

Intent

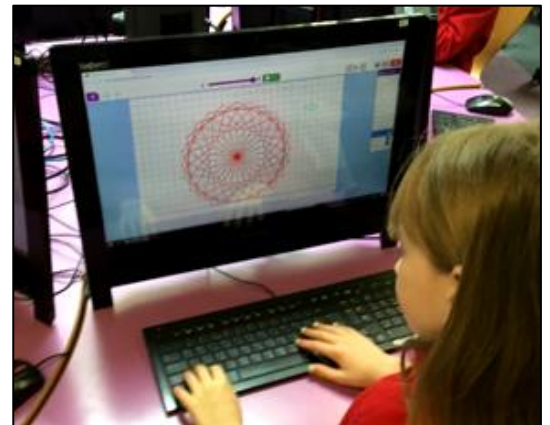
Computing supports our school vision of inspiring *life in all its fullness* through its contribution to our provision of the widest possible breadth of curriculum, equipping our children to use computational thinking and creativity to further understand and contribute to the wider world. We believe that computing, and computational thinking, are an integral part of all learning.

Our intent and aims for computing are that all children will be able to develop a range of skills, knowledge and understanding that will equip them for the rest of their lives. We are aware that each child's starting point is very different, so our computing curriculum is designed with high expectations and to develop skills sequentially in all of our children, drawing on and extending their prior knowledge in the subject. Our breadth of provision is also designed to allow children to discover and develop new talents in the area and to make links with other areas of learning. We offer a range of enrichment activities, both within our school setting and outside the classroom.

With computer science at the heart of our computing curriculum, we aim to teach children the principles of information and computation, how a range of digital systems work and operate, and how to put this knowledge into practice through programming, as stated in the National Curriculum. Our children will be able to use technology efficiently and access the online world safely, respectfully and responsibly – skills that are compatible with other aspects of their lives and learning. The skills learnt in computing are transferable to a range of different subjects, as well as later in life for the future workplace. Our aim is that our children will become digitally literate contributors and active participants in a digital world.

Implementation

- Taught by class teachers, with support from part-time specialist teacher.
- Class teachers are given ongoing support and CPD from the Computing subject leader and specialist teacher.
- Ongoing assessment by class teachers, with end of year assessments against key statements reported to parents in annual reports.
- Enrichment in the subject is offered through yearly trips to the City Learning Centre in Camden, coding workshops, and the offer of after school clubs.
- Computing, and Information Technology in particular, is often linked to other areas of the curriculum – publishing work on the computer, graphs created in different programs, researching information for different topics.
- School has a good supply of computing resources for different needs and is able to borrow equipment from the CLC if needed. Wifi throughout the school allows children to use the class sets of Chromebooks and/or iPads throughout the school building. Licences and subscriptions are purchased for various programs, websites and organisations to help facilitate learning and the use of technology, e.g. RodoCodo.
- Our progression in the teaching of coding skills is guided by our use of the Rodocodo children's coding program. The development of coding skills in Years 1 -6 begins with lessons focused on the appropriate levels and coding elements taught within Rodocodo.
- Children are expected to transfer the skills learnt in Rodocodo to other software and platforms, including those using different coding formats or languages. Teachers introduce a range of programs and platforms where children can practise and consolidate their coding learning (e.g. J2code, Scratch, Unplugged activities), including by transferring their coding knowledge to specific tasks (e.g. creating a maths game, animating a fairy tale). This is linked to our termly lessons expectations as set out in the *Coding Overview* document.
- Within a range of information technology activities across the curriculum, all children are given the opportunity to develop the specific skills as set out in our skills progression. Children may have varying access to and experience of technology outside school and some children may need specific or additional teaching or support to build confidence in these key skills.



