

Belvedere Infant and Junior Schools

Computing Policy

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Principle Academy Vision

We put children first, pioneering excellence and championing each and every child.

School Vision

We at Belvedere Infant and Junior schools believe that every child, every family and every minute matters. We take pride in providing a nurturing and stimulating environment that encourages children to take risks and dream big in a place they feel safe, happy and listened to. Together we will create happy memories that last forever.

Aims

The school's aims are to:

- Provide a broad, balanced, challenging and enjoyable curriculum for all pupils.
- Develop pupil's computational thinking skills that will benefit them throughout their lives.
- Meet the requirements of the national curriculum programme of study for Computing at Key Stage 1.
- To respond to new developments in technology.
- To equip pupils with the confidence and skills to use digital tools and technologies throughout their lives.
- To enhance and enrich learning in other areas of the curriculum using IT and Computing.
- To develop the understanding of how to use computers and digital tools safely and responsibly.

The National Curriculum for Computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles of computer science, including logic, algorithms, data representation, and communication.
- Can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems.
- Can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems.
- Are responsible, competent, confident and creative users of information and communication technology.

Rationale

With technology being such a widely-used tool in today's society, Computing has become more prominent than ever before. Therefore, at The Pioneer Academy, we incorporate Computing across the curriculum. We aim to equip the children with up-to-date and informative digital knowledge.

At the forefront of all Computing lessons is E-Safety. We teach the children to use technology safely and respectfully, including what steps to take if they are unsure about online content. Whilst the children are being taught to use technology purposefully, they are encouraged to apply the use of logical reasoning in order to decode and create digital content.

Throughout their time at Belvedere Infant and Junior Schools, the children will have the opportunity to create and detect errors within their own algorithms and programmes, as well as use a variety of software to collect, analyse, evaluate and present data and information.

Objectives

Early Years Foundation Stage (EYFS) - see also EYFS policy

It is important in the EYFS to give children a broad, play-based experience of IT and Computing in a range of contexts, including off-computer activities and 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 such as 'programming' each other using directional language to find toys/objects, creating artwork using digital drawing tools and controlling programmable toys.

Outdoor exploration is an important aspect and using digital recording devices such as video recorders, cameras and microphones can support children in developing communication skills. This is particularly beneficial for children who have English as an additional language.

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.
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

By the end of Key Stage 2 (in Belvedere Junior School) 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 worldwide 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.
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Resources and access

The school acknowledges the need to continually maintain, update and develop its resources and to make progress towards consistent, compatible computer systems by investing in resources that will effectively deliver the objectives of the National Curriculum and support the use of IT, computer science and digital literacy across the school. Teachers are required to inform the Computing subject leader of any faults as soon as they are noticed. Resources if not classroom based are located in the laptop iPad trollies. Computing network infrastructure and equipment has been sited so that:

- Every classroom from Nursery to Year Six has a computer connected to the school network and an interactive white board with sound, DVD and video facilities.
- Resources include iPads, tablets or equivalent tablets, laptops, voice recording devices and Roamer Robots to assist in delivering the curriculum.
- Belvedere Junior School has a Computing suite which is shared with Belvedere Infant School
- Internet access is available in all classrooms.
- Pupils may use IT and Computing independently, in pairs, alongside a TA or in a group with a teacher.
- The school has access to a Computing technician from the central team who is in school 1 day a week.

Planning

We use the National Centre for Computing Education (NCCE), a scheme of work closely linked to the National Curriculum which allows for progression from year 1 to year 6. **Appendix A** shows a unit overview for KS1. This is weaved into relevant sections of the International Primary Curriculum.

The children have access to an in-depth e-safety lesson at the beginning of each half term, and an e-safety starter at the beginning of every lesson.

Pupil progress towards the learning objectives will be recorded by the class teacher and analysed by the Computing Subject Lead.

A minority of children will have particular teaching and learning requirements which go beyond the provision for that age range and if not addressed, could create barriers to learning. This could include Gifted and Talented children, those with SEN or those who have EAL. Teachers must take account of these requirements and plan, where necessary, to support individuals or groups of pupils to enable them to participate effectively in the curriculum and assessment activities. During any teaching activities, teachers should bear in mind that special arrangements could be made available to support individual pupils. This is in accordance with the school inclusion policy. These children should be identified and discussed at pupil progress meetings to ensure that appropriate provisions and/or interventions are effected.

