## Subject Development and Rationale

## Computing

## Intent of our Computing Curriculum

Itchen Abbas is a rural village on the River Itchen about 4 miles north of Winchester. The school is Victorian and is believed to have been built in the 1800s. According to the 2011 census, Itchen Abbas has a higher education level than the average for England. The percentage of adults in higher paid, managerial and professional jobs is above average and this manifests into high expectations and ambition for children from their parents. Levels of deprivation are low in the area. Most people commute to their places of work although some families are still involved in farming.

Computing is at the heart of every modern household and therefore will be key to their journey through life. As Digital Natives, children at Itchen Abbas Primary School need to be able to use and express themselves, as well as develop their ideas through information and communication technology. We strive for pupils who are equipped to use information technology to create programs, systems and a range of content whilst instilling fundamental behaviours, which will allow children to keep themselves safe online.

The Computing curriculum has four key areas – Computer Science, Digital Literacy, Use of Technology and Safety. Each year children consolidate and build from previous learning to utilise common programmes such as Microsoft PowerPoint, Word and Excel. There are many opportunities for children to work collaboratively, as well as individually, and it is through these opportunities that children will develop a range of skills such as teamwork, tolerance and resilience. Children at Itchen Abbas will have Computing lessons on laptops, MacBook's and iPads, as well as 'unplugged' lessons.

The teaching of the Computing curriculum at Itchen Abbas is highly practical which enables all children to be successful and make excellent progress. In Computing, we follow an adapted version of the Teach Computing Curriculum which was developed by the Rasberry Pi Foundation on behalf of the National Centre for Computing in Education (NCCE). (This curriculum has been created by subject experts using a range of current, research-informed pedagogical approaches; it also encompasses a range of concepts and skills that highlights the breadth and depth of the Computing curriculum.) Our curriculum is a spiral curriculum that ensures concepts and themes are revisited regularly (at least once in each year group) and, through each theme being revisited within a new unit, consolidates prior learning and 'interrupts the forgetting' through embedded retrieval practise.

The Teach Computing Curriculum at each key stage has a teacher guide and curriculum map to strengthen subject leaders confidence in the teaching of computing. The curriculum is built around an innovative progression framework where computing content has been organised into interconnected networks we call learning graphs. It is also created by subject experts, using the latest pedagogical research and teacher feedback. The overall aim is to equip pupils with a high-quality Computing education in order for them to use computational thinking and creativity to understand and change the world.

We aim to ensure that by the time our children leave us they all:
- Can apply programming skills to new situations and plan solutions to problems that they encounter;
- Understand how computer networks connect our technology driven world;
- Are able to use the main features of commonly used software;
- Are able to use the internet and search engines to teach themselves how to use new features or unfamiliar technology;
- To select the right digital device for a given purpose e.g. a digital camera for taking photos and connect devices together to complete projects;

- Can log on and access operating system features e.g. using the file organisation to load a piece of work from our server/Google Classroom;
- Can use some common keyboard shortcuts;
- Understand and recognise dangers online and distinguish levels of risk in their own behaviour online;
- Know how to report inappropriate content or behaviour online.

## Implementation of our Computing Curriculum

Teachers have expert knowledge of the subjects they teach. If they do not, they are supported through CPD to address any gaps.

The implementation of our curriculum begins in Early Years where learning is very much focused on play and exploration. In Year 1 pupils are taught vital computing skills such as mouse control. Throughout their computing journey, pupils are taught new skills explicitly and these are practised implicitly through other curriculum areas. Throughout Key Stage 2, the balance of computing shifts from digital literacy to computer science. Pupils are encouraged to use the array of technology available to them to choose what would be most appropriate to fit the purpose.

