# Computing

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, we aim to equip pupils 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 technology.

Children will:

- Enjoy using information technology and tackle all applications with confidence and a sense of achievement and purpose.
- Develop practical skills in the use of information technology and the ability to apply these skills to the solving of relevant and worthwhile problems
- Understand the capabilities and limitations of information technology and the implications and consequences of its use.
- Be open minded in their approach to information technology so that they will be able to adapt easily to the information technology systems and approaches they will encounter in their future lives.
- Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- Use information technology as a tool appropriately across the curriculum to support and enrich their learning

## How the subject is taught?

In Computing lessons, we ensure that the children work as part of a well-paced learning environment and are able to set high expectations for their personal success. We share learning objectives at the start of every lesson and use a range of teaching styles and strategies to achieve them. The major focus for the teaching and learning of information technology is through sessions that teach specific skills. Opportunities for cross curricular links are used where appropriate and children develop their skills through a range of related activities. The first lesson of every half term will cover aspects of e-safety.

We ensure children have access to high quality computing equipment such as laptops, netbooks, ipads, digital cameras, audio and virtual reality equipment.

The program of study for each phase is delivered through a variety of Apps such Purple Mash and schemes such as Switched on Computing and Rising Stars. Teachers adapt lessons to meet the needs of all learners.

## What difference is the subject making?

The teaching of computing contributes to teaching and learning in many curriculum areas. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers use software to present information visually, dynamically and interactively, so that children understand concepts more quickly.

Children demonstrate positive attitudes to learning with technology and are progressively becoming confident and competent with curricular and cross curricular computing.

## SMSC/PSHE links

**Spiritual**- Explore creativity and imagination in the design and construction of digital products, promote self-esteem through the presentation of your work to others, explore how ideas in computing have inspired others and create digital products which incorporate your beliefs.

**Moral**- Encourage good etiquette when using digital technology including mobile devices and with due regard to e-safety, encourage respect for other people's views and opinions, encourage respect for the computer room and the equipment you use and how this affects others, encourage respect in the use of digital equipment and its impact on the environment – for example, ink and paper wastage, explore moral issues around the around the use of digital technology - For example, copyright and plagiarism.

**Social-** Encourage students to assist one another in problem solving, encourage appropriate social behaviours in the classroom including listening whilst others are talking and generally interacting as caring a community and encourage good practice and respect in the use of social networking.

**Cultural**- Encourage the sensible use of digital technology in the classroom and homework situations given that you are currently living in a digitally cultural environment, encourage an awareness and appreciation of the digital divide and to be aware of differing cultural and spiritual or religious views towards the use of digital technology, empowering pupils to apply their ICT and computing skills and knowledge to the wider curriculum and acknowledge links between subjects.

**PHSE**

Keeping physically and emotionally safe - Safety online(including social media, the responsible use of ICT and mobile phones)

## Challenge:

Children will be encouraged to incorporate computing skills into extra curriculum themes, such as homework, holiday projects and the school's Graduate Scheme.

Carlton Junior & Infant School

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