God's Love in Action

Our children are at the heart of everything we do through **Christian values and relationships**. **Living and learning together** we celebrate the uniqueness and diversity of everyone in our family. We nurture a sense of **self belief, mutual respect and belonging** through Social Emotional Learning and academic excellence. We are dedicated to building the foundations for **happy and successful life-long learning**.

Computing

Implementation

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1. Curriculum and Progression

As a school, we follow a tailor-made computing scheme of work called Kapow, that inspires and challenges our children's pre-existing knowledge and skills. Using an extensive range of computer hardware, (ICT suite containing thirty computers, class-based laptops and access to tablets, cameras, and programmable robots) our children will be able to transfer skills built up to take out of school and into further education and life.

To support with the delivery of a high-quality curriculum, all staff will receive CPD to ensure that the quality of learning is of a high standard. Our children to receive high quality lessons and learning that will increase on their skills and knowledge week by week, term by term, year by year.

Therefore, the Kapow Primary scheme of work is designed with three strands which run throughout:

- Computer science
- Information technology
- Digital literacy

Our Progression of skills shows the skills that are taught within each year group and how these skills develop year on year to ensure attainment targets are securely met by the end of each key stage.

The Kapow Primary scheme is organised into five key areas, creating a cyclical route through which pupils can develop their computing knowledge and skills by revisiting and building on previous learning:

- Computer systems and networks
- Programming
- Creating media
- Data handling
- Online safety

The implementation of Kapow Primary Computing ensures a broad and balanced coverage of the National curriculum requirements, and our 'Skills showcase' units provide pupils with the opportunity to learn and apply transferable skills. Where meaningful, units have been created to link to other subjects such as science, art, and music to enable the development of further transferable skills and genuine cross- curricular learning.

Kapow has ordered it units to allow children to learn new knowledge while cementing existing knowledge.

This can be shown in this example:

Programming

EYFS: 1) Following instructions 2) Programming bee bots

Year 1: 1) Algorithms unplugged 2) Bee-bots

Year 2: Algorithms and debugging 2) ScratchJr

Year 3: 1) Scratch

Year 4: 1) Further coding with scratch 2) Computational thinking

Year 5: 1) Music 2) Micro:bit

Year 6: 1) Intro in Phyton

Programming (or instructions) is a curriculum link that runs from EYFS up to Year 6. In each year group, this is presented in different ways all with the long-term goal of children be able to program and debug large amounts of code.

It is first introduced in EYFS, where children are taught on how to give and follow simple instructions. Using instructions in practical situations, like dressing up and washing hands, children learn to not only follow instructions but to start to "debug" them and identify what is potential wrong and how to change/fix it. In their second unit, they are introduced to the word algorithm and using a Bee-bot, children are learning how to control and move it using simple sequences of instructions programmed into the Bee-bot directly.

When children move into Key Stage 1, especially Year 1, the skills learnt previously are built upon with more complex instructions being programmed into the Bee-bots to tell travel of maps and to tell stories. In Year 2, children are introduced to the Scratch website. Scratch is a free to use coding website used worldwide and allows children a gateway into the world of coding. Using interlocking blocks, children can instruct their character or sprite, to move and interact with an abundance to different elements. Children are taught to look for errors in these blocks, resulting in their sprites to able to perform exactly what they require.

Moving in Lower Key Stage 2, Scratch becomes more dominate in their computing lessons. In Year 3, children will create longer, more complex codes over multiple sprites and the background to create animations, stories and minigames. In Year 4, variables are introduced, allowing their sprites to interact with the user, allowing conversations based on the answers to the questions that are created. Along with this, children will start to learn why computers think in the way that they do. Using computational thinking, children will start to learn how to problem solve computer hardware, software and system problems, allowing them to become even more independent while using their computer system.

In Upper Key Stage 2, children will use their skills in new, exciting ways. In Year 5, children will use their coding experience and apply this knowledge to new software and hardware. Children will start the year with learning how to create music on either Scratch or the Sonic Pi software. Using their skills, children will enter code bring their sprites alive and play music in a range of situations. Later in the year, they will code Micro:bits. Micro:bits are small but powerful mini computers, easily programmed on computers will code being sent over. Tasks from making a name badge to making score boards all use previous knowledge applied into new hardware.

