

### 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 by the Computing subject leader and specialist teacher, who have also provided CPD to class teachers.
- 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 after school clubs such as Code Club and Tech Club, and yearly trips to the City Learning Centre in Camden.
- Computing, and Digital Literacy 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 have been purchased for various programs, websites and organisations to help facilitate learning and the use of technology, e.g. RodoCodo, PurpleMash.
- 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 select and introduce a range of programs and platforms where children can practise and consolidate their coding learning (e.g. J2code, Scratch, Purple Mash coding, 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 digital literacy activities across the curriculum, all children are given the opportunity to develop the specific IT 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.

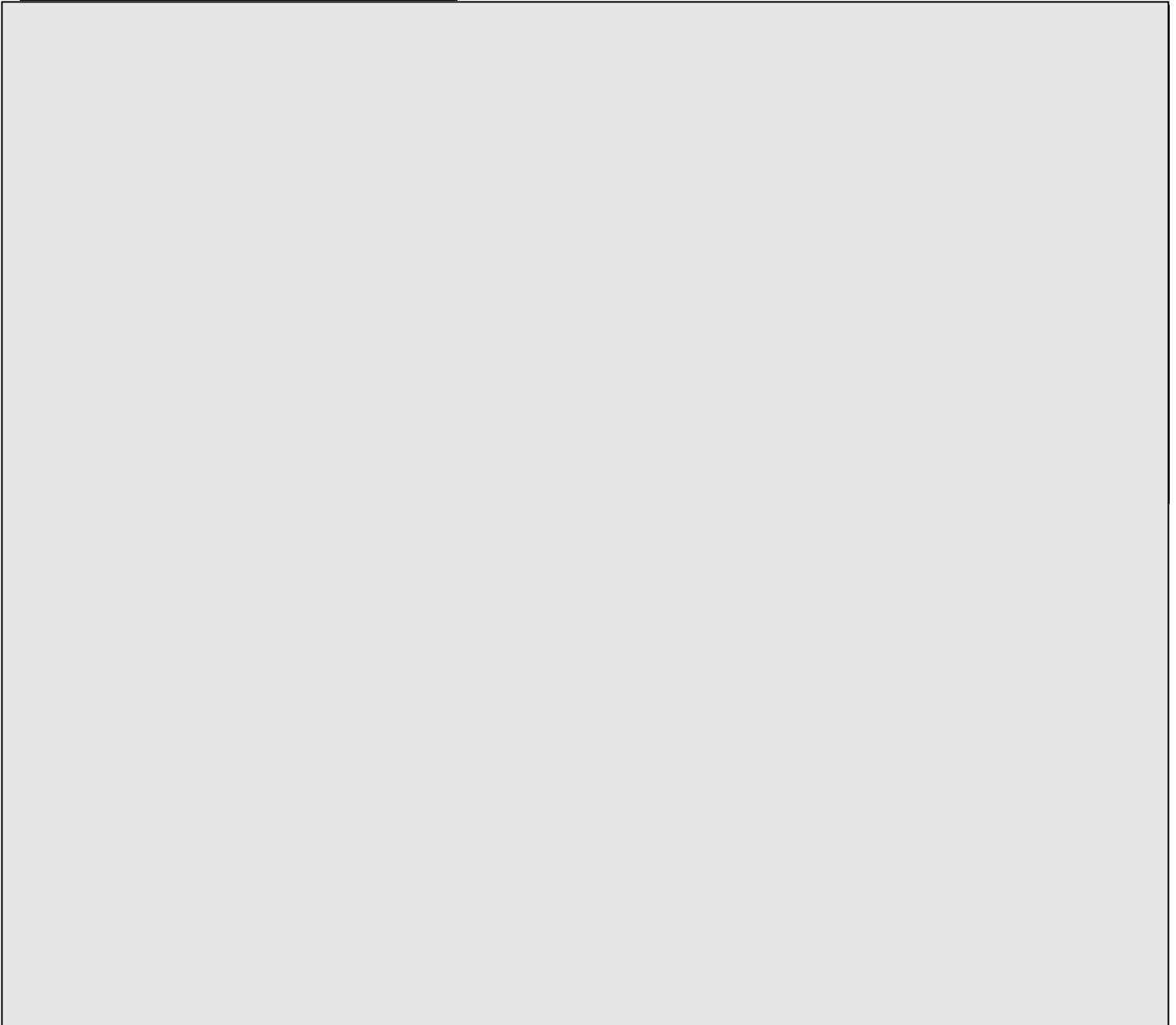


- Each year, teaching about online safety and digital citizenship, as set out in our skills progression document, is also taught in all classes in a specific whole-school theme day or week. These are also given in regular reminders before and during computing lessons, or whenever children are using technology.

