



SUBJECT: Computing

CURRICLUM POLICY

SUBJECT LEAD: Claire Penfold

DATE: Summer Term 2020

REVIEW DATE: Summer Term 2023

1. Intent

- To provide children with a high-quality computing education with links to maths, science and design technology.
- To support a high level of digital literacy in which children are safe, competent and creative in expressing themselves in a digital world.
- To inspire children to explore and understand how digital systems work, through computer science, and to use this knowledge through programming to create effective programs and systems.
- To equip children with computational thinking and creativity to understand, explore and make a positive difference in the world.

FINAL GOAL FOR THE END OF KS2:

- To use computational thinking and creativity to understand and change the world.
- To understand the principles of computer science through information and computing, how digital systems work, and how to put this knowledge to use through programming.
- To become digitally literate; be able to use, and express themselves and develop their ideas through information and communication technology.
- To be active participants in a digital world.

(2014 Computing Curriculum: Purpose of Study)

2. Implementation

At Lodge Farm, from Spring 2020, we are trialling the **Purple Mash Computing Scheme of Work**, which is created by the Purple Mash 2Simple Team and meets the requirements of the 2014 Computing Programmes of Study: Key Stages 1 and 2.

Early years Objectives

The Purple Mash units for Reception are linked to the Early Learning Goals and provide suggested lesson ideas and resources to support the teaching of these.

It is important in the foundation stage to give children a broad, play-based experience of computing in a range of contexts, including outdoor play. Computing is not just about computers. Early years learning environments should feature computing scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to 'paint' on the whiteboard or program a toy. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language.

Key Stage 1 Objectives

By the end of key stage 1, pupils should be taught to

- understand what algorithms are, how they are implemented as programs on digital devices, and that programs execute by following a sequence of instructions
- write and test simple programs
- use logical reasoning to predict and computing the behaviour of simple programs
- organise, store, manipulate and retrieve data in a range of digital formats
- communicate safely and respectfully online, keeping personal information private, and recognise common uses of information technology beyond school



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Key Stage 2 Objectives

By the end of key stage 2, pupils should be taught to

- design and write 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; generate appropriate inputs and predicted outputs to test programs
- use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs
- understand computer networks including the Internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration
- describe how Internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- select, use and combine a variety of software (including Internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information

See the attached *Computing Curriculum Map* for an overview of the knowledge and skills taught in KS1 and KS2. This is available to parents via the school website.

In KS1 and KS2, Computing lessons are taught, each week, for approximately 45 minutes. Teachers are encouraged to adapt Purple Mash unit plans to make cross-curricular links as appropriate and when they will have a positive impact on the children's learning.

In Reception, Computing knowledge and skills are taught through the ELGs to groups of approximately 6 children each day across a week. Other opportunities are provided for the children to develop their computing knowledge and skills through specific activities set up for child-initiated play.

All children have access to a range of software and hardware resources including Chromebooks and iPads. Resources to support the teaching of the Computing curriculum and other subjects are located in the cupboard in the Yr3/4 shared area.

At Lodge Farm, G Suite for Education is used on Chromebooks. As part of G Suite for Education, Google Classroom is used to support and enhance cross-curricular learning whereby teachers can set assignments or questions for the children to work on, in class or for home learning, independently or collaboratively, and submit for feedback. Parental consent is required for the school to set up a G Suite for Education account for each child. For those children whose parents do not give consent, alternative software or paper-based resources are provided to ensure the child is able to access and engage with the tasks, and work collaboratively with their peers. Further details about G Suite for Education, including a parental consent letter, can be found via the school website and in our *Online Safety Policy*.

Opportunities for visits and visitors to the school are planned for to enhance the Computing curriculum and to enthuse and engage the children in how technology is used in real life.

Lodge Farm hosts a weekly Tech club for KS2, which is run by Next Thing Education <https://nextthing.education/clubs/>

3. Impact

Lodge Farm pupils will leave at the end of KS2 with the knowledge and skills in Computing to be active participants in an ever increasing digital world. They will be digitally literate enabling them to communicate their ideas and with



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others through information technology and be able to use a range of digital systems. Their computational thinking will enable them to be creative and make a positive difference in the world.

FINAL GOAL FOR THE END OF KS2:

- To use computational thinking and creativity to understand and change the world.
- To understand the principles of computer science through information and computing, how digital systems work, and how to put this knowledge to use through programming.
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4. Inclusion

In Computing lessons, differentiated activities or resources will be given to support lower attaining and extend more able children. Children with learning difficulties are identified and have provision made for their particular needs. Provision for children with special needs and any other access issues related to this subject are detailed in the *SEND policy*. At Lodge Farm we have high expectations of all SEND learners.

This is what I had written in my old policy – I quite like the wording. What do you think?

