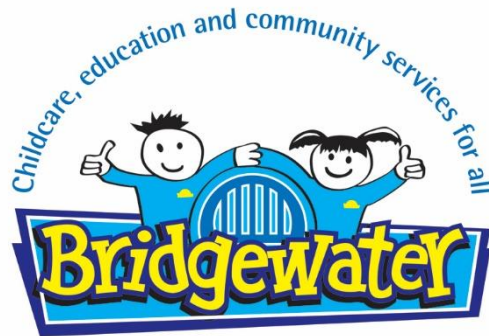


National Curriculum 2014


Scheme of Work



*Computing*



Statutory Requirements

and school curriculum

Year Group	NC Objectives
Nursery	<p>Early Learning Goals – 22-36</p> <ul style="list-style-type: none"> <li>• Seeks to acquire basic skills in turning on and operating some IT equipment</li> <li>• Operates mechanical toys, e.g turns the knob on a wind-up toy or pulls back on a friction car</li> </ul> <p>Early Learning Goals – 30-50</p> <ul style="list-style-type: none"> <li>• Knows how to operate simple equipment, e.g. turns on CD player and uses remote control</li> <li>• Shows an interest in technological toys with knobs or pulleys, or real objects such as cameras or mobile phones</li> <li>• Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images</li> <li>• Knows that information can be retrieved from computers</li> </ul>
Additional curriculum, experiences,	
Nursery children have access to a wide range of technology, from CD players, Ipads, computers and mechanical toys. They are able to explore technology through free-flow exploration and play, as well as, high-quality adult led sessions.	
<p>Creating artwork, using simple imaging tools:</p> 	
Year Group	NC Objectives
Reception	<p>Early Learning Goals 40-60</p> <ul style="list-style-type: none"> <li>• Completes a simple program on a computer.</li> <li>• Uses IT hardware to interact with age-appropriate computer software</li> <li>• Children recognise that a range of technology is used in places such as homes and schools</li> </ul>

	<ul style="list-style-type: none"> <li>• They select and use technology for particular purposes</li> </ul> <p>Exceeding</p> <ul style="list-style-type: none"> <li>• Children find out about and use a range of everyday technology</li> <li>• They select appropriate applications that support an identified need, e.g. deciding how best to make a record of a special event in their lives, such as a journey on a steam train</li> </ul>
Additional curriculum, experiences,	
<p>In Reception, pupils expand on their early experiences in nursery by using their experiences to complete simple goals with greater independence. Pupils will develop their understanding of how simple technology works through play and adult-led activities.</p> <p>Elmer art work:</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>	
Year Group	NC Objectives
Year 1	<p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions</li> <li>• create and debug simple programs</li> <li>• use logical reasoning to predict the behaviour of simple programs</li> <li>• use technology purposefully to create, organise, store, manipulate and retrieve digital content</li> <li>• recognise common uses of information technology beyond school</li> <li>• use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies</li> </ul>
Additional curriculum, experiences,	

In Year 1, pupils begin to work on the National Curriculum programme of study, with the overall aim being that children are able to understand fundamental principles of technology and are able to use it responsibly.

Additional activities include:

- Working with Mr Johnson
- Using ICT to write/edit their work
- Performing songs and music in In Harmony and recording and reviewing using and Ipad
- Using phonics programs and games to support their reading and progression towards the phonics screen

**Year Group**

Year 2

**NC Objectives**

Pupils should be taught to:

- understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following precise and unambiguous instructions
- create and debug simple programs
- use logical reasoning to predict the behaviour of simple programs
- use technology purposefully to create, organise, store, manipulate and retrieve digital content
- recognise common uses of information technology beyond school
- use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies

**Additional curriculum, experiences,**

In Year 2 pupils work to solidify their knowledge of the KS1 curriculum.

Additional activities include:

- Assembly with Mr Johnson about online safety
- Using ICT to write/edit their work
- Performing songs and music in In Harmony and recording and reviewing using and Ipad
- Online safety activities in PSHE
- Taking photographs in science to observe plants and animals
- Using technology in Science Club, such as electronic microscopes

- KS1 SATs club and breakfast club



Year Group  
Year 3

**NC Objectives**

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and

content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information

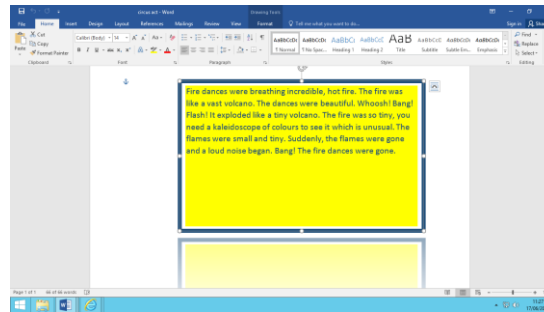
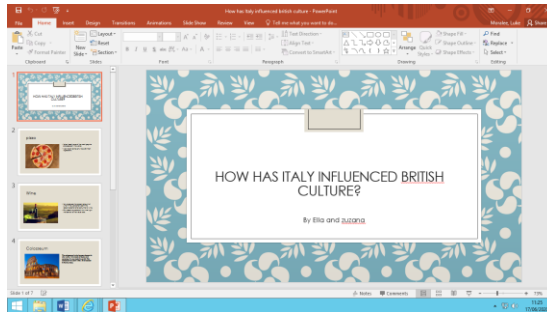
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

### Additional curriculum, experiences,

In Year 3, pupils begin to work towards the KS2 curriculum. They begin to develop and apply the fundamental principles that they have learnt through KS1. In Year 3 children are introduced to online communications such as email. Across the keystage children use ICT in a wider range of activities, including research and presentation.

