

Intent



The Computing curriculum at St Aloysius Catholic Schools is designed to enable pupils to embrace and utilise new technologies through the application of essential knowledge, principles and concepts. Pupils must be equipped to operate in a rapidly changing workplace and to be prepared for the career opportunities that will be open to them.

"Whether you want to uncover the secrets of the universe, or you want to pursue a career in the 21st century, basic computer programming is an essential skill to learn."

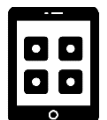
Stephen Hawking Theoretical Physicist, Cosmologist and Author.

Technology is everywhere and will play a pivotal part in students' lives, therefore, we want to model and educate our pupils on how to use technology **positively, responsibly** and **safely**. We want our pupils to be creators, not just consumers and our broad curriculum encompassing 'Computer Science', 'Information Technology', and 'Digital Literacy' reflects this. We want our pupils to understand that there is always a choice with using technology and as a school we utilise technology to model positive use. We recognise that the best prevention for a lot of issues we currently see with technology and social media is through education.

Technology provides accessibility opportunities for our pupils and also allows them to share their learning in creative ways. Our knowledge rich curriculum has to be balanced with the opportunity for pupils to apply their skills creatively which will in turn help our pupils become proficient computer scientists.

We want our pupils to be fluent with a range of tools to best express their understanding and hope by upper Key Stage 2, children have the independence and confidence to choose the best tool to fulfil the task and challenge set by teachers.

Implementation



Computing skills are taught explicitly at St Aloysius. The curriculum has been designed to enable the children to build upon their prior learning and to use an advancement of programs as they progress through the computing curriculum within school. Through careful planning, the children will build upon the skills of Computer Science through completion of coding units and with reference to computer networks. They then complete units based on Information Technology where they will develop their word processing skills, create animation and recognise how to organise data. Whilst planning the units of Computing, we recognised the need to integrate the Digital Literacy unit into all units of learning as the children must be prepared to recognise how to use Computing in a safe, respectable manner to protect themselves and others. The skills acquired are then embedded throughout the curriculum in all subjects.

Online Safety is mapped across the school (see Online Safety Progression document) and lessons are delivered using a mix of bespoke and 'Project Evolve' resources. The Online Bullying strand is delivered during Anti-Bullying Week in November each year and the Online Reputation strand is delivered during the week of Safer Internet Day in February each year. Throughout units of work, teachers will make links and encourage children to make links also, between past learning and new content. We recognise prior learning and build on it with memorable learning experiences with targeted support where necessary. Each unit meets the needs of the National Curriculum and is broken down to cover every element of each of the three strands of computing.

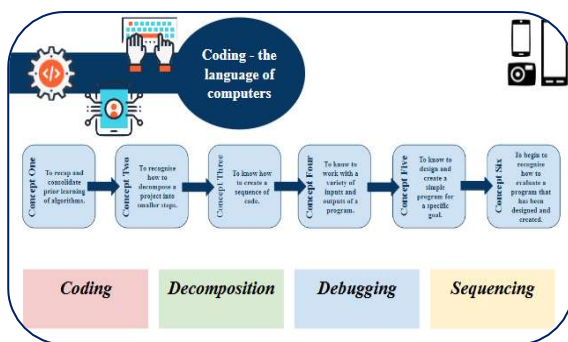
Alongside Secondary Heads of Department, we have created a comprehensive curriculum to best embed and cover every element of the Computing curriculum. The progression of knowledge and skills statements build year on year to deepen and challenge our learners. Digital e-books are used to evidence computing work and allow children to reflect on their learning throughout the year.

Impact



The impact of our Computing curriculum is that we provide pupils with a set of skills to embed a lifelong love of learning and that they build on the knowledge and skills from previous learning. We ensure that every child can become a confident user of technology, while being able to use it to accomplish a wide variety of goals, both at home and in school. Children will have a secure and comprehensive knowledge of how technology works in the world around them and will develop their understanding of how to deal with online situations safely. Children will become confident global citizens.

Through the explicit teaching of Computing skills, both the teachers and the pupils assess their learning continuously throughout each lesson. By nature, computing is going to be practical and hands on. We use 'digital e-books' to record the learning the children have done in computing, as well as giving the children the opportunity to record individually. Thoughts and ideas are recorded here as well as pictures of work.



Coding - the language of computers

CONCEPT ONE: To recap and consolidate prior learning of algorithms.

Unplugged Activity

Today, the children revisited the vocabulary of *algorithms*. We spoke about how algorithms are instructions in a sequential order with an intended outcome. The children participated in an algorithm activity from Barefoot Computing where they had to put the steps of a dance move into order. The children performed it to the rest of the class.

How about we put this dance move first within the algorithm?

This is a good algorithm as our dance is good!

I have loved making algorithms by thinking of the small steps.

Coding - the language of computers

CONCEPT ONE: To recap and consolidate prior learning of algorithms.

Children's Work

Programming Activity

Coding - the language of computers

CONCEPT ONE: To recap and consolidate prior learning of algorithms.

Programming Activity

In today's session, we started by recapping on the concept of algorithms and the children remembered that it was a set of instructions. We revisited the Scratch Jr app and had some tinker time. The children were then reminded of the different command boxes and they were given intended outcomes to complete independently.

I have had so much fun getting my basketball into the net.

Woah! Look at my diver. He can spin around all over the place, going up and down.

My sprite has just said, 'Hi' to another sprite. I wonder what else I could get it to say?

Coding - the language of computers

CONCEPT ONE: To recap and consolidate prior learning of algorithms.

Children's Work

Programming Activity

The children entering algorithms getting their sprite to move and talk.

Coding - the language of computers

CONCEPT TWO: To recognise how to break down a project into smaller more manageable steps.

Programming Activity

In today's session, we spoke about decomposition. At first, the children were not familiar with the terminology but we spoke about how it means breaking something down into smaller steps. As a class, we had a project which was to get the sprite to move from the starting position to the moon. The children explored how to do so on their iPads and we discovered there were different ways but we tried to explain them to each other. Then, the children designed a project and broke it down into smaller steps (algorithms) and allowed their partner to try to complete their coding steps.

I know that decomposition means breaking it down into small steps.

I think I know how to do this by moving left, down and then right.

Oh, that didn't work at first. I will have to try another step instead.