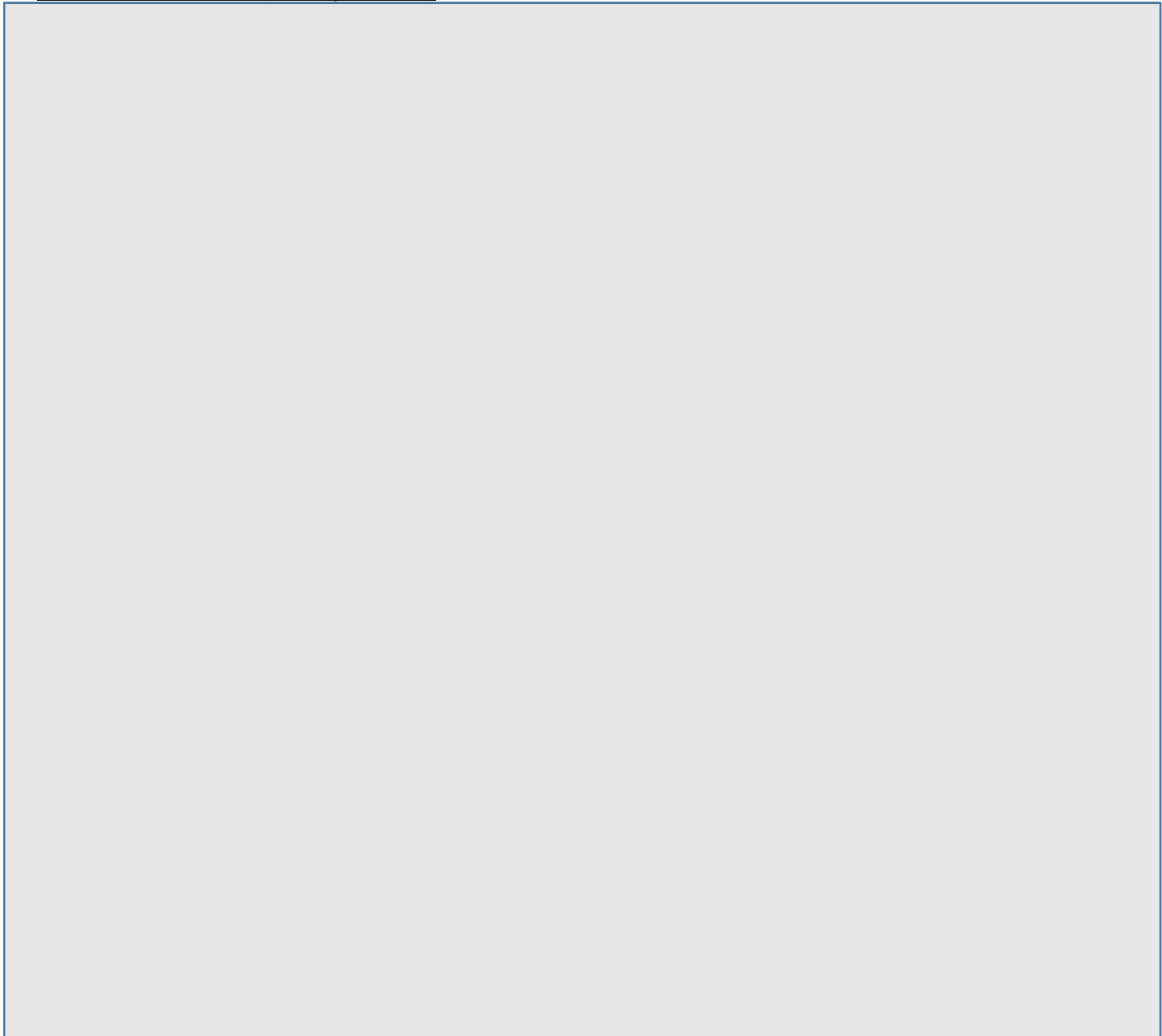
- Teachers give ongoing, age-appropriate reminders about safe and responsible use of technology before and during all computing and online activities.
- Each year, teaching about online safety and digital citizenship, as set out in our skills progression document, is also taught in all classes in a specific whole-school theme day or week. There are also regular reminders before and during computing lessons, or whenever children are using technology.



Impact

- Children enjoy taking part in computing lessons.
 - All children develop their skills using a range of programs and devices. These skills are built cumulatively over children's time at Christ Church and build upon previous learning in a planned sequence.
 - Children have a very good knowledge of coding and are able to transfer this to different platforms (e.g. Scratch, RodoCodo, J2Code, PurpleMash) and to other curriculum areas, (e.g. problem solving to create a night light using crumble coding in DT)
 - Children have the opportunity to use computers and technology across the curriculum and produce digital work of a high standard.
- Children use relevant computing vocabulary and can discuss the meaning of these words

Whole school standards (three-year trend)



Our approach to assessment in Computing

Ongoing Assessment:

Within a lesson, teachers assess children's needs and successes and are able to adapt the level at which they model and provide support to the class. Children who are identified as needing additional support can receive this within lessons from teachers and additional adults. Each lesson comes with supplied plans that have objectives and assessment opportunities that teachers can use. Children who are exceeding in the subject will receive less teacher modelling, and be encouraged to work through tasks more independently. They may also be directed to other websites, such as *hourofcode*,



where they can apply learning in different contexts. Rodocodo also provides more advanced levels, allowing children to master the skills they are building on.

