



Parklands Community Primary School

Computing Policy

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Reviewed by: Teaching and Learning Committee

Computing Policy

Introduction

Building on Children's Earlier Experiences

Most of our children will have used a computer either at home or in their nursery settings. The differing types and frequency of access to IT resources children have offer a challenge when planning delivery of the programmes of study. Children who have regular and diverse access to IT outside school are likely to have greater skills in handling hardware and software. However, they may not have the full range of IT capability expected in the programme of study. By observing children's developing IT capability, we will be able to ascertain what tasks and expectations would best support their learning.

Aims

The Computing curriculum should offer opportunities for our children to:

- Develop their understanding of the fundamental principles and concepts of computer science
- Develop their skills in using hardware and software to manipulate information in their process of problem solving, recording and expressive work
- Develop a high-quality computing education which equips them to understand and change the world through logical thinking and creativity
- Develop their understanding of how digital systems work and to become digitally literate individuals
- Explore their attitudes towards IT, its value for themselves, others and society, and their awareness of its advantages and limitations
- To enhance learning in other areas of the curriculum using computing.

Our children should:

- Work with others, listening to their ideas and expertise and treat these with respect, e.g. cooperating and collaborating when using a computer as part of a group to ensure that all contribute
- Acknowledge the ownership of ideas and recognise the value of information held on IT systems, e.g. recognising how much work has gone into producing a computer file, and how easily careless access can destroy it
- Be aware of the security of their own and other people's information in electronic form, e.g. recognise that they should ask before reading or copying from other's work
- Recognise the importance of printed output, e.g. keeping examples of work safe so that source files may be easily identified when work is developed at a later date
- Be creative and persistent, e.g. when assembling a computer file from a large amount of source material
- Consider the origin and quality of information and its fitness for purpose;
- Evaluate critically their own and others' use of IT
- Recognise the strengths and limitations of IT and its users, e.g. recognising that a word processor is an effective and efficient tool to help writing, but, on occasion, handwritten text is more appropriate

- Develop knowledge and understanding of important ideas, processes and skills and relate these to everyday experiences
- Develop knowledge and skills in programming and debugging
- Learn about ways of thinking and finding out about and communicating ideas
- Explore values and attitudes through IT

Early Years Foundation Stage

At Parklands it is important in the Early Years Foundation Stage to give children a broad, play-based experience of IT in a range of contexts, including outdoor play. Computing is not just about computers. Early Years learning environments should feature IT scenarios based on experience in the real world, such as in role play. Children gain confidence, control and language skills through opportunities to explore using non-computer based resources such as controllable traffic lights and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particularly useful with children who have English as an additional language.

Statutory Requirements

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 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.

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

Teaching and Learning

Computer science

Our children should:

Acquire and develop the skills associated with computer science in order to:

- 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 algorithms work and 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

Information Technology

Our children should:

Acquire and develop skills associated with Information Technology in order to:

- Use search technologies effectively
- 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
- Acquire and refine the techniques, e.g. saving, copying, checking the accuracy of input and output needed to use IT
- Practise mathematical skills, e.g. ordering numbers including negative numbers, measuring and calculating to an appropriate number of decimal places, drawing and interpreting graphs and bar charts in real contexts
- Learn why numerical and mathematical skills are useful and helpful to understanding
- Develop the skills of collecting first hand data, analysing and evaluating it, making inferences or predictions and testing them, drawing and presenting conclusions, and use all these in their work with IT

Digital literacy

Our children should:

Acquire and develop their skills in digital literacy in order to:

- Understand the opportunities networks offer for communication and collaboration
- Be discerning in evaluating and presenting data and information
- Be able to use technology safely, respectfully and responsibly
- Recognise acceptable/unacceptable behaviour
- Identify a range of ways to report concerns about content and contact from inappropriate sources

Language and Communication

Our children should:

- Develop language skills, e.g. in systematic writing and in presenting their own ideas
- Use the appropriate technical vocabulary
- Read non-fiction and extract information from a range of sources

Features of Progression

To ensure children make progress in computing, teaching should promote opportunities for children to know more and retain more year on year, as they move through the Key Stage, to progress:

- From using single forms of information to combining different types of information, matching the form of presentation to the audience and what is being communicated
- From personal use of IT to using IT to meet the needs of, and communicate with others
- From using IT to replicate and enrich what could be done without IT, e.g. playing a word game or drawing a picture to using IT for purposes that could not have been envisaged without it such as exploring 'what if' situations and modelling new ones
- From using everyday language to describe work with IT to increasingly precise use of technical vocabulary and ways of recording
- From personal use of IT in a few areas to understanding a wider range of uses of IT and the consequences of its use for themselves, their work and others
- From using IT to address a single task, e.g. writing a story to addressing more complex issues, and balancing conflicting ideas and points of view
- From organising information as separate items, e.g. single graphic image to organising information in sequences and more complicated, interactive, structures, e.g. a multimedia presentation or a database
- From initial exploration of ideas and patterns to more systematic use of IT for analysis and design

Inclusion

We will ensure that all children are provided with the same learning opportunities whatever their social class, gender, culture, race, disability or learning difficulties. As a result we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to IT and computing and all staff members follow the Equal Opportunities policy. Resources for SEN children and more able will be made available to support and challenge appropriately.

Risk Assessments

The school is aware of the health and safety issues involved in children's use of IT and computing:

- All portable electrical equipment in school is tested by an external contractor every twelve months
- Damaged equipment should be reported to the technician or business manager who will arrange for repair or disposal
- Trailing leads should be made safe behind the equipment
- Liquids must not be taken near the computers

Sources and References

- The National Curriculum in England Framework Document July 2014
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/381344/Master_final_national_curriculum_28_Nov.pdf
- The Early Years Foundation Stage Profile: Exemplification Materials
<https://www.gov.uk/government/publications/eyfs-profile-exemplification-materials>
- Development Matters in the Early Years Foundation Stage
- https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/988004/Development_Matters.pdf

Relation to other Policies and Appendices

The Computing policy should be read in conjunction with our policies for curriculum, teaching and learning, online safety, staff and pupil acceptable use, twitter, SEND and assessment.

Monitoring and Evaluation of Computing

The Computing subject leader team and SLT will:

- Monitor the teaching and learning of Computing through observations, work scrutiny and planning, and provide feedback to staff
- Attend and lead training

The Computing subject leader team will monitor the effectiveness of the policy as outlined above. The Computing Governor will monitor the impact of the policy by receiving reports on whole school monitoring and gaining first-hand knowledge through visiting the school.

Monitoring, Evaluation and Review of the Policy

The policy will be reviewed annually by the Computing team and SLT. Governors will then review amendments at the curriculum committee; to ensure it is kept in line with any changes that take place within the school or externally.