b>Using a computer</b> <i>(Using a computer)</i></p> <p>Can they log in and out of a computer? Can they use a keyboard to locate relevant keys? Can they use a mouse to drag and click?</p>	<p><b>Computing systems and Networks</b> <i>(Exploring hardware)</i></p> <p>Can they identify here technology is used in places they are familiar with? Can they operate a basic camera to take pictures? Can they use a camera in different settings?</p>	<p><b>Programming</b> <i>(All about instructions)</i></p> <p>Can they follow instructions for practical lessons and games? Can they guide others by giving simple instructions? Can they recognise that an 'algorithm' is a set of instructions?</p>	<p><b>Programming</b> <i>(Programming BeeBots)</i></p> <p>Can the children follow directional arrows? Are they familiar with computer hardware and simple computing vocabulary? Can children follow an algorithm and debug instructions?</p>	<p><b>Data handling</b> <i>(Introduction to data)</i></p> <p>Can children sort and categorise themselves and objects? Can children respond to yes and no questions? Can they interpret a basic pictogram?</p>
<b>Year 1</b>	<p><b>Computing systems and networks</b> <i>(Improving mouse skills)</i></p> <p>Can they use computers with purpose? Can they log in and navigate a computer? Can they drag, drop, click and control a cursor using a mouse? Can they use software tools to create art on a computer?</p>	<p><b>Creating media</b> <i>(Digital imagery)</i></p> <p>Can they understand how to take clear photos? Can they plan a pictorial story using a sequence of pictures? Can they crop, filter and resize images? Can they search and import images to create a photo collage?</p>	<p><b>Data handling</b> <i>(Introduction to data)</i></p> <p>Can they represent data in different ways using objects and technology? Can they log in, use a keyboard and mouse to navigate a computer? Can they represent data in a pictogram or table / chart?</p>	<p><b>Programming</b> <i>(Algorithms unplugged)</i></p> <p>Can they explain what an algorithm is? Can they write and follow algorithms? Can they explain what inputs and outputs are? Can they debug an algorithm?</p>	<p><b>Programming</b> <i>(Programming BeeBots)</i></p> <p>Can they discuss and demonstrate how a Bee Bot works? Can they record a video making sure everyone is in shot? Can they program a Bee Bot to reach a destination? Can they identify and correct mistakes?</p>	<p><b>Online safety</b></p> <p>Can they discuss what an internet is and how it can be used? Can they recognise that the internet can affect moods and emotions? Can they recognise which information is appropriate to share online and which is not? Do they know who to ask for help if they have any worries online?</p>

<p><b>Year 2</b></p>	<p><b>Computing systems and networks</b> <i>(What is a computer?)</i></p> <p>Can they name computer peripherals and their functions? Can they recognise that buttons cause effects? Can they design using inputs and outputs?</p>	<p><b>Creating media</b> <i>(Stop motion)</i></p> <p>Can they create a flipbook animation? Can they decompose a story into smaller parts to create a stop motion animation? Can they make changes to a design to create a stop motion animation?</p>	<p><b>Data handling</b> <i>(International space station)</i></p> <p>Can they digitally draw items needed aboard the ISS? Can they create an algorithm that addresses all plants needs? Can they read data to identify whether a planet is habitable?</p>	<p><b>Programming</b> <i>(Algorithms and debugging)</i></p> <p>Can they decompose a game to predict algorithms? Can they write clear and precise algorithms to solve problems? Can they explain what 'abstraction' is?</p>	<p><b>Programming</b> <i>(Scratch Jr)</i></p> <p>Can they explain how to use th blocks on Scratch Jr for a purpose? Can they use a code to create an animation? Can they use code to cerate and follow an algortithim?</p>	<p><b>Online safety</b></p> <p>Can they recognise what information is safe to be shared online? Can they explain why we need stornng passwords? Do they understand that they need to ask for permission before sharing information online? Can they recognise reliable online sources? Do they know who to ask for help if they have any worries online?</p>
<p><b>Year 3</b></p>	<p><b>Computing systems and networks</b> <i>(Networks)</i></p> <p>Can they recognise that a network is 2 or more devices connected? Can they explain the purpose of a network? Do the understand the difference between wire and wireless networks? Do they know the purpose of a server?</p>	<p><b>Creating media</b> <i>(Video trailers)</i></p> <p>Can they create a storyboard for a trailer? Can they import videos or photos into a software? Can they edit to improve videos?</p>	<p><b>Data handling</b> <i>(Comparison card databases)</i></p> <p>Can they explain what is meant by 'field', 'record' or 'data'? Can they put values into a spreadsheet? Can they sort, filter and interpret data? Can they visually represent data?</p>	<p><b>Programming</b> <i>(Scratch)</i></p> <p>Can they explain what a loop is and include it in a program? Can they recognise where something on a screen is controlled by a code? Can they explain what an algorithm is and its purpose? Can they use a systemic approach to find bugs?</p>	<p><b>Computing systems and networks</b> <i>(Emailing)</i></p> <p>Can they log in and out of emails? Can they send a simple email with a 'to', 'from' and a subject? Can they add an attachment to an email?</p>	<p><b>Online safety</b></p> <p>Can they differentiate between fact, belief and opinion online? Can they explain how to deal with upsetting content online? Can they explain what social media platforms are and what they are used for? Do they know who to ask for help if they have any worries online?</p>
<p><b>Year 4</b></p>	<p><b>Computing systems and networks</b> <i>(Collaborative learning)</i></p> <p>Can they use a variety of different slide styles to convey information? Can they create a google form with a range of different question types? Can they export data to a</p>	<p><b>Creating media</b> <i>(Website deisgn)</i></p> <p>Can they create a simple games using computational thinking? Do they understand the terms 'pattern recognition' and 'abstraction' and how they can solve a problem? Can they create a scratch</p>	<p><b>Data handling</b> <i>(Investigating weather)</i></p> <p>Can they search the web efficiently to find and rcord different temperatures around the world? Can they design a weather station which gathers and records sensor data?</p>	<p><b>Programming</b> <i>(Advanced coding with scratch)</i></p> <p>Can they use decomposition to identify key features and recognise the actions required to make a quiz gme work? Do they understand what a variable is and how it works in a program?</p>	<p><b>Computing systems and networks</b> <i>(Website design)</i></p> <p>Can they use the tabs accurately on google sites? Can they create a clear plan for a website? Can they create a professional web page with a clear style and useful information?</p>	<p><b>Online safety</b></p> <p>Are they aware of the accuracy and reliability of online search results? Can they describe some methods used by scammers online?</p>