In Year 6, the children make the final jump from blocks to actual written code. Children are introduced to the world of Phyton. Python is a high-level, general-purpose programming language that replaces the blocks the children have become accustomed to. Using all the skills they are learnt over the years, children learn how to program different tasks, from shape making and looping of codes. Phyton will challenge all the children to use and truly understand everything that they have learnt over the previous years.

2. Lesson Structure

Computing lessons begin with a **Do Now** activity. These short burst recaps help children to recall prior learning, and make connections with the required substantive knowledge for that lesson. Do Nows could be verbal, or use computing tools such as Microsoft Forms. The **Learning Objective** and **New Vocabulary** are also shared with the children.

Next, the adult will use high quality instruction and modelling to teach the lesson's new learning. Walkthrus teaching strategies, such as **Live Modelling, Modelling Handover (I do, We do, You do)** or **Worked Examples and Backwards Fading** allow pupils opportunity to tackle misconceptions and

practice the skills necessary to achieve the learning objective. At a key moment in the lesson, teachers will use a **Check for Understanding** to quickly decide whether pupils are ready to move on. This could be a **Hinge Question, Show Me Boards, Cold Calling** or other related Walkthrus strategies.

Finally, children are given a chance to apply their learning in an **Independent** or **Group Activity.** The majority of these tasks will be using a range of digital equipment such as desktop computers, laptops, cameras, BeeBots or tablets. The teacher will use this to assess whether the pupils.

When appropriate, the teacher will finish the lesson by recapping the learning and addressing any misconceptions that have arisen. This could be in the form of **Whole Class Feedback, Feedback that Moves Forward,** or **Feedback as Actions.**

3. Practice and Retrieval

The use of Medium-Term and Short-Term planning support teachers in sequencing learning and planning for progression. Units have been mapped out in a way that supports learning and develop long-term memory by allowing for repetition of learning within the year and across the years.

Additionally, every lesson starts with a Do Now to activate prior learning and help the children remember things that they have learnt before. This is an informal assessment method with questions based around the previous lessons work. This could include multiple choice questions, hinge questions or any other assessment method that the teacher decides to use.

Constant questioning throughout the lesson is also used to make sure children are engaged in the learning process and are following and most importantly, understanding the lesson.

Evidence of work is collected throughout the year. Work is saved and evidenced in multiple ways with work being saved on Microsoft Teams, allowing this to be accessed at any time.

