

Computing in the OCL Primary Curriculum

Intent

The OCL Curriculum Statement of Intent has been carefully considered for each curriculum area to ensure the content designed meets this at every opportunity.

The context that our children and young people live in:

- Our children live in a world where they require the skills and qualifications, flexibility, emotional intelligence and expertise to be leaders and to thrive as human beings.
- Our children live in world where accepting themselves as individuals and celebrating who they are is key in navigating a complex and ever-changing environment.
- Our children live in a world where they need to feel a sense of ability to change things for the better and have self efficacy.
- Our children live in a world where they need a network of relationships and a network of support to thrive and excel.
- Our children live in a world where early development of vocabulary skills is the single most important factor to get right as early as possible.

We want our children and young people to:

- Be inspired to improve the world around them.
- Have the ambition, skills and expertise to thrive in a fast changing, interconnected and communication rich world, with the confidence and technical expertise to thrive.
- Have a network that supports them.
- Be comfortable in who they are and able to continuously explore who they are becoming.
- Be rich in language with a passion for learning.
- Seek to include others, be other-centred and celebrate difference.
- Have a values approach to life and a sense of what is right and wrong through the lived experience of the 9 habits.

Therefore, we focus on developing character, competence and community. The Computing curriculum specifically meets the OCL statement of intent by focussing on character, competence and community in the following areas:

	<p>Character: All children will have a positive, growth mindset towards computing and technology, understanding its importance in everyday life and within our world.</p>
	<p>Competence: Children will be able to use technology safely, efficiently and be able to learn how to use new software quickly. They will understand the core principles of coding and be able to apply these across a range of situations.</p>
	<p>Community: Children will understand how to stay safe online and apply this to their lives and within their communities. They will understand the interconnectedness of computing and logical thinking across subjects as well as understand its importance in everyday life.</p>

Implementation

To ensure our intent transfers into everyday classroom practice, we use current research in cognitive science to develop pedagogy and specific CPD to ensure subject content is expertly delivered. This is alongside individualised coaching in constantly striving to continually improve practice. Responsive feedback approaches, delivered through out highly effective one-to-one horizons approach, ensure each adult knows the relevant next steps to maximise learning opportunities.

Using research from Dan Williamson’s Models of Memory, Sweller’s Cognitive Load Theory, Rosenshine’s Principles of Instruction and the thinking behind Ebbinghaus’ Forgetting Curve, the curriculum is implemented effectively through

Coding curriculum content will be taken from www.code.org set courses which are mapped out in detail for each year group on the overview documents for each unit.

Impact

The ultimate test of the impact of the curriculum is in whether the students know what you want them to know, and what you think they should know. This has been carefully mapped against the core concepts for Computing in the tables on the following pages.

To determine this, we check and monitor children’s learning, providing teachers and students with information about progress and analysis of deliberate retrieval practice. We need to be able to fluidly use ‘checking for understanding’ techniques in the moment as well as being able to know what has been learnt and retained over time and the depth of that learning:

- We use checking for understanding techniques through **Socratic** quizzes and hinge questions to ensure we are aware of all students learning during the lesson and adapt the pace as necessary.
- Retrieval practice is built in where most impactful to interrupt the forgetting curve and secure constructs in long term memory.
- Depth of knowledge is then assessed through spaced quizzing, **end of unit assessment quizzes** and Student Portfolios in Showbie.

Computing Specific Impact Measures

In Computing quizzing is used as a method of assessing pupils understanding at the end of a core concept to analyse the extent to which knowledge has been consolidated into long-term memory. Retrieval practice tasks throughout the lessons also interrupt the forgetting curve to enable faster access to prior learning. Pop tasks at the end of the year pull together the learning for the subject under the core concept areas to consolidate learning and to prepare children to make links to the future learning in subsequent years.

In addition to this the Horizons project will give us an additional set of metrics to be able to evaluate and improve the curriculum:

- Online tracking (Safer schools app)
- Code.org (CS)
- CPOMs instances (DL)
- Usage of iPads (IT) through MS Teams and Showbie Analytics

Progression Points against the Core Concepts

Core Concepts	Progression Point 1 (KS1)	Progression Point 2 (LKS2)	Progression Point 3 (UKS2)
Digital Literacy (eSafety)	<ul style="list-style-type: none"> ▪ use technology safely and respectfully, keeping personal information private; ▪ identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies. ▪ Understand online risks and the age rules for sites. 	<ul style="list-style-type: none"> ▪ Contribute to blogs that are moderated by teachers. ▪ Give examples of the risks posed by online communications. ▪ Understand the term ‘copyright’. ▪ Understand that comments made online that are hurtful or offensive are the same as bullying. ▪ Understand how online services work. 	<ul style="list-style-type: none"> ▪ Collaborate with others online on sites approved and moderated by teachers. ▪ Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems. ▪ Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder. ▪ Understand the effect of online comments and show responsibility and sensitivity when online. ▪ Understand how simple networks are set up and used.
Information Technology (using technology)	<ul style="list-style-type: none"> ▪ Use a range of applications and devices in order to communicate ideas, work and messages. ▪ Use simple databases to record information in areas across the curriculum. 	<ul style="list-style-type: none"> ▪ Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally. ▪ Devise and construct databases using applications designed for this purpose in areas across the curriculum. 	<ul style="list-style-type: none"> ▪ Choose the most suitable applications and devices for the purposes of communication. ▪ Use many of the advanced features in order to create high quality, professional or efficient communications. ▪ Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.

Computing	Motion	<ul style="list-style-type: none"> Control motion by specifying the number of steps to travel, direction and turn. 	<ul style="list-style-type: none"> Use specified screen coordinates to control movement. 	<ul style="list-style-type: none"> Set IF conditions for movements. Specify types of rotation giving the number of degrees.
	Looks	<ul style="list-style-type: none"> Add text strings, show and hide objects and change the features of an object. 	<ul style="list-style-type: none"> Set the appearance of objects and create sequences of changes. 	<ul style="list-style-type: none"> Change the position of objects between screen layers (send to back, bring to front).
	Sound	<ul style="list-style-type: none"> Select sounds and control when they are heard, their duration and volume. 	<ul style="list-style-type: none"> Create and edit sounds. Control when they are heard, their volume, duration and rests. 	<ul style="list-style-type: none"> Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
	Draw	<ul style="list-style-type: none"> Control when drawings appear and set the pen colour, size and shape. 	<ul style="list-style-type: none"> Control the shade of pens. 	<ul style="list-style-type: none"> Combine the use of pens with movement to create interesting effects.
	Events	<ul style="list-style-type: none"> Specify user inputs (such as clicks) to control events. 	<ul style="list-style-type: none"> Specify conditions to trigger events. 	<ul style="list-style-type: none"> Set events to control other events by 'broadcasting' information as a trigger.
	Control	<ul style="list-style-type: none"> Specify the nature of events (such as a single event or a loop). 	<ul style="list-style-type: none"> Use IF THEN conditions to control events or objects. 	<ul style="list-style-type: none"> Use IF THEN ELSE conditions to control events or objects.
	Sensing	<ul style="list-style-type: none"> Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?). 	<ul style="list-style-type: none"> Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions). 	<ul style="list-style-type: none"> Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
	Variables and lists		<ul style="list-style-type: none"> Use variables to store a value. Use the functions define, set, change, show and hide to control the variables. 	<ul style="list-style-type: none"> Use lists to create a set of variables.
	Operators		<ul style="list-style-type: none"> Use the Reporter operators to perform calculations. 	<ul style="list-style-type: none"> Use the Boolean operators to define conditions. Use the Reporter operators to perform calculations.