The Teach Computing Curriculum has been designed to support all pupils.  Each lesson is sequenced so that it builds on the learning from the previous lesson, and where appropriate, activities are scaffolded so that all pupils can succeed and thrive.  Scaffolded activities provide pupils with extra resources, such as visual prompts, to reach the same learning goals as the rest of the class.  Exploratory tasks foster a deeper understanding of a concept, encouraging pupils to apply their learning in different contexts and make connections with other learning experiences.  As well as scaffolded activities, embedded within the lessons, are a range of research-informed pedagogical strategies, which support making computing topics more accessible and personalised for each learner.  More information about these pedagogical strategies can be found here.

Each sequence of lessons begins with the initial concept or skills being 'unpacked' and broken down; these are then contextualised to something more concrete or linked to something in real life.  After exploring the concepts in this way, they are then 'repacked' and linked back to the original abstract context.  (This pedagogical approach is called semantic waves and aids in pupils' comprehension and retention of the knowledge and skills.)

### How is Computing taught?

- A 2-year cycle scheme of work which ensures that all children have a broad balanced Computing curriculum.  Each unit has an end point designed so that the children can demonstrate their learning through the topic.
- Each year group has a progression of knowledge and skills containing the objectives that need to be taught. Assessment documents are then used to ascertain whether the children are working at ARE or at a level of greater depth throughout the year.
- Computing
- Henry Beaufort Secondary report that children are currently lacking in the basic skills – opening, saving, typing in documents. – Target: Digital literacy throughout the other subjects in the wider curriculum.

In computing lessons, teachers expertly model key computing principles; this is underpinned by them demonstrating 'best practise' techniques (such as using shortcuts, effective file management and web browsing) to ensure fluency and that pupils are being taught how to be digitally literate.

Computing vocabulary is used by class teachers and children are encouraged to use this vocabulary verbally in lessons as well as when critically evaluating their own and each other's projects.   As well as this, teachers model how to use this vocabulary when problem solving their work – this is particularly evident when children debug their programming.

Whilst pupils are working, teachers use in-lesson assessment for learning to provide clear, direct feedback. In doing so, they respond and adapt their teaching as necessary for the class or individuals. Teachers also facilitate children in being able to think critically and reflectively about the choices they have made and the impact that these choices have on the final product.

Throughout lessons teachers seize opportunities to develop pupils team work, resilience, independence, creativity, critical thinking and reflective learning behaviours. This might be through task design, through questioning within the lesson or assessments made.

## Safeguarding

At Itchen Abbas Primary School, we are committed to safeguarding children, our online safety strand of the computing curriculum is a substantial programme and is continuously taught throughout the year throughout the units within the Teach Computing curriculum. To further supplement we utilise the National Online Safety to support teaching each aspect of online safety as follows:

- Self-image and identity
- Online relationships
- Online reputation
- Online bullying
- Managing online information
- Health, wellbeing and lifestyle
- Privacy and security
- Copyright and ownership
- We aim to embed computing in a real-life context and make use of guest speakers from business, and deliver workshop sessions for parents to engage them with our computing curriculum and to support them to keep their children safe online.

## Support for Staff and Subject Knowledge Development

- In our small school, it is not always possible to have an expert in each subject within the staff. Therefore, we use the National College as well as Hampshire to support subject leaders to develop their own expertise. We also have good ties with our feeder secondary school, Henry Beaufort, and local primaries and have developed networks to support our curriculum development.
- Regular CPD is provided in staff meetings to support the teaching of all aspects of Computing, including, Phonics, Guided Reading and Writing.
- Planning is completed by class teachers with the support of the subject leader.

# Support for Parents and Children at home

We subscribed to Knowsley City Learning Guides to help support parents with their understanding of how to manage technology in the home. It also aims at empowering parents to know about the content and control features available to them. These have been well received and go out on all our Friday emails to parents.

**Online Safety Newsletter** — December 2022

**Parental controls**

With Christmas nearly here and perhaps with presents including new technology or related games being received, we thought we'd provide you with a little reminder of how to set up appropriate parental controls.

**Games/consoles**

First, check the PEGI rating of any new games to ensure that your child is old enough to be playing them. PEGI provides age classifications for games and **considers the age suitability of a game, not the level of difficulty.** It is important to note that PEGI do not take into consideration the chat facilities within games. If a game does allow your child to communicate with others then you can adjust the settings so they are appropriate to your child - or disable it completely.

