Our Computing Curriculum
Chandag Infant School

CHANDAG INFANT SCHOOL
Be the best you can be!

EYFS
Elements of computing can be taught through the Prime and Specific areas of learning and their associated Early Learning Goals.
Area of Computing: Use of Technology
Relevant ELGs:
13 People and communities: children talk about past and present events in their own lives and in the lives of family members. They know that other children don't always enjoy the same things, and are sensitive to this. They know about similarities and differences between themselves and others, and among families, communities and traditions.
15 Technology: children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.
Area of Computing: Programming
Relevant ELGs:
02 Understanding: children follow instructions involving several ideas or actions. They answer 'how' and 'why' questions about their experiences and in response to stories or events.
04 Moving and handling: children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space.
Area of Computing: Digital Literacy
Relevant ELGs:
16 Exploring and using media and materials: children sing songs, make music and dance, and experiment with ways of changing them. They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.
17 Being imaginative: children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role-play and stories.
NB: Aspects of almost all of the other ELGs could be enhanced or evidenced though the use of technology e.g. ELGs 01, 02, 09 and 10 would all benefit from the use of eBooks and recording devices.
Area of Computing: E-Safety
Relevant ELGs:
06 Self-confidence and self-awareness: children are confident to try new activities, and say why they like some activities more than others. They are confident to speak in a familiar group, will talk about their ideas, and will choose the resources they need for their chosen activities. They say when they do or don't need help.
07 Managing feelings and behaviour: children talk about how they and others show feelings, talk about their own and others' behaviour, and its consequences, and know that some behaviour is unacceptable. They work as part of a group or class, and understand and follow the rules. They adjust their behaviour to different situations, and take changes of routine in their stride.

First hand experiences and pupil offer:
Children in Reception experience computing by working towards the Technology Early Learning Goal. An enabling environment, as described in the EYFS, allows children to play with a range of materials and objects that work in different ways for example torches, CD players, cameras. Programmable toys are also provided so that children are introduced to coding and computational thinking in developmentally appropriate ways. Children are taught to use household and everyday equipment through exciting experiences that will prepare them for their future, such as using a toaster to make toast, cooking using an oven and hob to make simple recipes and real tools such as drills in woodwork. Children are also taught to use IPads for example to take photos and videos, play age appropriate games to support learning, use a QR code reader. Simple computer skills are taught and practised on a PC such as using a children's search engine to look for specific images or controlling a mouse to complete a simple program. As children learn in the moment, skilful adults encourage them to speculate on the reasons why things happen or how things work and support children to coordinate actions to use technology, for example, call a telephone number on a pretend telephone. They also teach and encourage children to click on different icons for example to cause things to happen in a computer program.

Year 1 Outcomes	Year 2 Outcomes
Internet safety: I can talk about what I need to do if I see something unexpected or worrying online. I can agree and follow internet safety rules. **Programming and coding :** I can give and follow simple instructions to move around I can press buttons in the correct order to control a robot I can describe position, direction and movement I can begin to use software/apps to create patterns and make predictions. **Multimedia:** I can name and understand basic parts of the computer/device. I can find and use caps lock, shift key, back space, enter/return, spacebar, delete key. I can use letter keys to type words and short sentences correctly Take photographs and record video using a simple device **Technology in our lives:** I can recognise ways technology is used in my home/school/community. I can begin to identify some of the benefits of using technology. I keep personal information private I can use internet browser safely and independently for known websites. I understand that the internet contains information. I know common uses for information technology. I use software with the support from the teacher to edit digital content. **Data handling and modelling :** Gather and record information on a simple graphing program. I understand computers can represent real or fantasy situations and can use an art package or to create a representation of a real or a fantasy situation	**Internet safety:** I can talk about possible risks online such as cyber bullying and what I can do to reduce those risks I can make, agree and follow internet safety rules. I use technology with increasing independence. I use software to manipulate digital content, data and information. **Programming and coding:** I understand that computers need precise instructions and debug a problem. I understand that algorithms are implemented on digital devices as programs. I can plan a robot journey and communicate my ideas and reflections using key terms. **Multimedia:** I can independently log on using my user name and password I can save information in a given place I can use the mouse to position the cursor at a certain point in a piece of text to enter or delete text at that point. I can change text size and font on a simple word processing tool. I can insert an object e.g. picture or shape to a simple word processing tool from a camera or website I can manipulate photographs and videos taken using digital cameras or tablets to make a short clip. I can create a simple multimedia presentation. **Data handling and modelling:** I can enter information into a record of a simplified database program with some assistance. I can enter information into a basic computer simulation and explore the effects of changing variables in simulations. **Technology in our lives:** I can recognise ways technology is used in my home/school/community. I can begin to identify some of the benefits of using technology. I can access websites using favourites, hyperlinks and safes searches on a child friendly search engine. I understand that the internet contains information and we can make a digital footprint.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1	**Multimedia -** Use technology purposefully to create, organise, store, manipulate and retrieve digital content Superhero captions,Superhero Selfies, Digital effects selfie	**Programming** De-bugging simple programme – Making maps for the Bee-bot to travel.	**Internet safety** **Internet Safety** Safe Internet Day – how to use the internet safely. Students gain a better idea of the internet and how to use it.	**Multimedia** Researching using simple and safe google searches. Opening and closing programmes. Technology use at home - Links to **Internet Safety**Basic IT skills – creating text.	**Data handling and modelling** Animals block graph. Create text and add basic effects – font style, size and colour. Save and print work.	**Coding.** **Using espresso coding.** understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions **Multimedia -** Create a holiday album and under the sea composition.
2	**Programming** **U**sing Bee-bot app. Understand and make simple algorithms, create and debug simple programs **Multimedia** Pop art wrapper design using iPad app. Create an 'All about me' front cover using text and images on book creator. Map reading using Google maps.	**Coding** How to train your robot games – coding using Scratch Jnr. Creating and improving algorithms	**Internet safety -** Re-cap on how to stay safe when using the Internet. Create story boards and explore how to be responsible, competent, confident and creative users of technology. **Multimedia** Green screen technology to create a documentary.	**Multimedia** Great Fire of London fact file presentations - combining text, images, video and sound and present to an audience. Play great fire of London game using iPads.	**Data handling and modelling** Photography – digital images and creating postcard showing nature in the school grounds for the Lorax. **Data handling-** Researching mini-beasts using google safe searches. Using favourite's folder.	**Coding** Scratch Jr Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems Multimedia Using an app to make patterns from around the world with symmetry.