### 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)



### Last year's key developments and successes in 2020/21:

- New termly coding expectations set out with planning and lessons stipulated to teachers (as seen in *Coding Overview* document). (21/22 target achieved – to be refined further in 22/23 in light of latest research)
- Continued annual visits to CLC (Spring term) and started a coding club for KS2 children as enrichment in the subject (21/22 target achieved – enrichment has exceeded pre-covid levels)

- Training for class teachers in Scratch to continue building staff confidence in teaching coding (21/22 target achieved)
- Annual Digital Citizenship/Online Safety day (additional successful development – back to pre-covid levels and links to PSHE curriculum)  
<https://christchurchschool.co.uk/wp-content/uploads/2022/03/Digital-citizenship-leaflet-2022.pdf>

**Online Safety and Digital Citizenship** February 2022

This term, we all learnt about how to use technology and the internet safely and responsibly.

Most classes thought about who we can go to for help if something online makes us feel worried, scared, unsure or upset.

KS1 read Digiduck's Magic Castle. In the story, Digiduck and his friends were playing online when some pop-ups came onto the screen. We learnt that when this happens it is important to ask for help.

Year 1 made posters to remind us not to share photos of other people without their permission.

Reception, Year 1 and Year 2 thought about the importance of not sharing personal information with others online. Year 1 and 2 decided which information should be kept private, and Reception created avatars and usernames that they could share instead.

Year 5 and 6 used CyberPass to think about how best to navigate the online world safely.

Children in KS2 took part in workshops run by BigFoot and the CLC. They explored themes around keeping your personal information private, cyber safety, cyber bullying.

Year 3 and 4 used Captain Kara or Play, Lie, Share to learn about being safe online.

ASK ME HOW I CAN STAY SAFE ONLINE. I'm a Digital Citizen. Christ Church Primary School Inspiring life in all its fullness.

CLICK CEOP Internet Safety

Safer Internet Day 2022

THINK KNOW

SMART

PLAY - LIE - SHARE

**Online Safety and Digital Citizenship**

February 2022

**Christ Church School**

ONLINE SECURITY

PERSONAL INFORMATION

PASSWORDS

PROTECTION

DATA

All online safety is taught in conjunction with regular, ongoing PSHE work and safety reminders

### Our approach to assessment in Computing

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.

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.

### Key targets and actions moving forward (development priorities for 2022/23):

Target and intended outcome	Planned actions (including dates where applicable)
1. Refine teaching of coding by following updated <i>Coding Overview</i> document and continuing to improve staff confidence in light of research in recent Ofsted review. <i>All children to have experience of coding using a range of programs/platforms over the academic year.</i>	Staff meeting with all class teachers and specialist teacher to explain <i>Coding Overview</i> document. Ongoing staff training and support from specialist computing teacher and subject leader. Open this training to support staff as well as teaching staff.
2. Refine assessment of coding to ensure there is consistency across the school. <i>Effective and consistent summative and formative assessment tools for staff to use to assess against key learning.</i>	Consider existing resources in the range of platforms used to use for assessment purposes. Review with teachers the assessment opportunities highlighted in planning and share best practice in the use of these. Use this data to help inform end of year assessment decisions.
3. Continue building on Computing enrichment with visits to the CLC, other workshops and after school clubs. <i>All children to receive enrichment opportunities to build on computing skills and enjoyment in the subject.</i>	CLC visits to target aspects of the curriculum that are more difficult to cover at school due to equipment/expertise. Speak to KS2 children to see if they would like Code Club to start in Spring term again. Possible re-introduction of Tech Club and Typing Club in Spring/Summer term.
4. Audit of technology in the school	Assessment of devices to see if any need updating – possible fundraising.

