

MGL

Computing Handbook

Year 1



Vision for Computing

Through teaching computing we equip children to participate in a world of rapidly-changing technology. A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

At ***INSERT SCHOOL NAME*** we intend to

- Enable our children to reach their full potential and recognise their strengths and talent through a progressive, inclusive creative curriculum.
- To further develop the skills learnt in the computing lesson so that they can be used across all subjects. Cross curricular computing throughout the curriculum should be encouraged.
- Access to learning platforms from home will help raise standards and enhance learning (Education City, Reading Plus, TT Rock Stars).

Scheme Of Work

We have a bespoke curriculum that is ever evolving to suit the needs of the children at school. We have recently carried out a review and have adapted it to meet the ever evolving needs of our children at school.

In year 1 we are looking to develop the following skills:

Skills Overview Year 1		
Computer Science	DL & IT Beyond school	Information Technology
<ul style="list-style-type: none"> •Give instructions to a friend and follow their instructions to move around a space. •Describe what happens when buttons are pressed on a robot or device. •Press buttons in the correct order to make a robot follow a short sequence. •Understand what an algorithm is and be able to create a simple algorithm. •Understand and explain how algorithms are used in every day life. •Begin to predict what will happen for a short sequence of instructions. •Begin to use different software or applications to create movement and patterns on a screen. •Use the word debug to correct an algorithm that doesn't work in the way it was intended. 	<ul style="list-style-type: none"> •Understand why we need passwords. •Understand that we must keep passwords private. •Explain what personal information is. •Understand that we must keep personal information private. •Communicate safely and respectfully online. •Know what to do when concerned about online content. •Know what to do if someone tries to contact you online. •Recognise that a range of digital devices and products can be considered computers. •Recognise the ways in which technology is used in their homes and community. •Understand that computers have no intelligence and can do nothing without being programmed. •Begin to identify some of the benefits to using technology. 	<ul style="list-style-type: none"> •Talk about the different ways in which information can be shown. •Use technology to collect information, including photos, videos and sound. •Sort different kinds of information and present it to others. •Add information to a pictogram and talk about their findings. •Use software with support, to create, store and edit digital content using appropriate file and folder names. •Use the keyboard or a word bank on a device to enter text into a program. •Understand some of the basic functions on a keyboard (Backspace, Caps Lock, Enter) •Save information in a specific place and retrieve it again. •Use technology to collect information, including photos, videos and sounds

Year 1 Curriculum Overview

Year 1	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
	IT	DIGITAL LITERACY	COMPUTER SCIENCE	COMPUTER SCIENCE	IT	DIGITAL LITERACY
	Basic Skills – Logging in/Mouse/Keyboard	Using Word and other programs to process and format text & images	Unplugged Algorithms – Understanding & building a basic algorithm	Using iPad apps & physical devices to create algorithms in a coding context	Data Collection & Representation using pictograms	Data Collection & Representation using pictograms

Autumn 1 - Basic Computer Skills

What the children will learn:

- Understands why we have passwords (DL)
- Understands that we must keep passwords private
- Use the keyboard or a word bank on a device to enter text into a program.
- Understand some of the basic functions on a keyboard (Backspace, Caps lock, Enter)

Vocabulary

- Keyboard, keys, letters, Caps lock, Shift, Enter, Backspace. Log In, Shut Down, Password. Security

Ways to support children's learning

- Talk to the children about different websites you use and which ones require you to enter a password or user name.
- Play some games with children on a website such as <https://www.bbc.co.uk/cbeebies>. Show them how to use back/forward button to move through web pages. Show them how to click the cross in the corner to close down a webpage. When finished with the computer always shut down rather than pressing power button.
- Demonstrate how to open a program by double clicking an icon on the desktop.
- Open up https://www.abcya.com/games/take_a_trip and show them how to play the game.
- Develop mouse skills by visiting art package websites such as : <https://sketch.io/sketchpad/>
- Use typing games to develop their keyboard skills. <https://primarygamesarena.com/Play/Keyboard-2030>

Autumn 2 - Using Word and other programs to process and format text & images

What the children will learn:

- Use technology to collect information, including photos, videos and sound.
- Use software with support, to create, store and edit digital content.
- Use the keyboard or a word bank on a device to enter text into a program.
- Save information in a specific place and retrieve it again

Vocabulary

- Keyboard, keys, letters, Caps lock, Shift, Enter, Backspace. Log In, Shut Down

Ways to support children's learning

- Give children the opportunity to practice typing on the computer. Could be something straight forward as a shopping list for example, their address and son on.
- Play typing games such as
<https://www.tvokids.com/school-age/games/keyboard-climber>
Or <https://www.tvokids.com/school-age/games/keyboard-climber-2>

Spring 1 - Unplugged Algorithms

What the children will learn:

- Give instructions to a friend and follow their instructions to move around a space.
- Begin to predict what will happen for a short sequence of instructions
- Understand what an algorithm is and be able to create a simple algorithm.
- Begin to use software or applications to create movement and patterns on a screen.