Secondly, for any consoles (new and old), it is important to set up appropriate controls such as restricting spending limits and again managing who they can communicate with. Follow the links below to find out how to set up Parental Controls for each device:

**Instagram**

Is your child on Instagram? You should be over 13 years of age to set up an account.

Instagram is used to post photos and videos. Users can also DM (direct message), send disappearing messages, add to their stories (these disappear after 24 hours) and broadcast live.

Instagram have now introduced new age verification software to help confirm the age of users. Any user who tries to change their age will have to upload an ID document or take a video selfie. You can find out more here:

https://saferinternet.org.uk/blog/instagram-rolls-out-age-verification-for-users

**Xbox:** https://www.xbox.com/en-GB/community/for-everyone/responsible-gaming

**PS5:** https://www.playstation.com/en-gb/support/account/ps5-parental-controls-spending-limits/

**Nintendo Switch:** https://www.nintendo.co.uk/Hardware/Nintendo-Switch-Parental-Controls/Nintendo-Switch-Parental-Controls-1183145.html

**Tablets/Smart phones**

As well as setting up parental controls on the device itself, remember to check any apps your child would like on their device. Is it suitable for their age? Review all settings and privacy options for each app. For the devices themselves use the available settings to prevent purchases, restrict content viewed and adjust privacy settings. Follow the links below to find out more:

**iPhones/iPads:** https://support.apple.com/en-gb/HT201304

**Google Play:** https://support.google.com/googleplay/answer/1075738

**Personalised Digital Toolkit**

Answer some simple questions and get age specific advice and recommendations: https://www.internetmatters.org/digital-family-

Users of this guide do so at their own discretion. No liability is entered into. Current as of the date released 1.12.22.

**BeReal**

**What is BeReal?**

BeReal is a new social media app. It notifies you once a day to upload an image of what you are doing. Once you receive the notification, you have two mins to capture and share what you are doing at that moment. All your friends post at the exact same time. Once you have posted, you can then see what your friends have posted. If you don't post your BeReal, then you can't see your friend's BeReals from that day or access the discovery tab.

**What age should I be?**

You must be 13+ to use BeReal. BeReal is rated as 12+ by the App store and rated for Teens on Google Play. Users add their date of birth to register (no age verification takes place) although users do need to add a mobile number.

**What else do I need to be aware of?**

BeReal is private by default and only visible to your friends. However, it is possible to share with all users by selecting the public option. If selected, your BeReal will appear in the Discovery tab for all users to see and interact with.

There is also an option to share your location. If you don't enable your location, then you can't see other user's locations. Chat to your child about location sharing as it is important that your child understands the risk of location sharing and when it may be appropriate to share.

Discovery tab – this is the area where you can view all other BeReals that have been made public (if you have posted that day). There is an element of risk that your child may see an inappropriate image depending on what others have uploaded.

**How to report**

You can report a BeReal or a user by clicking on the three dots (next to the BeReal or user) to report. You can then choose whether you think the BeReal is undesirable or if it is inappropriate. You can block users on Android but not on iOS (BeReal have said this functionality will be available soon). People you have accepted as 'friends' can be deleted at any time.

If your child is using BeReal then talk to them about what they are sharing on BeReal and check that they know how to use the reporting tools available.