	spreadsheet, highlighting data, using conditional formatting and calculations?	program which draws various shapes?	Can they create a video which includes weather forecast information?	Can they create a variable and use it to record a score?		Can they explain positive and negative distractions of using technology and explain strategies to reduce time using technology? Do they know who to ask for help if they have any worries online?
<b>Year 5</b>	<b>Computing systems and networks</b> <i>(Search engines)</i>  Can they explain how a search engine is useful to find website and information? Do they know what 'TASK' stands for? Do they consider the terms 'copyright' and 'fair use' when combining texts or images in a poster? Can they make parallels between book searching and internet searching?	<b>Creating media</b> <i>(Stop motion animation)</i>  Can they create a toy with simple images and a single movement? Can they create a short stop animation? Can they make changes to ensure a smooth animation? Can they add effects such as extending parts and titles?	<b>Data handling</b> <i>(Mars Rover 1)</i>  Can they identify the types of data the Mars Rover would collect? Can they explain how the Mars Rover data is transmitted back to Earth? Can they read binary numbers? Can they identify input, processing and output on the Mars Rover?	<b>Programming</b> <i>(Programming music)</i>  Can they add loops to their work? Can they correct their own simple mistakes? Can they include a repeat and explain its function to enhance music? Can they code a piece of music which combines a variety of structures?	<b>Programming</b> <i>(Micro:bit)</i>  <i>Can they recognise the difference between 'on start' and 'forever'?</i> <i>Can they create their own images to make an animation?</i> <i>Can they identify inputs and outputs to make predictions about how variables work?</i> <i>Can they break a program down into smaller steps and match it to an algorithm?</i>	<b>Online safety</b>  Do they understand why and how a password is considered strong? Can they differentiate between different types of online communication? Can they search for simple information about a person? Can they recognise when health and wellbeing are being affected online? Do they know how to respond to negative online behaviours? Do they know who to ask for help if they have any worries online?
<b>Year 6</b>	<b>Computing systems and networks</b> <i>(Bletchley Park)</i>  Can they decode messages? Can they explain how a password is secure and how it works? Can they create a simple website about 'Bletchley Park'? Can they explain and present information about the	<b>Creating media</b> <i>(History of computers)</i>  Can they create a simple radio play with special effects? Can they create a document that includes accurate date information and facts about the impact of computers? Can they describe all the features we would expect a computer to have?	<b>Data handling</b> <i>(Big data)</i>  Can they create their own QR code using a generator website and explain its purpose? Can they take real time data and enter it effectively into a spreadsheet? Can they present the data collected and use it to answer	<b>Programming</b> <i>(Intro to python)</i>  Can they use nested loops in their designs and explain why? Can they alter the house drawing by using python commands? Can they use loops in python and explain why?	<b>SHOWCASE</b> <i>(Inventing a product!)</i>  Either: Can they evaluate, understand and adapt different codes? Can they debug programs and make them more efficient? Can they create an appealing website for a product aimed at a target audience? Can they create and edit a	<b>Online safety</b>  Are they able to discuss a range of current online issues and describe numerous ways to get help? Can they explain what a digital reputation is and what it consists of? Can they describe ways to manage password and strategies for extra security?

	importance of historical figures and their contribution to computer science?		a question?		video with purpose?	Can they explain hw sharing online can be both positive and negative? Do they know who to ask for help if they have any worries online?
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