Vocabulary

Ways to support children's learning

- Children are following sets of instructions each day. Talk about the instructions they need to follow to brush their teeth for example, the routine when they get up in the morning.
- Play instructional games such as Simon says. Watch Baby Shark video on YouTube and follow the instructions.
- Get BB8 from Star Wars to pick up metal around a track
<https://studio.code.org/s/coursea-2019/stage/6/puzzle/2>

Spring 2 - Using iPad apps & physical devices to create algorithms in

a coding context

What the children will learn:

- Give instructions to a friend and follow their instructions to move around a space.
- Describe what happens when buttons are pressed on a robot
- Press buttons in the correct order to make a robot follow a sequence
- Begin to predict what will happen for a short sequence of instructions
- Understand what an algorithm is and be able to create a simple algorithm.

Vocabulary

- BeeBot, forward, backwards, right, left, turn, program, algorithm, clear

Ways to support children's learning

- See some of the instruction activities from previous lesson.
- Try Flash Based games Lightbot or download it as a free app on the Ipad.
<https://lightbot.com/flash.html>
- Play Kodable – load the web page then Click on Kids Start Here – Play Without saving. It is also an app.



<https://www.kodable.com/hour-of-code#self-guided>

- Play the BeeBot simulator online: <https://www.terrapinlogo.com/emu/beebot.html>
- Download Codepillar app

Summer 1 - Data Collection & Representation using Pictograms

What the children will learn:










- To use technology to collect information
- Sort different kinds of information and present it to others
- To add information into a pictogram and talk about their findings
- To talk about the different ways in which data / information can be shown

Vocabulary

- Pictogram, graph, chart, tally, collect, count, data

Ways to support children's learning

- Make a record of the colour of the cars on your way home from school. Make a small tally chart.
- Sort the sweets in a packet into different colours. Can they create a simple pictogram?
- Use this Flash based website to create some graphs and charts with the children.
- <https://www.topmarks.co.uk/Flash.aspx?f=pictograms>
- Ask children some questions based on the graphs they have created.
- What is the most popular colour of sweet? How many sweets are there altogether?

Colour	Number of Smarties	Frequency
Green		7
Orange		8
Blue		5
Pink		6
Yellow		11
Red		8
Purple		7
Brown		3
	Key  = 2 smarties	

Summer 2 Presenting Information Using Photos and Text

What the children will learn:

- Use software to create digital content
- Use the keyboard to input text
- Understand some of the basic functions of a keyboard (backspace, space etc)

Vocabulary

- image, photograph, import, text, font, colour, delete

Ways to support children's learning

- Help your child to take photographs with your phone or with a tablet when you are around the house or out for a walk. Turn it into a colour hunt – can you find objects which are red?
- Look through the photographs they have taken and decide which a good photo – which ones are blurry is. These can be deleted
- Download Pic Collage app from app store – make a poster of the pictures that your child has taken.



Online safety

At **INSERT SCHOOL NAME** we understand the importance of keeping your child safe online. Here are a few tips and websites to help you and your child understand the message.

Home and Family Guidelines

- Talk together and have fun learning together.
- Involve everyone and agree your family guidelines and rules.
- Remember that sometimes what is acceptable for a Year 6 child is not necessarily acceptable for a Year 3 or Reception child.
- Discuss regularly online safety and go online with your children. Communication is the key to eSafety.
- Keep virus and firewall software up to-date.
- Enable your 'browser safe' search option and/or consider using internet filtering software, walled gardens and child-friendly search engines.
- Keep the computer in a communal area of the house, where it's easier to monitor what your children are viewing. Never let children have webcams, or similar, in their bedroom.
- Talk to your children about why they should not to give out their personal details. If they want to subscribe to any online service then make up a family email address to receive the mail.
- We all love to chat and children are no different. Encourage your children to use moderated chat rooms and never to meet up with an online 'friend' without first discussing it with you.
- Time children spend offline following a range of other activities is equally important. Time spent online should be monitored to help prevent obsessive use of the internet
- Encourage your children, and in fact all family members, to tell you if they feel uncomfortable, upset or threatened by anything they see online.
- Have proportionate responses if the family guidelines are not followed.

Websites for you to use with your child to help with the eSafety conversation

[Thinkuknow](https://www.thinkuknow.co.uk/) website... this website has been specially developed by CEOP for children of all ages to help them to learn about staying safe online. There's information for parents here too. <https://www.thinkuknow.co.uk/>

[Kidsmart](https://www.childnet.com/resources/looking-for-kidsmart)..... help and advice for children using the internet.

<https://www.childnet.com/resources/looking-for-kidsmart>

[Digi Duck's Big Decision](https://www.childnet.com/resources/digiduck-stories)..... Esafety book (and more) for KS1 children - A brilliant online safety resource for younger children

<https://www.childnet.com/resources/digiduck-stories>

[Smartie the Penguin](#) – Another fantastic online safety resource for young children.



<https://www.childnet.com/resources/smartie-the-penguin>