

What Computing looks like in Holmer C of E Academy

Four basic elements run through our whole curriculum. Through the Computing and E-safety curriculum - we foster wisdom, hope, cooperation and dignity to enable every child to flourish in the fullness of life.

'You are the salt of the earth... you are the light of the world.' Matthew 5: 13-15.

Curriculum Intent	What does a Computing lesson look like in our school? • Computing is split into two main parts - E-safety and Computing. • E-safety is split into a further eight sections, that have dedicated icons for each section in KS2 pupils. • Computing is split into: Computing systems and networks, Creating Media, Programming and Data and information. • Each class follows Teach Computing (NCCE and STEM) through a whole school approach for Computing. For E-safety is taught overtly in one lesson • Differentiated ability groupings, however provision for flexibility to enable children to work with different people over the course of time, depending on their skills/confidence in the different focuses. • Children understand the learning journey they are taking and learn / experience for purpose. • Mini plenaries to share and clarify misconceptions, pose and answer questions, challenge ideas and share creative ones. This is our philosophy: High quality modelling and scaffolding of skills leading to... Computing • Fluency and capability of the skill being taught with a range of applications and software both on iPads and Laptops as well as other digital devices. • Working at expected depth throughout with support for identified pupils. • Haylock and Cockburn approach - concrete/images/symbols and experiences.
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- Cross-curricular links wherever possible with contextualisation in everyday situations.

E-safety

- Children begin to understand the steps they which they must take in order to remain safe online, both at school and outside.
- Children understand the steps they take after encountering something which makes them feel uncomfortable or upsets them.

Holistically, pupils become confident digital natives as well as supportive, respectful and responsible members of society and the online society as a whole.

This is the Computing knowledge and understanding gained at each stage:

By the end of EYFS:

As there is no National Curriculum currently for EYFS, Holmer has decided to ensure that we educate our pupils as much as possible ready for KS1. With this in mind pupils will be able to:

- Recognise that there is a range of technology and digital devices are used in a wide array of settings, such as homes and schools.
- They can use technology or digital devices for a particular purpose.

By the end of Key Stage 1 pupils will:

- Understand what algorithms are, how they are implemented as small programs on digital devices, and that programs are execute by following precise and unambiguous instructions.
- Create and debug simple programs.
- Use logical reasoning to predict the behaviour of simple programs.
- Use digital devices purposefully to create, organise,

store, manipulate and retrieve digital content.

- Recognise common uses of Computer Systems and Networks, Information and Data, Digital Media and Programming beyond school.
- Use digital devices safely and responsibly, keeping personal information private; identify where to go for help and support when they have concerns about content or contact whilst online.

By the end of Key Stage 2 Pupils will:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.
- Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.
- Understand computer networks, including the internet and World Wide Web (WWW); how they can provide multiple services whilst also enabling communication and collaborative working.
- Use search engines effectively, appreciate how results can be selected and ranked but also effected by industries and companies.
- Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.
- Use technology safely, respectfully and responsibly; recognise acceptable or unacceptable behaviour; identify a range of ways to report concerns about content and or contact.

This is the E-safety knowledge and understanding gained at each stage:

By the end of EYFS:

- Pupils can recognise some ways in which the internet can be used to communicate and can give examples of how I (might) use technology to communicate with people I know. (online relationships)
- Pupils can identify ways that I can put information on the internet. (online reputation)
- Pupils can describe ways that some people can be unkind online and can offer examples of how this can make others feel. (online reputation)
- Pupils can talk about how to use the internet as a way of finding information online and identify devices that could be used to access information on the internet. (Managing online information)

By the end of Key Stage 1:

- Pupils will be able to understand their self-image and identity, learning how to say 'no' and inform on someone who asks them to do something that makes them feel sad, embarrassed or upset.
- Pupils will be able to understand online relationships. They learn how the internet can be used to communicate effectively and identify technology they can use to communicate with people they know.
- Pupils will be able to understand their online reputation and how they can identify ways that they can put information on the internet.
- Pupils will be able to understand what Online Bullying is and how it would make others feel.
- Pupils will be able to understand how to managing online information by talking about how I find things on the internet, identify devices I can use to access information on the internet, I can explain how I can find information (e.g. search engine, voice activated searching.)
- Pupils will be able to explain how to keep themselves healthy and being well balanced whilst working online.
- Pupils will be able to give some simple examples of personal information as well as trusting specific adults.
- Pupils can explain that work they create is theirs as well as naming it so that others know it is theirs.

End of Key Stage 2:

- **Self-image and identity**

Pupils can:

1. describe ways in which media can shape ideas about gender.
2. Identify messages about gender roles and make judgements based on them.
3. Challenge and explain why it is important to reject inappropriate messages about gender online.
4. Describe issues online that might make them or others feel sad, worried, uncomfortable or frightened. They know and can give examples of how I might get help, both on and offline.
5. Explain why they should keep asking until they get the help they need.

- **Online relationships**

Pupils can:

1. Show they understand their responsibilities for the well-being of others in their online social group.
2. Explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming)
3. Demonstrate how they would support others (including those who are having difficulties online)
4. Demonstrate ways of reporting problems online for both themselves and their friends.

