



## [Computing at The Ryde School](#)

### **Research**

National curriculum in England: computing programmes of study

<https://www.gov.uk/government/publications/national-curriculum-in-england-computing-programmes-of-study/national-curriculum-in-england-computing-programmes-of-study>

Education for a Connected World (2020 edition)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/896323/UKCIS\\_Education\\_for\\_a\\_Connected\\_World\\_.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896323/UKCIS_Education_for_a_Connected_World_.pdf)

Research and analysis - Research review series: computing (Published 16 May 2022)

<https://www.gov.uk/government/publications/research-review-series-computing/research-review-series-computing>

### **Computing Curriculum Rationale**

At The Ryde School we encourage our children to love computing. We want them to be ambitious and grow up wanting to be software engineers, video game designers, web developers or IT consultants. We want them to embody our core values of: Resilient, Creative, Safe, Ambitious, Respectful. We firmly believe that 'From little acorns might oaks grow'. The computing curriculum has been carefully chosen so that our children develop their digital skills and knowledge that they will be able to carry through life, beyond their time at The Ryde School. We want our children to remember their computing lessons in our school and make the most of the opportunities they are presented with.

*A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world (National Curriculum – Computing 2014).*

The staff at The Ryde work very hard to ensure computing teaching and learning are of the highest quality, offering creative and memorable lessons that support children to develop a sound understanding of the key concepts of computing.

We aim to make computing relevant to our children and the lives they will choose to lead. We want our children to use their computing skills to explore the diverse world in which they find themselves and to be able to communicate safely.

### **Curriculum Intent**

The computing curriculum has been chosen to inspire curiosity and to develop children's interests in computing. It is both creative and ambitious and encourages our children to become independent and resilient. Our aim is to for children, at the end of each milestone, to have their knowledge and understanding of computing embedded in their long term memory, a resource that can be grown and used throughout their lives.

In the Early Years Foundation Stage Framework, programme for understanding the world in the statutory framework states: "...listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, **technologically** and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains." Our early years' classrooms encourage the use of technology and/or programmable devices for children to explore during their continuous provision. Some of the resources from Barefoot Computing are being used in our Early Years classroom to encourage computational thinking to support progression into key stage one.

Key Stages one and two's curriculum-based units follow a spiral structure, following the Teach Computing programme of study designed by the NCCE. The students revisit each theme through a new unit that consolidates and builds on prior knowledge learnt within that theme. This means that each of the themes is revisited frequently (at least once in each milestone or more through cross-curricular opportunities).

Due to the regular review of each topic, this method of curriculum design minimises the amount of knowledge that is lost to forgetting. Additionally, it guarantees that connections are made even if different teachers teach the units under a theme over the course of several years.

Opportunities for computing are used to lead or support learning in other curriculum areas, which are planned creatively, and with integrity. We want to equip our children not only with the minimum statutory requirements of the computing National Curriculum but also to prepare them for the opportunities, responsibilities and experiences of later life. This is the rationale behind our decision to study Teach Computing at The Ryde, as it examines various tools, programmes, and software that they will use after they leave our school. In addition, it is research based and is continually updated and improve in line with relevant curriculum or research developments.

To aid this deeper understanding of computing all children are offered opportunities to use their computing skills to support learning in other curriculum areas. For example: **Recording music and drama performances, presenting learning with Google Slides, Google Docs or video documentaries on school trips.**

We enrich the children's learning in school with memorable and unforgettable experiences which provide opportunities to inspire, motivate and consolidate learning. Such as: **the use of physical programming of bee-bots in KS1, Animation Nation workshop in Year 6, Micro:bit workshops for Year 5 and 6 and the use of Crumbles in Year 4.**

At The Ryde we believe that it is not just about what happens in our classrooms, it is about the learning that happens outside the classroom and the added value this offers to inspire our children to want to learn. Children have the opportunity to use iPads outdoors to record a range of learning. **For example: recording science data, photograph art work or record short videos.**

## **Curriculum Implementation**

In the Autumn term 2022, a complete audit of the computing curriculum was conducted. Based on the findings from this audit, and the research collected by the computing subject leader, we have chosen a computing curriculum that offers a wide range of learning opportunities and assessment opportunities for each year group, ensuring each the revisiting of topics throughout the milestones.

During the Autumn term 2022, two classes trialled the Teach Computing units to determine if they provided a better coverage of the curriculum, as well as subject knowledge support for teachers. These

classes proved to be successful following this curriculum and the teachers and children reported positively about the units. This enriched curriculum will ensure progression and repetition in terms of embedding key learning, knowledge and skills, producing a secure base of subject knowledge on which to build future learning.

**Our curriculum is built around the three main themes from the National Curriculum: Computer Science, Information Technology and Digital Literacy.** These themes are revisited year on year and allow pupils to progressively build their skills and knowledge.