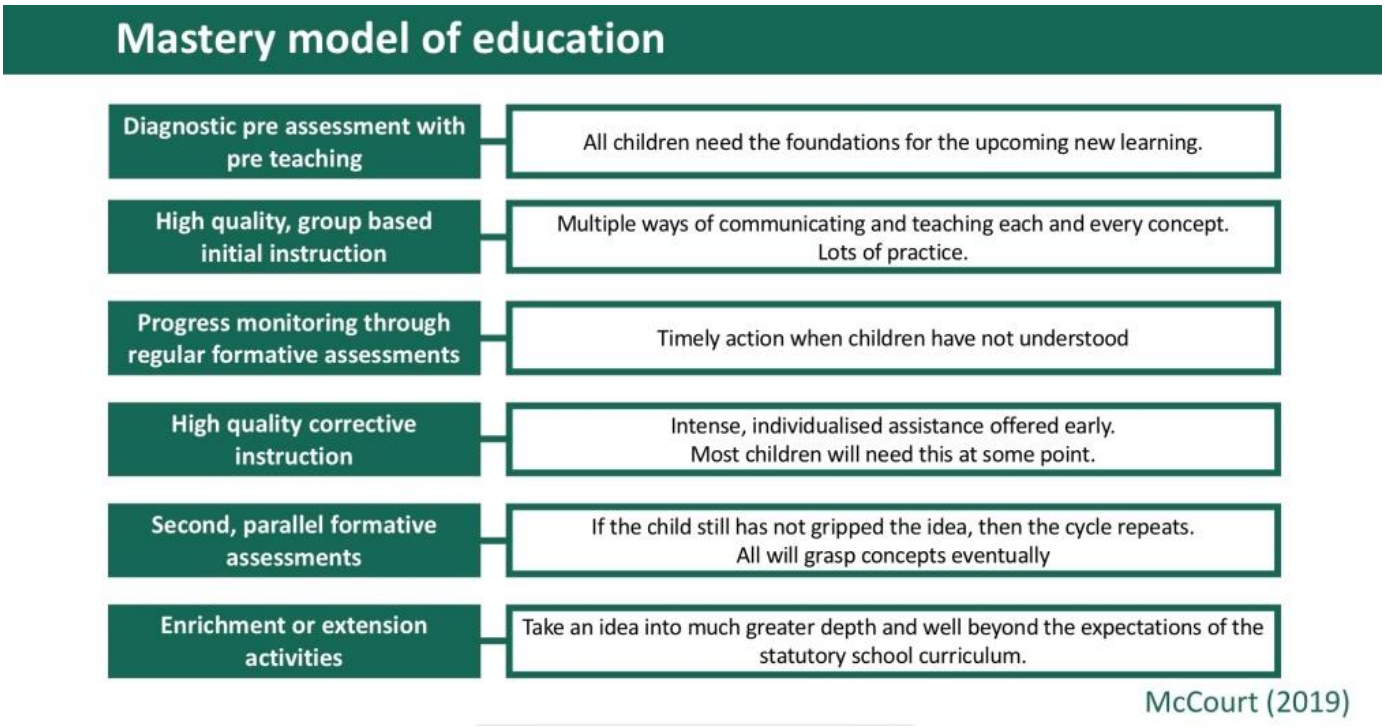
At the end of each unit, Kapow offer end of unit assessments. Each unit of work includes a quiz including a range of questions all based around the unit of work and some prior knowledge the children should have from previous years. These tests, once again, are used to check the understanding of the children of the work they have completed along with the work that has been evidenced throughout the unit.

4. Assessment

Assessment is an integral part of teaching, as it determines whether the goals of education are being met. However, we recognise that assessment goes far beyond tracking spreadsheets and termly knowledge tests. At its core, assessment should lead children to learn more effectively.

Assessments serve the students by letting them know what errors they made and how they could correct those errors. It also helps students to reinforce the content better in the event they don't remember it very well. Assessments also helps teachers better understand what worked and what didn't in their classes. For example, if the average score in a mini-quiz was lower than expected after the test, then the teacher knows that something didn't click with the students. In such a scenario, it helps the teacher change the way the content was earlier taught and use other ways to teach the same content moving forward.

Assessment at St John's and St Peter's CE Academy is guided by two key pieces of research: McCourt's (2019) **'Mastery Model of Education,'** and Fletcher-Wood's (2018) model of **'Responsive Teaching.'**



Fletcher-Wood (2018) outlines a model of **'Responsive Teaching'** with three clear principles:

1. **Setting clear goals and planning learning carefully.**
2. **Identifying what children have understood and mis-understood.**
3. **Responding and adapting teaching to support children to improve.**

Our assessment process is designed to align with these three principles and give teachers the opportunity to respond and adapt teaching to support children to improve.

Before the Unit begins

High Quality Planning
Long-term and Medium-term planning provided by the Subject Lead ensures that lessons are designed to build on prior learning.

Knowledge Organisers
Providing students with accessible guidance about knowledge that they can study on their own; a secure scheme to aid recall. KOs are shared with parents on Class Dojo.

During each lesson

Do Now
Each lesson begins with a low-stakes, low threat recap that help children to recall prior learning and make connections with the required substantive knowledge for that lesson.

Check for Understanding
After the learning input, adults will use key strategies such as Hinge Questions, Show Me Boards or Cold Calling to check for understanding. This allows teachers to assess whether the majority of pupils are ready to move to the Independent Activity.

Feedback
Teachers finish the lesson with a recap of learning and addressing misconceptions that have arisen. This could be Whole Class Feedback, Feedback that Moves Forward, or Feedback as Actions.

During or at the end of the Unit

Unit Check-Ins
Low stakes, low threat check-ins designed to assess the progress of the pupils mid-way through the unit. This could be in the form of questioning, quizzing, or other formative assessment methods.