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Intent: **Our intent for computing at Chandag Infant School** is that all children will be immersed in engaging, technology rich learning experiences which allow them to learn deeply and embed core computing skills, think independently and problem solve in an ever evolving digital world. Regardless of changes within technology and the world we live in, our children will possess the core skills and behaviours required to safely and confidently access new technology to enhance their wider learning, access the curriculum throughout their school journey and inspire a future where technology is used to innovate and make positive change. By the end of year 2 at Chandag Infant School children will be equipped with the skills and experiences to…

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
Understand that programs execute by following precise and unambiguous instructions.
Create and debug simple programs.
Use logical reasoning to predict the behaviour of simple programs.
Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
Analyse problems in computational terms
Become responsible, competent, confident and creative users of information and communication technology
Navigate the online world safely and confidently regardless of the device, platform or app
Identify possible online risks and make informed decisions about how to act
Confidently communicate unacceptable online behaviours, including cyber bullying.

Implement: **Our curriculum is organised** is through a thoughtfully devised skills progression which allows for the introduction of new skills and learning whilst providing frequent opportunities for deep learning through revisiting prior learning and application of skills in different contexts or subject areas. Through secure subject knowledge, teachers support and challenge pupils in learning new skills during discrete computing sessions, whilst providing opportunities for meaningful application of computing skills across the curriculum. The skills taught reflect those outlined in the National *Curriculum 2014* and *The Chartered Institute for IT and the Department of Education 'Barefoot computing'.* To ensure deep learning and progression, these skills have been written into long term and medium term planning across KS1. Each term, children experience a range of first hand experiences with familiar and/or new technologies, whenever possible this is linked meaningfully to the topic e.g. a multimedia presentation as a celebration of learning at the end of a topic or programming a beebot to navigate its way around a map made during a geography session. In addition to whole class learning, Digital leaders are chosen each term and weekly input from the computing curriculum leader supports and challenges children in core computing skills such as coding, building confidence and a love for the subject; which is then shared with other members of the school community.

Impact: **We measure outcomes through** both formative and summative assessments. Through devising desired knowledge, skills and vocabulary in long term and medium term planning, teachers can confidently use formative assessments, to which inform their short term planning. Annotations on planning, observation notes, photographs, screen shots, alongside examples of quality work in children's books are used to evidence impact. However, due to the practical nature of the computing curriculum, listening to learners is used as a central measure of impact when measuring pupil outcomes. In term 6 a summative teacher assessment against the intended outcomes for the end of each year group is made by the class teacher for each child; this is shared with subject leader and SLT providing important information regarding which pupils are exceeding, at or below age related expectations. This information informs future curriculum action plans and provision to ensure a responsive and ever evolving school curriculum