<i>Technology in school is fit for purpose, up-to-date and well used for computing and across the curriculum.</i>	Working with specialist teacher and office staff to audit all devices in the school.
---	--

### **Ofsted curriculum research review – summary and response/reflection**

The Ofsted curriculum research review for Computing (June 2021) reviews a wide range of relevant educational research into both primary and secondary computing teaching and identifies factors which may contribute to high-quality computing education.

Summarised information about features of high quality computing education identified in the review	Our response – how does this align with our teaching and learning at Christ Church
The planned curriculum includes a breadth of knowledge relating to the three pillars - <b>computer science</b>	At Christ Church, we have clearly defined and given importance to all three pillars, as well as showing how each is able to be taught in relation to each other. Each term, children are taught lessons relating to computer science, using different programming platforms to apply this knowledge following our planned curriculum progression.
The planned curriculum includes a breadth of knowledge relating to the three pillars – <b>information technology</b>	Classes will produce digital artefacts and use technology in different contexts, building on prior learning for tasks across the curriculum. E.g. children may be taught how to change font sizes in one sessions, and then may be required to do this when typing a presentation in a different sequence of lessons, using a different application and in a different subject area. They may also use technology to research or use digital mapping prior to going on a school trip.
The planned curriculum includes a breadth of knowledge relating to the three pillars – <b>digital literacy</b>	Our curriculum is carefully sequenced, building on what the children have already learnt. Each time children use devices, they are reminded of digital literacy and the importance of esafety, we also focus heavily on this each year during our PSHE week on keeping safe in the Spring term.
<b>Declarative</b> (conceptual, ‘knowing that’) and <b>Procedural</b> (methods or process, ‘knowing how’) knowledge are distinguished in the review	Our approach to teaching computing clearly distinguishes between these. For example, in coding, children <i>know that</i> loops are used to make code for a repeated task more efficient and they <i>know how</i> to create a loop in a range of programs.
<b>Curriculum sequencing and Pedagogy</b> – need for structured approach to progression, and building on prior knowledge with the aid of worked examples and modelling.	Our curriculum uses a spiral curriculum model. Children are always building on their prior knowledge, things they have learnt in previous year groups, enabling them to develop expertise in the subject. Teachers clearly model and use worked examples to help children to progress and problem solve.
<b>Systems – teacher subject knowledge and infrastructure:</b> need for teachers to have high quality CPD and using expertise of computing community	Through our use of both a computing teaching expert and the Camden computing leads network, teachers at Christ Church are able to receive high quality CPD to help them with subject knowledge. We are able to both visit the CLC and borrow equipment from them to assist us with teaching the computing curriculum and providing enrichment.

### **City Learning Centre trips**

Reception using technology: <https://christchurchschool.co.uk/wp-content/uploads/2022/04/Reception-CLC-trip-April-2022.pdf>

Year 2 Blue bots: <https://christchurchschool.co.uk/wp-content/uploads/2022/05/Y2-CLC-trip-May-2022.pdf>

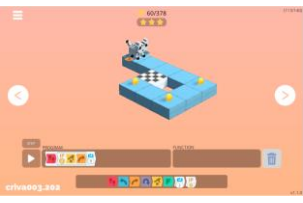

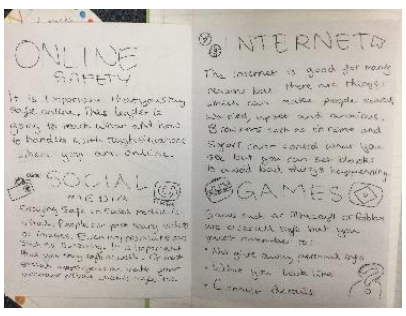
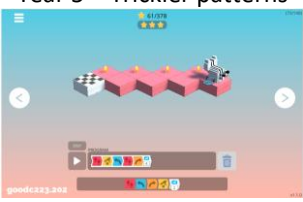
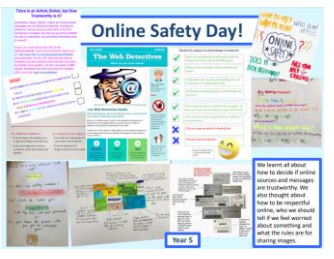