Quizzing
A simple routine knowledge quiz that checks students have learned the material that you want them to know. These could take place during a unit, or at the end. Quizzing provides information to student and teacher about where gaps exist.

Double-Page Spreads
An open response task for pupils to showcase what they have learned. The precise form of this response is not critical, but it may include pictures and labels, key vocabulary, descriptions, or verbal presentations.

"End Product" Evaluations
This could be a performance in music or a purposeful "product" in D&T. Students and teachers can reflect on the process of creating these end products and evaluate whether they have been successful.

Teachers have autonomy to choose the most appropriate form of assessment to use during, or at the end of the unit. Although some assessment strategies lend themselves to different subjects, there is no requirement to perform a specific one at a specific time.

Evidence of work in Computing is collected throughout the year. Work is saved and evidenced in multiple ways with work being saved on Microsoft Teams, allowing this to be accessed at any time.

5. Supporting pupils with SEND

At St John's and St Peter's CE Academy, we aim for all Computing lessons to be accessible for all pupils. We recognise that high-quality teaching is what is best for all pupils, including those with SEND or other additional needs. Our consistent approach to teaching is underpinned by Walkthrus instructional coaching, equipping teachers with a toolkit of research-based strategies that have been proven to work in the classroom.

Where pupils may have additional needs that could prevent them from engaging with the content of a lesson, the class team will make adaptations to ensure that each child can access the learning. Some pupils may require extra time or support in the classroom, while others may require pre-teaching of specific vocabulary or concepts.

The inclusivity of computing means that all children, regardless of their needs, have the opportunity to excel and thrive in their work. Computing doesn't rely on reading or writing like many of the subjects at school, which means that SEND pupils who struggle with this often achieve more success than core subjects.

As part of termly Pupil Progress meetings, the Lead Practitioner and SENDCo meet with the class teacher to identify any barriers to learning that may be hindering progress, liaising with the Pastoral Care Manager to build up a holistic view of all pupils. Staff are confident to raise any concerns they have about specific pupils, and regularly seek guidance for additional strategies or advice.

6. Computing in EYFS

Although our Reception class do not specifically have Computing lessons, we begin to expose the children to the skills necessary for success in Computing.

ELG 2: Managing Self

- **Be confident to try new activities and show independence, resilience and perseverance in the face of a challenge.**
- **Explain the reason for rules, know right from wrong and try to behave accordingly.**

How is this achieved in EYFS:

- Experimenting with new technology in the Roleplay area, such as the phone, computer or tablet.
- Playing and exploring, investigating new things, and persevering when things get hard. Teaching the children how to overcome adversity through adult modelling.
- PSHE links to e-safety and staying safe.
- Active learning, independence and cooperation.

ELG 16: Creating with Materials

- **Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.**

How is this achieved in EYFS:

- Investigating and experiencing things, having a go with new materials.
- Playing with technology in the Roleplay area.
- Creating and thinking critically, encouraging children to have their own ideas.

7. Supporting classroom teachers

Changing staff attitudes towards ICT

With the technology changing at an ever-growing rate, we are expecting children to learn increasingly harder ICT skills earlier then ever before. However, we are also expecting our adults to be able to keep up with ongoing changes to make sure that these skills can be passed on successfully. Currently, some adults have a negative view of Computing, thinking that the children know more than they do already. A positive change of attitudes and ethos towards the computing will hopefully increase our staff's knowledge and attitudes towards these lessons, once again allowing our children to receive a better learning opportunity.

Increase in CPD

The implementation of a site-specific Computing lead means that staff now have a direct person that they can contact about any computing (curriculum and hardware) problems. Alongside the lead, St Johns have access to Savvy ICT. Savvy ICT are an outside agency brought in to manage, maintain and upgrade the ICT system that we use at St John's and St Peter's.

The computing lead also runs CPD for all staff across the school. This was held to show the overview of the new curriculum and address any issues that arose during this initial embedding of the new curriculum, software and hardware.

At St John's and St Peter's, we use the National Curriculum and its targets for Key Stage 1 and Key Stage 2 to guide our Computing Curriculum. With a clear progression of built on skills, children will develop and secure new and existing knowledge around the ever-growing technological world.

8. Additional Information