Our knowledge categories of computing are revisited throughout each milestone. These categories are the basis of our computing teaching and learning and provide a common subject specific vocabulary for staff and pupils. These categories more broadly seek the children to be able to: have a growing confidence and competence in coding through a variety of opportunities, connect with others in a safe, lawful and respectful manner and to understand connectivity of devices, confidently use apps and devices to communicate, manage the storage of data in an organised way so as to be able to retrieve, manipulate and display data effectively.

Additionally, children in Reception to Year 6 are frequently taught about online safety through computing lessons as well as through PSHE. Teach Computing's unit overviews for each unit illustrate how the lessons' content relates to the national curriculum and the Education for a Connected World framework ([nccce.io/efacw](https://nccce.io/efacw)). These references have been given to demonstrate how the Teach Computing Curriculum addresses various aspects of online safety or digital citizenship. The Teach Computing Curriculum does not cover every objective in the Education for a Connected World framework because some are better suited to PSHE curriculum. The other objectives in the Education for a Connected World framework are covered by Project Evolve which “provide the right opportunity for discussion; prompted by appropriate questions accompanied by honest and useful information to shape thinking and challenge misconceptions.” <https://projectevolve.co.uk/about/>

The national curriculum for computing's required coverage, though, is offered. Our subscription to National Online safety allows both children and parents to be kept updated and informed on the latest safety advice. This information is also available on our website (see Online Safety area of website) where links to relevant websites to support parents are available as well as online safety guides.

Teachers, with the support of the curriculum leader, have the autonomy to deliver a curriculum that is relevant to their children. Teachers also make meaningful links with other curriculum areas where relevant for example: in Year 6, they created websites about their science topic of classifying living things.

The children have a voice in their learning and are encouraged to have independent thoughts, which we do through termly pupil voice questionnaires.

**Computing is discussed with the children at the beginning of each unit to understand what the children already so teaching can then be planned around this information. Children's individual interests in topics are encouraged and supported.**

Medium term plans are produced at the beginning of each term. They are written in sufficient detail to allow them to be used as weekly plans. Learning objectives are clear to see for each session as are planned activities for learning and expected outcomes. Resources are detailed for each session. Computing is taught on a weekly basis, allowing the time for concepts and categories to be revisited and practised and therefore improving the opportunity for children to retain what they have learned and change their long term memory – increasing the progress that they make.

Teachers are encouraged to teach a weekly computing lesson. Where meaningful, linking to another curriculum subject so as to enhance the knowledge and understanding of both subjects. For example: **In year 5, data bases have been used to support science, to collect subject knowledge.** Regular time designated to computing and the revisiting of concepts categories allows children to practise their understanding and knowledge of computing, therefore improving the opportunity for children to retain what they have learned and change their long-term memory – increasing the progress they make.

## Curriculum Impact

We use both summative assessment information in our computing lessons at The Ryde. This helps teachers to provide the best possible support for all children, including children with EAL, SEND or the more-able.

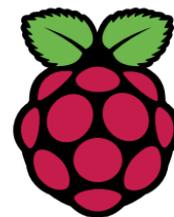
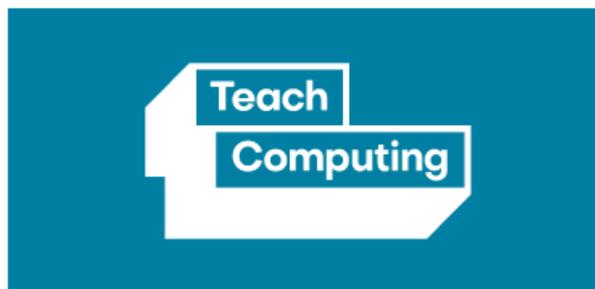
Assessment milestones for each phase have been broken down for each year group, allowing for detailed assessment of progress. Within each milestone children gradually progress through three cognitive fields: basic, advancing and deep. The ambition is that most children will achieve a sustained mastery at the ‘advancing’ stage of understanding by the end of each milestone, and for the more-able to have a greater depth of understanding at the ‘deep’ stage. **Therefore, the time-scale for sustained mastery or greater depth is two years.**

In the first year of a milestone children are expected to achieve the ‘basic’ stage of learning. Direct teaching will have enabled the children to learn knowledge and skills in preparation for a higher level of learning and understanding in the second year of the milestone.

Proof of progress tasks are carried out by teachers throughout the year. Each child’s progress is mapped to ensure they are making the progress they are capable of.

Assessment information is collected at least termly by the subject leader and analysed. Results are reported to senior leaders and the link governor. This process provides an accurate and comprehensive understanding of the quality of teaching and learning in history.

Planning is monitored at the beginning of each term and at intervals in between, in line with other monitoring actions such as: work scrutiny, pupil voice, staff voice, displays and learning walks.



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