Year 3 Lego model coding: <https://christchurchschool.co.uk/wp-content/uploads/2022/03/Year-3-CLC-trip-March-2022.pdf>





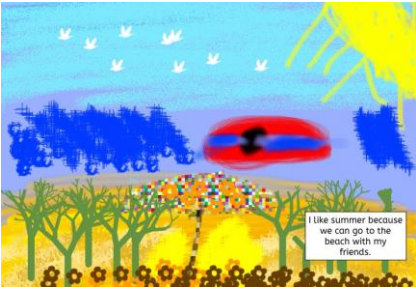
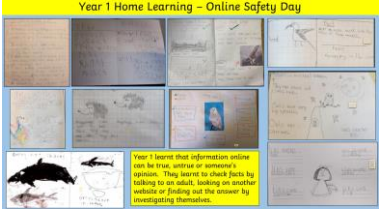


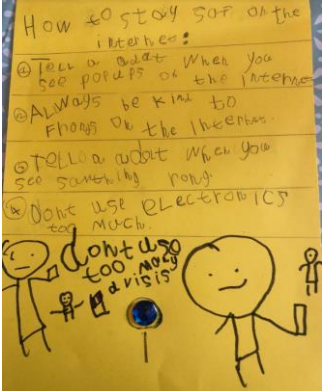
Year 4 Virtual reality and book creator: <https://christchurchschool.co.uk/wp-content/uploads/2022/03/Year-4-CLC-trip-March-2022.pdf>

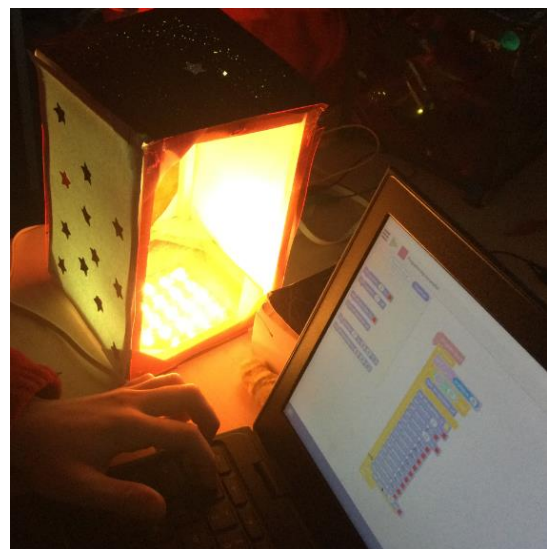
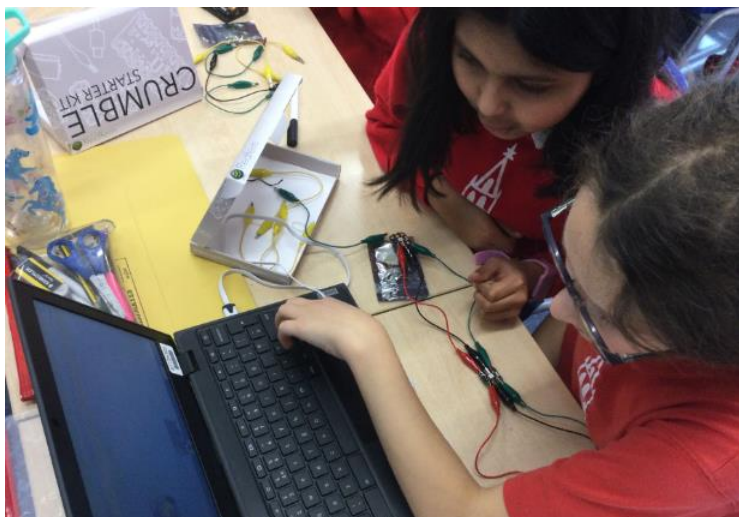
Year 5 Creating games: <https://christchurchschool.co.uk/wp-content/uploads/2022/05/Y5-Programming-games-at-the-CLC-May-2022.pdf>