**Further information:**

https://www.childnet.com/blog/bereal-a-guide-for-parents-and-carers-about-the-new-social-media-app

**Is your child ready for social media?**

Childnet have produced this article answering your questions around social media, such as when should I allow my child to join social media? The article also outlines some alternative sites that have been created for younger children. You can read the article here:

https://www.childnet.com/blog/supporting-your-child-getting-started-on-social-media/
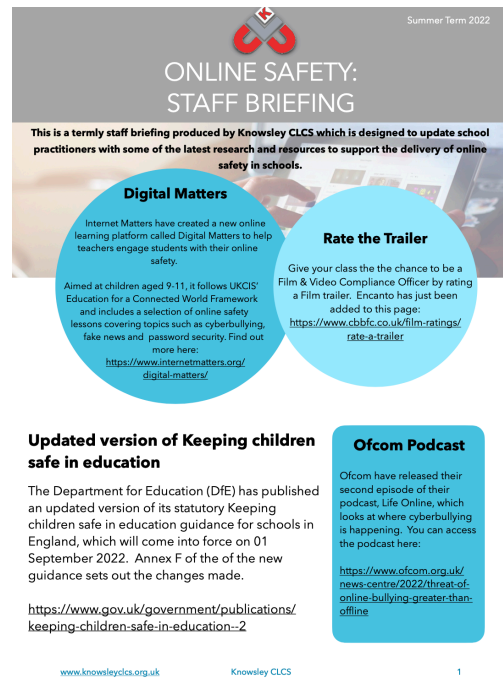
**WhatsApp Update**

WhatsApp will be releasing the following new Privacy features soon:

**1. Leave Groups Silently:** you will be able to exit a group privately so instead of the whole group being notified, only the admins will be.

**2. Choose Who Can See When You're Online:** WhatsApp are introducing the ability to select who can and can't see when you're online.

**3. Screenshot Blocking for View Once Messages**

You can read more about these new features here: https://blog.whatsapp.com/

**Viewing films safely online**

It is important that our children are watching films that are suitable for their age. The BBFC is the UK's regulator of film and videos and they have created this useful article answering the questions they get asked the most.

https://www.cbbfc.co.uk/resources/viewing-films-safely-online

**ONLINE SAFETY: STAFF BRIEFING**

Summer Term 2022

This is a termly staff briefing produced by Knowsley CLCS which is designed to update school practitioners with some of the latest research and resources to support the delivery of online safety in schools.

**Digital Matters**

Internet Matters have created a new online learning platform called Digital Matters to help teachers engage students with their online safety.

Aimed at children aged 9-11, it follows UKCIS' Education for a Connected World Framework and includes a selection of online safety lessons covering topics such as cyberbullying, fake news and password security. Find out more here: https://www.internetmatters.org/digital-matters/

**Rate the Trailer**

Give your class the chance to be a Film & Video Compliance Officer by rating a Film trailer. Encanto has just been added to this page: https://www.cbbfc.co.uk/film-ratings/rate-a-trailer

**Updated version of Keeping children safe in education**

The Department for Education (DfE) has published an updated version of its statutory Keeping children safe in education guidance for schools in England, which will come into force on 01 September 2022. Annex F of the of the new guidance sets out the changes made.

https://www.gov.uk/government/publications/keeping-children-safe-in-education--2

**Ofcom Podcast**

Ofcom have released their second episode of their podcast, Life Online, which looks at where cyberbullying is happening. You can access the podcast here:

https://www.ofcom.org.uk/news-centre/2022/threat-of-online-bullying-greater-than-offline

www.knowsleyclcs.org.uk    Knowsley CLCS    1

**11/1/22 – Parents Online Safety Meeting** 11 families attended the E-safety evening. They asked about specific controls/resources they could access at home. I shared the parent controls booklet and sent out the slides on the Friday email to all parents. They also praised the resources and discussion we had. *"Please can you pass on to Mr. Bogan how useful his zoom call was. We restrict our kids quite a lot with regards to screen time and internet usage and it's tricky to know how to allow it to be more relaxed without them seeing things they shouldn't. He made it seem a lot less scary!"* *"I just wanted to say a huge thank you to Mr Bogan for persevering and holding the e-safety evening yesterday, and it was a huge benefit for me that it was online as it meant I could attend. I found it hugely informative and helpful, especially as its one of the areas I feel I lack current knowledge and awareness."*

## How this Subject Works Alongside Others

- Where possible cross curricular links are made with other subjects. Where clear links with other subjects are made (for example PSHE) these are mapped out on our curriculum map. Our curriculum map is designed by subject leaders and the Curriculum Lead has overall responsibility for ensuring accuracy.
- Online safety is taught within PSHE and Computing lessons throughout the academic year and is taught on a spiral curriculum to ensure children continue to deepen their understanding.