Summative Assessment:

At the end of a unit of work, teachers use summative assessment against key learning points (found within planning) and skills statements found in both our *Skills Progression* document and our end of year reports. Summative assessments are reported to parents in end of year reports

Adaptive teaching case studies

Most pupils with SEND or additional individual needs can fully access our Computing curriculum without specific adaptations to teaching. These are two case studies where small but specific adaptations have supported pupil progress.

- Pupil on SEN register with communication and interaction needs is very able in computing and computer science in particular. This child struggles at times with working with peers or in groups, so was frequently paired with another child who is very confident with coding. They needed to work collaboratively to solve more complex problems, progressing both this child's skills in computer science and their wider social/communication skills.
- Pupil on SEN register with cognition and learning difficulties often struggles with processing larger pieces of information. Steps were outlined more clearly and in manageable chunks for this child. This allowed them to work with some independence, and adults were able to assess for understanding more often.

Ofsted curriculum research review – summary and response/reflection

The Ofsted curriculum research review for Computing (May 2022) reviewed a wide range of relevant educational research into both primary and secondary science teaching and identifies factors which may contribute to high-quality science education. The Christ Church reflection on and response to the curriculum review is summarised in our Autumn 2022 curriculum leader report.

Last year's key developments and successes in 2022/2023:

1. Refine teaching of coding by following updated *Coding Overview* document and continuing to improve staff confidence in light of research in recent Ofsted review.

All children to have experience of coding using a range of programs/platforms over the academic year.

22/23 Target achieved – to be continued and embedded in 23/24: New teach coding curriculum delivered in summer term – all teachers were able to do this using the resources given. Children were able to link to prior learning and showed progress.

2. Refine assessment of coding to ensure there is consistency across the school.

Effective and consistent summative and formative assessment tools for staff to use to assess against key learning.

22/23 target achieved and to be embedded in 23/24: teachers assessing via teach coding or rodocodo – in rodocodo teachers can look at scores and times/attempts, teach coding offers suggestion for assessing throughout lessons. Teachers also thinking about report statements and whether children have achieved these or not throughout the year.



3. Continue building on Computing enrichment with visits to the CLC, other workshops and after school clubs.

All children to receive enrichment opportunities to build on computing skills and enjoyment in the subject.

22/23 target achieved: most classes went to CLC to take part in coding sessions. We did not provide code club or tech/typing club as this did not come out highly on the pupil clubs survey. We will ask again (through school council) if these types of clubs are of interest in 23/24. Instead, all children from Y1-Y4 took part in a Bupa coding day where they worked in groups to problem solve and code to create a healthy lunch bot.



4. Audit of technology in the school.

Technology in school is fit for purpose, up-to-date and well used for computing and across the curriculum.

22/23 target partially achieved and will need to be worked on in 23/24: Subscriptions have been looked at and refined. Still need to work with office staff to audit equipment and other resources, and check if they need to be updated.

Key targets and actions moving forward (development priorities for 2023/24):