# Work sampling across three strands of Computing

	RodoCodo Progression (one platform used for our coding progression)	Digital Literacy	Online Safety
<p><b>Year 6</b></p>	<p><b>Year 6 – If statements</b></p> 	<p><b>The house advert</b></p> <p>Stone's Estates offers to let the market a 4 bedroom house located in the rural countryside in Scotland. This is a magnificent opportunity for any growing family.</p> <p>The abode possesses spacious rooms that can accommodate your necessities. Victorian walls are plain ready for you to paint. The carpeted floorboards give a cozy sensation. Modernisation is recommended.</p> <p>At the rear of the house, there is a garden which is a generous size for families to enjoy. Mature shrubs may be spared and the garden has huge potential. A snowman can be easily made.</p> <p>In the abode there are four bedrooms, one kitchen, two bathrooms, one living room and a laundry room on the ground floor. The living room is much loved and has an ample space for a growing family.</p> <p>This location is nearby a transport cafe and is 15 minutes away from a local farm. A leisure centre with state-of-the-art facilities is 20 minutes away from Fulmer road.</p> <p>This property is ideal for many people and therefore an early viewing is recommended. Please contact us on Stone Estates.com.uk.</p> <p>Leah</p> 	
<p><b>Year 5</b></p>	<p><b>Year 5 – Trickier patterns</b></p> 	<p><b>The Dreamgiver</b></p> <p>Below the cloudy, milky night sky, where the stars glimmered in the twilight, the coasted red-tinted houses, loomed over the misty landscape. The town was motionless and silent except for the faint breeze that would make the hair on the back of your neck stand up. Puddles covered the town in sorrow and despair that had shrouded it over the people days ago. A thick cloud of mist obliterated the entire place while the people were in a deep slumber. SUZZ! Hovering, a deceptive creature flashed through the sky with an enchanting, unusual glow!</p> <p>Making his descent, the unknown figure flew towards the gloomy orphanage that no child would want to end up in. Borne, wrinkled fingers steadily opened the white shutters as if this interior were in a hurry. The old white paint of this studio had been blown away by the battering wind however, this did not awake the children in the dormitory. Peering inside, the peculiar creature studied the very room. Handcuffs, the creature wore an old, ragged, brown coat and adventure's goggles. Winkly skin covered his thin body as he checked the address. 205 Kensington Avenue rings as delicate as porcelain, gave the creature flight as he encircled the orphanage with a strange bag.</p> <p>Brown and weaved, the bag held numerous luminous and bright yellow spellbinding eggs that gave a glow to the whole room. Heading to the nearest bed, the creature dropped his notebook and bag and observed the child. He had not seen this child before. Reaching his hand in his bag, all the golden eggs fell out onto the girl's duvet, nearly waking her up. As he took one of the dazzling eggs, he cracked it, exposing the egg in two. Inside was a mixture, a very damp mixture however, it was golden. Pouring it meticulously, he lowered the mixture into the child's tablet shoes where a clammy, spectacular substance emerged, bubbling and turning into the girl's dreams. Immediately, the girl's room turned into a smile. This really was pleasurable for the Dreamgiver.</p> <p>Next, was a boy who had a book about space. Cracking open another egg, the light-hearted Dreamgiver dropped the egg on the book where, abruptly, a small, adventurous astronaut zoomed up to the ceiling. Leaving the boy in joy, the Dreamgiver kept on concocting dreams a space adventure, a baseball game, a music band and more. All of the dreams delighted the children and filled them with satisfaction.</p> <p>About to leave, the Dreamgiver steadily edged his way towards the window however, he heard something that made him stop and turn around. Perplexed, he spun around to find that an egg was rattling onto a book. As fast as he could, he tried to stop it however, it was too late. BOOM! A colossal cloud of purple dust formed, sucking the helpless astronaut into a hole that made him vanish at an instant. A colossal firestorm then appeared which knocked out the Dreamgiver, causing him to tumble to the ground.</p> <p>Opening his eyes, the astronaut took in his surroundings. Lush green trees surrounded him like a suburban prison. Humid, damp air covered his body, causing him to sit down and the rough floor that the astronaut sat on was warm and creaked in boy ants and beetles. Passing by, golden radiant butterflies landed on the astronaut as he admired their beauty. As the butterflies flew away, the astronaut turned around to leave him in a grip.</p> <p><i>By Mayssa and Siema</i></p>	
<p><b>Year 4</b></p>	<p><b>Year 4 – Practising functions</b></p> 	<p><i>What happened at the Roman base in Britain?</i></p>   <p><i>By Mayssa and Siema</i></p>	
<p><b>Year 3</b></p>	<p><b>Year 3 – debugging buggy code</b></p> 	<p><b>VILLAGES ARE DANGERED BY COASTAL EROSION!!</b></p> <p>James Robin was going on a walk and he came across coastal erosion blocking the road. He said that "the historical events which took place on this coastline are fascinating and worrying".</p> <p>James Robin then came across a house that was right on the edge of the cliff and said to his son, Jack, "I am worried that we will have to move out of our house".</p> <p>The next day James Robin went out again and saw two GIANT rocks and a big arch.</p> <p>Coastal erosion means that the cliff gets depressed by the waves crashing against it. When hard rocks are eroded it forms a headland and soft rock forms a bay. The steps are being eroded and, first there are cracks, then it forms a cave, after that there is an arch, then the waves smash into a stack and then it turns a stump.</p> <p><i>By Sumner and Jacob</i></p>	<p>Wednesday 10th February 2021</p> <p>Dear George, George,</p> <p>Something your laptop might be missing. If it is having a problem, you could try to reset it. You can also try to update the software. If you are seeing a message that says 'Your laptop is having a problem', you should try to update the software. You can also try to reset it. You can also try to update the software.</p> <p>Kind regards, T. Lee</p> <p>George George 10th February 2021</p> <p>Dear George George,</p> <p>I hope you are well. I heard you bought a new laptop.</p> <p>Internet is very useful to shop and to communicate with people including AIA in Australia, here are a few things that you can do to be safe.</p> <p>With your new laptop, make sure you password is very easy to remember and is very secret. This should be appropriate to you. You may have something that comes up on your screen that says 'FREE GAMES CLICK HERE' or 'CLICK HERE TO GET MORE GAMES'. Ignore them.</p> <p>If you want to see people that are not near enough to take a look to reach, you may use an app that allows people to meet each other on the screen such as Facebook. It is important however to be careful. You should not give out your name or address. If you are getting really worried, you can go to the police or a trusted adult to help you. If you are not sure about the app, you can ask a friend or a parent.</p> <p>Also please be aware that there are horrible things such as computer viruses which can be a physical virus but can break your computer. If you find there is a virus on your screen, turn off the screen and don't go on it for a few days.</p> <p>Enjoy your new laptop.</p> <p>Keep safe ☺</p> <p>George George, T. Lee</p>