# Early Years

In Early Years, Computing is taught through a topic-based approach which is developed each year through the children's interests. Teachers plan short topics based on the needs and interests of the children. Children can achieve these through continuous provision with enhancements adjusted to the children's needs, through child-led or adult-led activities. The Early Years Leader has developed progression maps which identify which skills will be taught at which stage to support children's historical development so they are ready for year 1 learning. We anticipate seeing history in the Early Years through the following areas and specific goals:

| Communication and Language | <ul><li>Listen attentively and respond to what they hear with relevant questions, comments and actions when being read to and during whole class discussions and small group interactions;</li><li>Make comments about what they have heard and ask questions to clarify their understanding;</li><li>Hold conversation when engaged in back-and-forth exchanges with their teacher and peers.</li><li>Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary;</li><li>Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate;</li><li>Express their ideas and feelings about their experiences using full sentences, including use of past, present, and future tenses and making use of conjunctions, with modelling and support from their teacher.</li></ul> |
|---|---|
| Personal, Social and Emotional Development | **Self-Regulation ELG**<ul><li>Show an understanding of their own feelings and those of others, and begin to regulate their behaviour accordingly;</li><li>Set and work towards simple goals, being able to wait for what they want and control their immediate impulses when appropriate;</li><li>Give focused attention to what the teacher says, responding appropriately even when engaged in activity, and show an ability to follow instructions involving several ideas or actions.</li></ul>**Managing Self**<ul><li>Be confident to try new activities and show independence, resilience and perseverance in the face of challenge;</li><li>Explain the reasons for rules, know right from wrong and try to behave accordingly;</li><li>Manage their own basic hygiene and personal needs, including dressing, going to the toilet, and understanding the importance of healthy food choices.</li></ul>**Building Relationships**<ul><li>Work and play cooperatively and take turns with others;<br>Form positive attachments to adults and friendships with peers;</li><li>Show sensitivity to their own and to others' needs</li></ul> |

## Assessment and Progression

- Progression documents inform teachers of the level at which each class or year group need to be working to achieve age expectations.
- At the end of each unit is a final outcome where children are able to demonstrate what they have learnt.
- Teachers assess children through observation and the final outcome and record this on the Computing assessment document which are then used to inform future planning.

## Monitoring and Pupil Voice

- Subject leaders evaluate the understanding of knowledge and vocabulary through pupil voice of different groups of children and abilities. This supports the subject leaders evaluation of the subject.
- Subject leaders regularly scrutinise children's work in books to evaluate impact of teaching, advise the teacher on even better if and identify next steps in CPD.
- How teachers have adjusted their lessons and supported children with additional needs so that all children have appropriate stretch and support.

After the implementation of our computing curriculum, children at Itchen Abbas will be proficient in their use of technology and able to join the rest of the world on its digital platform. They will be equipped, not only with the skills and knowledge to use technology effectively for the benefit of themselves and others, but more importantly – safely. The children will be creators as well as consumers of digital content. Our children will understand the consequences of using the internet with awareness of how to keep themselves safe online but still keep a buzz for the use of technology with the understanding of the huge positive impact it can make to people's lives.

### Evidence in knowledge
Pupils know how and why technology is used in the outside world, and in the workplace. They know about different ways that computers can be used.

### Evidence in skills
Pupils use acquired vocabulary in computing, including coding, lessons. They have the skills to use technology independently, for example accessing age-appropriate software and games in EYFS and using a range of computer software independently in KS1 and KS2.

This evidence will be collected through teacher-led assessments. Pupils will be assessed on their knowledge, use of technical vocabulary and development of skills. Class teachers will assess if pupils are working below expected, at the expected level or at greater depth against the Computing National Curriculum objectives