Additional activities include:

- Creating 'Beware of the Sun' posters in Science
- Research and presentation of Stone Age animals
- Using Microsoft Publisher to create information texts about wolves in English
- Creating presentations about 'how Italy influenced British culture'



### Year Group

Year 4

### NC Objectives

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs

	<ul style="list-style-type: none"><li>•understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration</li><li>•use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li><li>•select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li><li>•use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li></ul>
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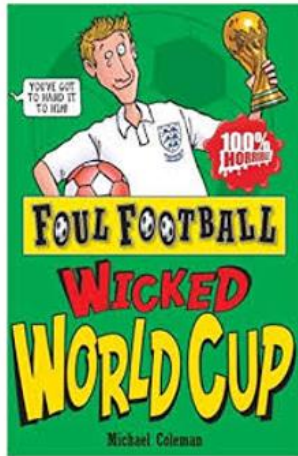
### Additional curriculum, experiences,

In Year 4, children are allowed to expand their experiences using technology through areas such as animation and video presentations, as well as, being introduced to the basics of computer networks.

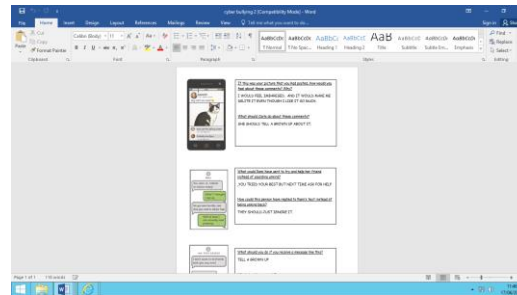
Additional activities include:

- Blogging club
- Presenting their work and ideas using video
- Coding club
- Visits to CTRL to complete coding activities
- Writing about their favourite books using a word processor
- Using online maps in geography
- Healthy relationships (online)

# MY FAVOURITE BOOK



This is my favourite because it's all about football world cup and how it started. Also all of the star players like Pele and Maradona and it says who won the world cup at what year. The last world cup was in 2018 and France won 4-2 against Croatia. This encouraged me to play better like football stars. The main team is England.



Year Group

Year 5

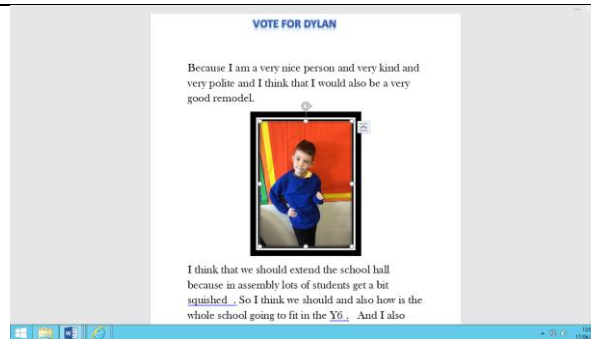
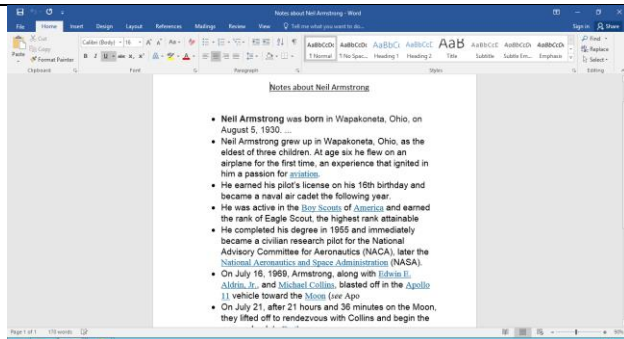
NC Objectives

Pupils should be taught to:

- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output



	<ul style="list-style-type: none"> <li>•use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs</li> <li>•understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration</li> <li>•use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>•select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>•use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact</li> </ul>
<p><b>Additional curriculum, experiences,</b></p>	
<p>In Year 5, children develop their coding skills through activities such as ‘We are game developers’ and ‘We are web developers’. In Year 5 coding becomes more nuanced with children developing their skills and using input and controls</p> <p>Additional activities include:</p> <ul style="list-style-type: none"> <li>• Working with Mr Johnson</li> <li>• Coding club</li> <li>• Engineering competition</li> <li>• Performing story writing using voice recording and video – ‘Pandora’</li> <li>• Researching notable historical figures, eg. Neil Armstrong</li> <li>• Creating posters and letters for school council elections</li> </ul>	



Year Group

Year 6

NC Objectives

Pupils should be taught to:

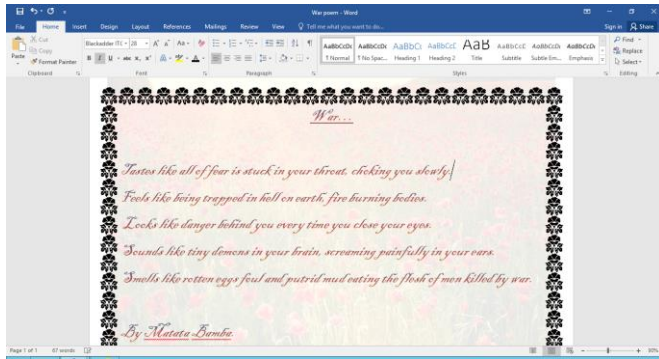
- design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration
- use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact

Additional curriculum, experiences,

Year 6 is the culmination of primary computing. By the end of Year 6 we expect children to have solid understanding of computing fundamentals, a good grasp of using search technologies, to be able to choose and use the most appropriate program for a task and to be able to use technology safely.

Additional activities include:

- Observing technology in work places, via Nissan visit
- Presenting their work and pictures at parents day
- Using technology in pantomimes and leaver's assemblies
- Writing poetry and modifying its look for effect



	<u>Autumn 1</u>	<u>Autumn 2</u>	<u>Spring 1</u>	<u>Spring 2</u>	<u>Summer 1</u>	<u>Summer 2</u>
<b><u>Nursery</u></b>	Developing basic skills – operating basic equipment, turning on and off  Operating mechanical toys, wind up, pull back,  Operating simple equipment – CD player, on, off		Showing an interest in using real objects, tablets, cameras,  Making toys work by pressing buttons or lifting flaps.  Beginning to visit computer suite to develop simple mouse skills with left button.		Interacting with a simple program on a computer, eg. 2simple Draw to develop motor skills.	
<b><u>Reception</u></b>	ICT -Introduction to computers – logging on in Navigating programs 2simple CD Player – Harvest Songs	ICT – firework pictures CD Player – Christmas Songs	ICT – using a CD player	ICT – using the keyboard (spacebar, backspace, number pad/keys, letters, shift)	ICT – using beebot software ICT – Photography (Digital Camera) Changes over time Similarities and differences of living things – plants/animals	
<b><u>Year 1</u></b>	ICT to look at where we live  Recognise uses of IT outside of school – take photos of local buildings  Draw building using 2 Simple  Communicate online safely and respectfully  Organise, store, retrieve & manipulate data		Recognise uses of IT outside of school  Communicate online safely and respectfully  Organise, store, retrieve & manipulate data  Use internet to research - name the different parts and discuss their purposes.		Recognise uses of IT outside of school  Communicate online safely and respectfully  Organise, store, retrieve & manipulate data  Understand use of algorithms  Write & test simple programs  Use logical reasoning to make predictions	
<b><u>Year 2</u></b>	Computer Literacy  To answer simple questions about what they are doing by thinking computationally (what will happen if...?)  Word Processing	Online Safety  To understand who they can safely communicate with online	Graphics/Digital videos  with support, be able to do simple manipulation of images using an art package (Photobooth app/word) be able to use an art package to create an	Coding  control a programmable robot/app, with a purpose (defined by either teacher or child) (BeeBot / BeeBot app/ Scratch Jr)	Research  With support, use apps / programs / websites to find information including simple search engines	<i>Sound</i>  <i>be aware that sound can be recorded on the computer / iPad as a sound file</i>

	change the font style change the font size change the font colour use the cursor (arrow) keys for simple on screen editing with support, import graphics and add text with support write and send a short letter eg to Santa		image (painting, poster etc)	understand that , once programmed a programmable robot/app can repeat the same instructions  plan and create a sequence of instructions to a move a programmable robot/sprite	with support (Favourites file, hyperlinks set up by the teacher)  use the Internet / apps to find information for a topic	
<b><u>Year 3</u></b>	We are software developers (coding)	We are toy designers (graphics)	We are musicians (sound)	We are HTML editors (Remember x-ray goggles)	We are co-authors (email)	We are meteorologists (research)
<b><u>Year 4</u></b>	Word processing (Twinkl)	Online safety (Twinkl)	Animation	We are HTML editors (Remember x-ray goggles)	We are co-authors	We are meteorologists
<b><u>Year 5</u></b>	Switched on Computing "We are game developers" (coding)	Switched on Computing "We are cryptographers"  (spreadsheets)	Switched on Computing "We are artists"  (graphics)	Switched on Computing "We are web developers"  (coding)	Switched on Computing "We are bloggers"  (email)	Switched on Computing "We are architects"  (research/multimedia)
<b><u>Year 6</u></b>	ICT skills Using Microsoft Office e.g. Publisher and PowerPoint - linked with topic (multimedia)	Coding- Scratch Project- making a game	Spreadsheets	Animation or internet research	How does the internet work? E-safety-	<i>Multimedia</i>

Texts to support teaching of computing:

- Computational Fairy Tales – Jeremy Kubica – UKS2
- Jack and the Beanstalk – Bee-bots – EYFS/KS1
-