<p><b>Year 2</b></p>	<p>Year 2 – looping movement</p> 	<p style="text-align: center;"><b>CHRIST CHURCH NEWS</b></p> <p>by Arbella TO STOP FOOD POVERTY year 2</p>  <p>year 2 children at christ church primary school in Hamsted have been learning about food poverty crisis affecting children in London. About 400,000 children in London experience hunger because of food poverty. More children need to eat healthy food not fast food because too much fast food causes obesity.</p> <p>Many children in the UK get hot school meals but during the weekends, Holidays and when they're not at school they can't afford hot meals and this is known as Hunger Holidays. year 2 have collected food to donate to local food banks. They have written letters to Tulip Siddiq and have talked to their Parents about this situation. you can help to you can or food to food charities, write letters to your local mps and tell other people about the issue. No child should ever go hungry in the UK.</p>	 <p>Year 2 – Home Learning Week beginning February 8<sup>th</sup>, 2021 This week we learnt all about keeping ourselves safe online. We discussed our personal information – things we should keep private, and trusted adults we can ask for help.</p>
<p><b>Year 1</b></p>	<p>Year 1 - sequences</p> 	 <p>I like summer because we can go to the beach with my friends.</p>	<p>Year 1 Home Learning – Online Safety Day</p>  <p>Year 1 learnt that information online can be true, untrue or someone's opinion. They learnt to check facts by looking to an adult, looking on another website or finding out the answer by investigating themselves.</p>
<p><b>Reception</b></p>	<p>BeeBots – Directions</p> 	<p>Can you finish the sentence? <b>My favourite part of Goldilocks is when the three bears came home.</b></p> 	 <p>How to stay safe on the internet!</p> <ul style="list-style-type: none"> <li>• Tell a parent when you see pop ups on the internet</li> <li>• ALWAYS be kind to friends on the internet</li> <li>• Tell a parent when you see something funny</li> <li>• Don't use ELECTRONICS too MUCH</li> <li>• Don't use too many apps &amp; visits</li> </ul>