- **Online reputation**

Pupils can:

1. Explain how they are developing an online reputation which will allow other people to form an opinion of them.
2. Describe some simple ways that help build a positive online reputation

- **Online bullying**

Pupils can:

1. Describe how to capture bullying content as evidence (e.g. screen-grab, URL, profile) to share with others who can help them.
2. Identify a range of ways to report concerns both in school and at home about online bullying.

- **Managing online information**

Pupils can:

1. Use search technologies effectively.
2. Explain how search engines work and how results are

selected and ranked.

- **Health, well-being and lifestyle.**

Pupils can:

1. Describe ways technology can affect healthy sleep and can describe some of the issues.
2. Describe some strategies, tips or advice to promote healthy sleep with regards to technology.
3. Demonstrate the strategies they would apply to be discerning in evaluating digital content.
4. Describe how some online information can be opinion and can offer examples.
5. Explain how and why some people may present 'opinions' as 'facts'.
6. Define the terms 'influence', 'manipulation' and 'persuasion' and explain how they might encounter these online(e.g. advertising and 'ad targeting').
7. They can demonstrate strategies to enable themselves to analyse and evaluate the validity of 'facts' and they can explain why using these strategies are important.
8. They can identify, flag and report inappropriate content.

- **Privacy and security**

1. They can use different passwords for a range of online services.
2. They can describe effective strategies for managing those passwords (e.g. password managers, acronyms, stories).
3. They know what to do if their password is lost or stolen.
4. They can explain what app permissions are and can give some examples from the technology or services they use.
5. They can describe simple ways to increase privacy on apps and services that provide privacy settings.
6. They can describe ways in which some online content targets people to gain money or information illegally; they can describe strategies to help them identify such content (e.g. scams, phishing).

- **Copyright and ownership**

1. They can demonstrate the use of search tools to find and access online content which can be reused by others.
2. They can demonstrate how to make references to

	and acknowledge sources they have used from the internet.
Curriculum Implementation	<u>This is how it works:</u> • Each year group teacher has access to their year group's scheme of work on line and also the year group's below and above, apart from Year 1 which only has its own and above. • Each class is split into mixed ability groups or pairings • Clear learning pathways in every lesson so that children understand what they are learning, how they are learning and why they are learning it. • All lessons are based upon the previous year groups' learning. • Cross curricular opportunities for application of learnt skills utilise hardware and software including a plethora of apps used on the iPads. <u>This is what adults will do:</u> • Learning walks to ensure that computing is taught each week rather than in a block. • Planning is both overt and discreet building on previous learning, skills and experiences. • Positive use of mistakes / misconceptions • Create a learning environment rich in resources that support learning. • Support, encouragement to foster a love of learning with computing • Members of staff model how to complete a new skill within each lesson. • Research new innovative techniques and programs for application for the delivery of the topic and or for the progression of technology in our ever changing world. • Network with other schools to monitor computing, ensuring that there is a drive forward. • Attend computing CPD opportunities to make computing as fun as engaging as possible eg. Learning how to embed computing into other subjects to promote the learning journey. • Opportunities for parental engagement, involvement and support.

	<u>This is how we support</u> • Small group or individual support from the teacher or TA. • Word banks, definitions and models provided to encourage clearer understanding. • Reflecting on the previous lesson, to ensure that forward movement of learning is appropriate or a revisit. <u>For all children</u> • We use teacher and self-assessment to quickly identify any child who requires additional support in a specific area. <u>This is how we support staff</u> • Identification of CPD need due to lack of confidence and or knowledge. • Use staff meetings to deliver changes or CPD for staff • Digital Leaders used to support staff in delivery of lessons where appropriate an applicable. <u>This is how we challenge</u> • Differentiation throughout lesson via support or resources. • Small group work to further challenge • Reasoning and justification whilst investigating a set task or in answer to a question • Generalising and test rules, ensures that pupils investigate all possible outcomes. • Opportunity for some pupils to participate in coding (programming) sessions outside of school.
Curriculum Impact	<u>This is what you might typically see:</u> • Happy and engaged learners.

- Open ended investigations - low threshold / high ceiling tasks.
- Paired or grouped work.
- A range of different activities including practical and use of cutting edge technology.
- Engagement, resilience and perseverance.
- Self-motivated children
- Children talking positively about computing, sharing and reflecting on their learning and how it relates to real life situations.

This is how we know how well our pupils are doing:

- Tracking using SIMS (in line with other subjects)
- Teacher assessment / targets and use of Hinge Questions at the end of each lesson.
- Verbal or written feedback.
- Photographic evidence and use of QR Code.
- Targeted use of TA.

This is the impact of the teaching.

- Confident children who can talk about their work and computing.
- Children who are enjoying their learning in computing.
- Children have a deeper understanding and application in different contexts of their learnt skills as well as problems solving.
- Children are ready for the next step in their learning and educational journey.
- Confident and resilient digital natives who are responsible, respectful and supportive citizens both on and off line.
- A clear understanding of how remain safe on line in and outside of school.