At Lodge Farm, we ensure all children have equal access to the National Curriculum for computing. There is provision for all children to achieve, including boys and girls, higher achievers, gifted and talented, those with SEN, children with disabilities, children from all social and cultural backgrounds, children who are in care and those subject to safeguarding, children from different ethnic groups and those from diverse linguistic backgrounds.

5. Health and safety

Lodge Farm is aware of the health and safety issues involved in children's use of Computing. All electrical appliances in school are annually PAT tested accordingly. We advise that staff should not bring their personal electrical equipment in to school unless this is necessary. This also applies to any equipment brought in to school by outside agencies and it is the responsibility of the member of staff organising this to advise those people. All staff should visually check electrical equipment before they use it and take any damaged equipment out of use. Damaged equipment should be reported to the IT technician, site manager or subject leader who will arrange for repair or disposal.

Online Safety

We take the safety of all members of Lodge Farm seriously and ask children, staff and visitors to agree to and sign our *Acceptable Use Agreement and Code of Conduct* before access to the internet is given. By sending their children to Lodge Farm, our parents agree to support and follow our online safety policy as outlined in the *Pupil Acceptable Use Agreements* relevant for their children's key stage. Parents also agree that they fully understand their responsibilities regarding their own use of social networking in relation to the school, and that they will ensure that appropriate systems are in place at home to protect and support their children.

The *Acceptable Use Agreements* can be found via our school website and in our *Online Safety Policy*.

Online safety is taught through the Computing curriculum. Further lessons may also be taught at the discretion of the class teacher, as appropriate to the needs of each class.



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Lodge Farm participates annually in Safer Internet Day raising awareness of how to stay safe online through a staff meeting, information evening for parents and a range of activities for children. Parents and children receive weekly updates regarding online safety.

Security

All computers and Chromebooks are marked with the school postcode. Chromebooks and iPads are kept in the relevant trolleys and are locked away over periods of school closure.

The computers in the office and Head teacher's room are password protected which are only known to the secretary and Head teacher. All teachers have password protected areas on the network and these passwords are not shared with the children.

The IT technician is responsible for regularly updating anti-virus software.

All staff and governors are aware that Lodge Farm uses the Herts grid for learning Internet filtering and monitoring system. The subject leader's annual report to the Senior Leadership Team and Full Governing Body informs them of other ICT security procedures which can also be found in our *Online Safety Policy*.

6. Home Learning opportunities

Children may be set tasks to support their learning in English and Maths that involve them using a computer program to consolidate and practise their computing skills e.g. Create a times table quiz using PPT or Use Excel to create a line graph of the weather for a week.

Home Learning tasks may be set using online resources that the school subscribes to e.g. Mathletics, Phonics Play, Oxford Owl and Purple Mash. Home Learning tasks may also be set on Google Classroom. All children have unique usernames and passwords for Mathletics, Purple Mash and Google Classroom.

If children are required to use devices as part of their home learning, provision is made in school for them to complete this if they do not have the necessary provision at home.

7. Assessment

In order to ensure progress is made in Computing, Lodge Farm have introduced a new termly tracking sheet which allows the class teacher to track pupils' progress and attainment. Teachers will assess each child against key objectives once the key objective is taught for that unit. Teachers are expected to use this data to identify gaps for individuals as well as specific objectives that the whole class need to work on and plan to fill the gaps accordingly. Each term, the sheet is saved again and progress for the learning can then be tracked term on term across the year and Key Stage. This data is used the following year to help teachers see how the children progressed with the objectives and meet the needs of their new students more readily.

8. Monitoring

The subject leader will

- monitor and review the teaching, learning and assessment of computing in all year groups
- ensure there is appropriate provision and progression across the school



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This is achieved through:

- staff training of the Purple Mash Computing curriculum and supporting teachers as appropriate with additional training, team teaching and support with planning and differentiation
- book looks / online folder looks to monitor pupils' knowledge and skills and their application of these in independent tasks
- lesson observations to monitor teachers' knowledge, skills and expertise in teaching the units, including differentiation for SEND and EAR pupils, and to provide support where necessary
- monitoring as above to ensure that a broad and balanced Computing curriculum is taught within year groups and across the school (see attached Curriculum map)
- teacher voice to identify strengths and weaknesses and to whom additional support is needed
- pupil voice alongside book looks/ online folder looks to gain a better understanding of what new knowledge and skills pupils have learnt or consolidated within a unit, term or year
- informal conversations with teachers and pupils

- analysis of the assessment data on the termly tracking sheets to ascertain where there may be a need for additional training or further support with planning, teaching and assessing
- analysis of the assessment data to support local school events including More Able workshops and specific computing skills workshops

- report on provision and standards in Computing, cross curricular use of ICT and Online safety to the Senior Leadership Team and the Full Governing Body annually