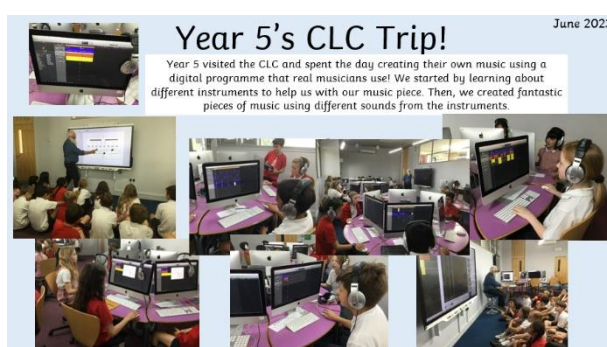
Target and intended outcome	Planned actions (including dates where applicable)
<p>1. Continue refinement and embedding of curriculum. <i>Intended outcome: Curriculum is consistently and progressively taught ensuring all pupils learn and remember more of the planned curriculum</i></p>	<p>Introduce new project in Spring Term, to allow children to create digital media, focusing on their IT skills. Continue to offer support to staff, especially new staff, to ensure all aspects of computing are being covered. Pilot program for small number of most able children.</p>
<p>2. Vocabulary refinement and embedding for all children. <i>Intended outcome: Vocabulary is consistently and progressively taught ensuring all pupils learn and remember more of the key vocabulary</i></p>	<p>Ensuring all children understand key vocabulary. Vocabulary posters (accessible to all pupils) to be displayed and referred to in all classrooms. New key vocabulary to be displayed on boards.</p>
<p>3. Address gap between percentage of children achieving expected standard or more, and those not – with particular focus on girls/boys and SEN pupils: - ensure computing provision includes activities and visits to inspire both boys and girls - discuss data with teaching staff and ensure secure understanding of assessment criteria - ensure all children, regardless of additional need, are able to access curriculum and progress <i>Intended outcome: All children make good progress in Computing. Attainment gaps in Boys/Girls and SEND/non-SEND begin to close. Staff confidence and competence is strong.</i></p>	<p>Staff meeting to share data from previous year and CPD on assessment in general, including importance and role of formative assessment and summative assessment criteria, with review of these end of year summative assessment statements where appropriate. Consider discussion of, or even visits with, women in tech/coding to inspire girls. Consider children with individual needs and what resources they may need to access computing curriculum. Discuss assessment data at computing leads network meeting to see what other suggestions can be made to bridge gaps between boys/girls and SEND/non-SEND.</p>
<p>4. Audit of technology and computing resources in the school. <i>Intended outcome: Technology and resources in school are fit for purpose, up-to-date and well used for computing and across the curriculum.</i></p>	<p>Assessment of devices to see if any need updating – possible fundraising. Working with specialist teacher and office staff to audit all devices in the school. Discussion at computing leads network to see if there are any new resources we should consider investing in.</p>

City Learning Centre trips and other enrichment



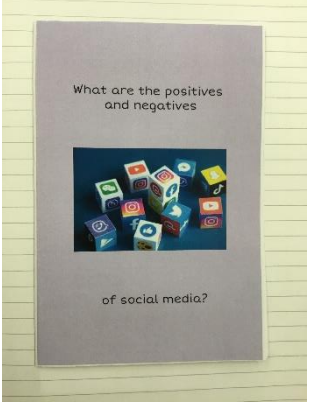
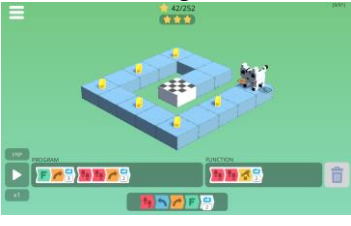
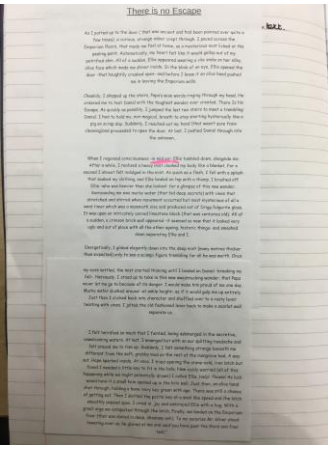
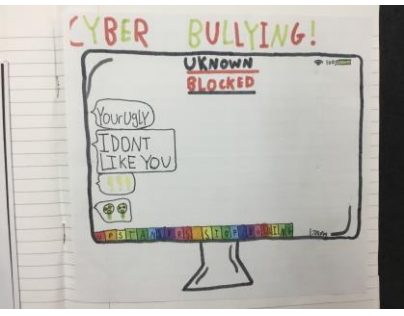

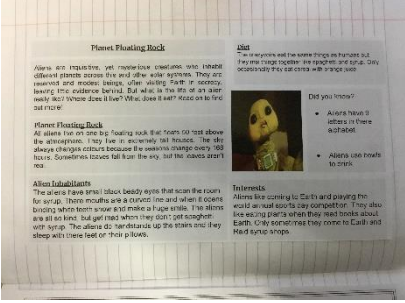
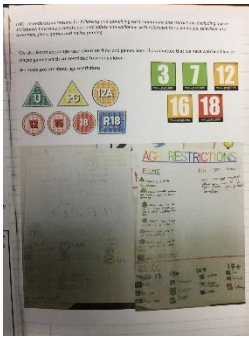