**Year 6 night lights** – using crumble coding in DT to code nightlight and sensors

## **Pupil voice**

Pupil voice discussions in the last year have demonstrated that:

### **Children could talk about what they had been learning about recently and clarify skills they had learnt with confidence:**

*Year 5 – we have just started Purple Mash coding – we were coding a traffic light. In Rodocodo we were trying to make our coding more efficient to get three stars and to make it quicker using e.g. a loop.*

*Year 4 – we have been doing coding using Purple Mash – making things move around. We have making animations – making sprites talk and move.*

*Year 3 – We have been doing Purple Mash coding – Last time we were trying to make a turtle move in a square.*

*Year 2- We were making the princess move to the right and then making the frog turn into prince using code.*

*Year 1 – We have been using Purple Mash games to learn number bonds. We are using chrome books and learning how to log in & use the mouse. - We have been using beebots and learning how to control them.*

### **Children could explain specific terminology in detail:**

*“I can see you have been using RodoCodo. What is a function and loop?”*

Y2 – a function could be if you walk forward two times and then pick up a coin, the function does it all in one go

Y4 – a loop is when you do something over and over more than once – e.g. move forward or turn right. Then it does it over and over

Y5 – Functions are things to help you make your code more efficient

Y6 – you have to make a function to do something in your code, a set of instructions. A loop is where you do something again and again

### **Children were able to explain why it is important to be an efficient coder and why computing skills are important:**

*It is important to be an efficient coder so that you can use a computer properly. To make everything quicker and easier. Important skills you need to be a good coder are to use the keyboard / mouse quickly. You need to learn about algorithms, you need to know how to debug which means if the code was not working / didn't go the way you wanted to go you need to look back on your code and fix it. You need to know what certain words mean: loops, events, functions. We might need them for work. It's good to learn about it because you need to know what to do when you are older. Even if you don't have a computer job they are life skills*

### **Children could talk about how prior learning – previous lessons or even years – has helped with their computing learning now:**

*“How does your learning in Computing at the moment fit with your learning in Computing last year? How does your learning in Computing last year help you with your learning now?”*

Y2 – last year we learnt simple things and this year it is more difficult like functions

Y5 – we are doing similar things in Rodocodo that we did last year, but we are levelling it up (making it more difficult). It slowly builds up to get harder

Y6 – it's similar to what we did in y5 but it is getting much more difficult

### **Children could talk about what helped them to remember what they had learnt in computing:**

*“How are you helped to remember what you learn in Computing?”*

Y2 – the adult helps us

Y3 – when we finish our work, we have to save it so we can look at it again

Y4 – we do something again and again.

Y5 – we recap what we did in the last lesson.

### **Additional comments during discussions:**

*“How have you used computing in other subject areas?”*

Y2 – we looked at maps on the iPad in geography

Y4 - we research things for other subjects, like geography, and put this in our books

Y5 - we have been researching during other lessons

Y6 - in English, we will be using the Chromebook to remake our Alex Ryder posters digitally. Computing is really fun because you get to discover and learn new things

*“What can you tell me about online safety?”*

Y2 – if we get our iPad and there is something wrong, we don’t press it. We tell a teacher. At home it’s similar. You tell your parents

Y3 – if there is a pop up we have to tell a teacher

Y4 - for online safety, there might be a poster that has rules about being safe online - SMART. If there is something like YouTube and there is something rude, we should turn it off and tell an adult.

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

- ❖ Computing enrichment opportunities at the CLC
- ❖ 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 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 back to pre-covid levels and above
- Importance of online safety work – within computing and across curriculum, as well as school day/routines
- Three strands – Coding (computer science), Information Technology (Digital Literacy), and Online Safety (Digital Citizenship)