Saint Joseph's Catholic Voluntary
Academy

How we teach Computing at Saint Joseph's

A Lesson Handbook: Guidance and Resources for Teaching Staff

Vision: Intention, Implementation, Impact	*Intent:* Our intent is for pupils to become masters of using technology in a safe and secure way, as well as understanding the negative impact it may have. We encompass computer science, information technology and digital literacy within our curriculum and we want pupils to recognise how technology has developed in recent years and is continuing to develop over time. We want pupils to effectively demonstrate their technological skills and understand different ways that we can use technology. Pupils can be creative with technology and use different apps to demonstrate their knowledge effectively. *Implementation:* Computing as a stand-alone subject has several key components, each of which we aim to teach and fully instil the value of amongst our pupils. These are: Computer Science – Pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Information Technology – Pupils are equipped to purposefully create programs, systems and a range of content in order to develop products and solutions. They will be able to collect, analyse, evaluate and present data and information. Digital Literacy – Pupils are taught to use, access and express oneself through digital technology, including a critical understanding of technology's impact on the individual and society, at a level suitable for the future and as active participants in a digital world. *Impact:* Finding the right balance with technology is key to an effective education and a healthy life-style. We feel the way we implement computing helps children realise the need for the right balance and one they can continue to build on in their next stage of education and beyond. Evidence of pupils' work will be uploaded to Seesaw as a way of assessment and showing progression. Pupils will be able to apply their knowledge and skills of Computing to other areas of the curriculum.
Long Term/Medium Term Planning: Steps on Purple Mash	**Here is the Long Term Plan for Computing.**

	Computer Science	Information technology	Digital Literacy

Cycle A	Advent 1	Advent 2	Lent 1	Lent 2	Pentecost 1	Pentecost 2
Year 1/2	Online Safety & Exploring Purple Mash (1.1) Grouping and sorting (1.2)	Effective searching (2.5) Lego builders (1.4)		Technology outside school (1.9) Creating pictures (2.6)		Spreadsheets (1.8) Coding (1.7 and 2.1)
Year 3/4	Coding Unit 3.1, Lesson 1 Unit 3.1, Lesson 2 Unit 4.1, Lesson 2 Unit 4.1, Lesson 3 Unit 3.1, Lesson 4 Unit 4.1, Lesson 1	Online safety (3.2) Spreadsheets (3.3)		Touch typing (3.4) Graphing (3.8)		Email (3.5) Branching databases (3.6) Simulations (3.7)
Year 5/6	Coding Unit 5.1, Lesson 1 Unit 5.1, Lesson 2 Unit 5.1, Lesson 4 Unit 5.1, Lesson 5 Unit 5.1, Lesson 6 Unit 6.1, Lesson 5	Online safety (5.2) Databases (5.4)		Spreadsheets (5.3)		Game creator (5.5) 3D modelling (5.6) Concept maps (5.7)

We teach Computing as part of our Blocked Curriculum sessions.

Computing in separated into 3 areas:

Computer Science – taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
Information technology – the organisation and manipulation of digital content.
Digital literacy – use information and technologies to find, evaluate, create and communicate information.

Each topic has a knowledge organiser which has the key vocabulary taught and the sticky knowledge needed. We use this on working walls and refer to this when something new is taught.

Lesson Approach / Weekly Planning Differentiation

We teach Computing as part of our Blocked Curriculum.

We use Purple Mash for our Computing curriculum. All of the resources needed are on the website. Each pupil has an individual login where they can complete and upload their work. The teacher will take the medium term plan, the teacher notes, sticky knowledge document

and key vocabulary and create their weekly plans, ensuring that it is meeting the needs of all children in the class.

Each lesson starts with a revisit question from the previous session, followed by the key vocabulary focus for the lesson.

Prior Learning/Recap

To start the lesson, there should be a recap of prior learning.

At the start of every Computing lessons, we should be recapping previous knowledge. This is done in 'Flashback four'. This poses 4 questions based on knowledge that has already taught.
1. Previous lesson.
2. Previous topic.

	3. Previous term. 4. Previous year. On the sticky knowledge document, we have highlighted the key knowledge that is either not taught again or will support learning in the lesson.
Key Vocabulary	We have an overview of vocabulary taught for each year group. This is linked to our topics and are added to our working walls. Pupils should refer to this in their lessons.
Online Safety	Online safety is embedded into our Long Term Plan, through the digital literacy strand of the curriculum. Pupils are aware of the policies and procedures of Online Safety and the IVengers are there to support Online Safety in school.
Assessment	**Assessment for learning** Questions on the worksheets are carefully constructed to assess: 1. Can children correctly perform the skill? 2. Do children have the ability to take perspective / perform the skill in a certain way? For this, children need to be able to comprehend. **Characterising Learners:** Working Towards: making a lot of mistakes, require a lot of teacher directed questions to develop their conceptual understanding. At National: Meeting the minimum expectation for each lesson. Above: These learners should access planned opportunities to dig deeper.
How do we cater for all pupils?	**Differentiate the learning environment** For learners working towards: • Create a safe environment where children can make mistakes; • Create choice – accept their method even if it is not the best – do not shut them down. These methods can be refined later. • Allow them time to process. For learners working at greater depth: • Make the environment less safe through questioning: "Are you sure?" "Is that always true?" "My friend disagrees, prove it." • Challenge their thinking. **Support for learners 'working towards'** These pupils will not be in a position to complete the final task on their own. • Give adult support through the independent task, so that it becomes a further Guided Practice. • Provide additional scaffold through questioning or resources. • Break the task down for them into smaller steps. • Model how to respond when we don't understand something.

	Digging Deeper: Catering for all pupils, including those working at Greater Depth Challenge should be present throughout each aspect of the lesson, **_not seen as something which comes at the <u>end</u> of the sequence._** Challenge may be present through the task itself, how the teacher asks for the task to be completed, or by supplementary questioning Additionally, opportunities to dig deeper within the learning objective should be provided wherever relevant. These should be open to all, but only once a pupil has demonstrated a sound understanding of the essential teaching point.
Homework	<u>Homework</u> There is the option for pupils to access Purple Mash from home to further develop their skills. We set half-termly homework which is project-based, where pupils have the opportunity to practise skills taught in that half term.