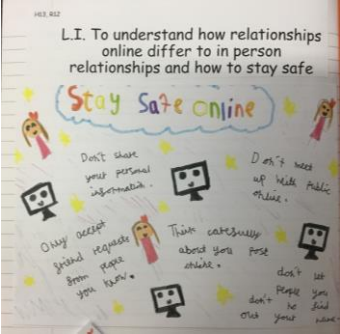
Reception using technology: <https://christchurchschool.co.uk/wp-content/uploads/2023/06/Reception-trip-to-the-CLC-June-2023.pdf>




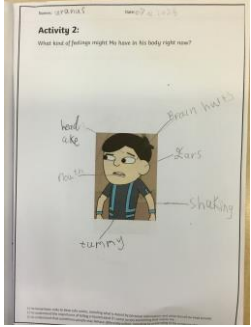

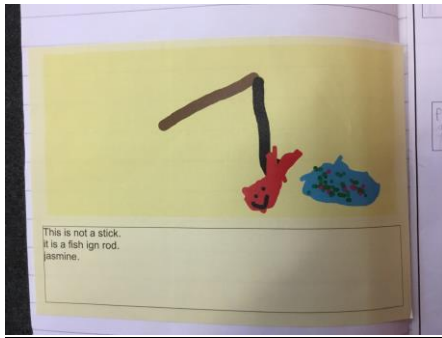





Year 2 Blue bots and Information Technology: <https://christchurchschool.co.uk/wp-content/uploads/2023/05/Y2-computing-trip-to-the-CLC-May-2023.pdf>

Year 4 Logo coding and MicroBits: <https://christchurchschool.co.uk/wp-content/uploads/2023/06/Y4-coding-trip-June-2023.pdf>



Work sampling across three strands of Computing

	Computer Science - RodoCodo Progression (one platform used for our coding progression)	Information Technology	Online Safety and Digital Literacy
<p>Year 6</p>	<p>Year 6 – Loops – repeat until</p> 		
<p>Year 5</p>	<p>Year 5 – debugging – horrible bugs</p> 		
<p>Year 4</p>	<p>Year 4 – debugging – horrible bugs</p> 		
<p>Year 3</p>	<p>Year 3 – loops – spotting patterns</p> 		

<p>Year 2</p>	<p>Year 2 – fixing bugs</p> 		 
<p>Year 1</p>	<p>Year 1 - sequences</p> 		
<p>Reception</p>	<p>BeeBots – Directions</p> 	 	



Year 6 stop motion animation
 – using ipads in science to model the circulatory system.

Pupil voice

Pupil voice discussions in the last year have demonstrated that:

Children could talk about what they had been learning in coding recently and clarify skills they had learnt with confidence. They could also use computing-specific vocabulary:

Y1: We have been doing sequencing and algorithms

Y2: We have been doing debugging / We have been using loops

Y3: We have been learning about functions

Y4: We have been doing horrible bugs

Y5: We have been debugging, learning about functions and loops

Y6: We have been doing loops and functions

Children could explain the importance of learning about coding, using specific terminology, thinking about future uses:

Y1: sequence is important

Y3: It's important to know about these things (algorithms)

Y4: useful for future jobs / it can inspire you to make your own coding games

Y5: we have some people in my class who want to be coders. Some children do lots of coding at home too.

We learn about functions and loops to be more efficient at coding

Y6: If you do coding in primary school you'll know about it for secondary school and achieve better in the subject

Children could talk about cross-curricular computing:

Can you tell me when you have used computing in other subjects?

Y2: for my presentation / learning maths on busythings

Y4: to write because I broke my arm

Y5: science websites

Y6: research / book creator about an artist for the CAP project.

What makes our curriculum provision for Computing exceptional and beyond the expected?

- ❖ Computing enrichment opportunities at the CLC, or in class by specialists.
- ❖ Use of coding skills in other curriculum areas – e.g. Y6 crumble coding for DT
- ❖ The skilled support and training provided by our specialist computing teacher is beyond the expected
- ❖ Student confidence using devices appropriately and safely is exceptional
- ❖ Children can confidently discuss how what they have learnt in the past is able to help them now, with different programs

Key points for discussion with governors about this report

- *Sharing Skills Progression and Coding Overview* – reviewing with governors how this all fits together and builds year on year
- Enrichment including resources from different organisations
- Importance of online safety work – within computing and across curriculum, as well as school day/routines
- Three strands – Coding (computer science), Information Technology, and Digital Literacy/Online Safety (Digital Citizenship)