Assessment and record keeping (also see assessment policy)

Regular assessment of progress is made through observations and evidence. Key objectives to be assessed are taken from the National Curriculum to assess Computing. The school also uses NCCE assessment criteria as a guide. Assessing Computing is an integral part of teaching & learning and key to good practice.

Assessment should be process orientated - reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of Computing concepts. As assessment is part of the learning process, it is essential that pupils are closely involved. Assessment can be broken down into;

- Formative assessments are carried out during and following short focused tasks and activities. They provide pupils and teaching staff the opportunity to reflect on their learning in the context of the agreed success criteria. This feeds into planning for the next lesson or activity.
- Summative assessment should review pupils' ability and provide a best fit 'level'. Independent tasks provide a number of opportunities and scope for pupils to demonstrate their capability throughout the term. There should be an opportunity for pupil review and identification of next steps. Summative assessment should be recorded for all pupils – showing whether the pupils have met, exceeded or not achieved the learning objectives.

We assess the children's work in Computing by making informal judgments as we observe the children during lessons. Once the children complete a unit of work, we make a summary judgment of the work for each pupil as to whether they have yet to obtain, obtained or exceeded the expectations of the unit.

We record the results in our assessment files and we use these to plan future work, provide the basis for progress and to communicate with the pupil's future class teacher(s). The children's work is saved on the school network. Other work may be printed and filed within the subject from which the task was set.

Pupils with special educational needs (see also SEND policy)

We believe that all children have the right to access IT and Computing. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the Computing curriculum for some pupils.

We teach IT and Computing to all children, whatever their ability. Computing forms part of the national curriculum to provide a broad and balanced education for all children. Through the teaching of Computing we provide opportunities that enable all pupils to make progress. We do this by setting suitable challenges and responding to each child's individual needs. Where appropriate IT can be used to support SEND children on a one-to-one basis where children receive additional support.

Equal opportunities (see also equal opportunities policy)

We will ensure that all children are provided with the same learning opportunities regardless of 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 Computing and all staff members follow the equal opportunities policy. Resources for SEND children and gifted & talented will be made available to support and challenge appropriately.

The role of the Subject Leader

There is a Computing subject leader who is responsible for the implementation of the Computing policy across the school. Their role is to:

- Offer help and support to all members of staff (including teaching assistants) in their teaching, planning of Computing across the curriculum.
- Maintain resources and advise staff on the use of digital tools, technologies and resources.

- Monitor the children’s progression in Computing, looking at examples of work of different abilities.
- Manage the Computing budget.
- Keep up-to-date with new technological developments and communicate information and developments with colleagues
- Lead staff training on new initiatives.
- Attend appropriate in-service training
- Have enthusiasm for Computing and encourage staff to share this enthusiasm.
- Keep parents and governors informed on the implementation of Computing in the school.
- Liaise with all members of staff on how to reach and improve on agreed targets.

The role of the class teacher

Individual teachers will be responsible for ensuring that pupils in their classes have opportunities for using their knowledge, skills and understanding of Computing across the curriculum.

We set high expectations for our pupils and provide opportunities for all to achieve, including girls and boys, pupils with educational special needs, pupils with disabilities pupils from all social and cultural backgrounds, and those from diverse linguistic backgrounds.

The class teacher’s role is a vital role in the development of Computing throughout the school and will ensure continued progression in learning and understanding, and create effective learning environments.

The class teacher will also:

- Secure pupil motivation and engagement.
- Provide equality of opportunity using a range of teaching approaches and techniques.
- Use appropriate assessment techniques and approaches.
- Set suitable targets for learning as outlined in the inclusion policy.
- Maintain up to date assessment records (see policy document).

Staff training

The Computing subject leader will assess and address staff training needs as part of the annual development plan process or in response to individual needs and requests throughout the year.

Individual teachers should attempt to continually develop their own skills and knowledge, identify their own needs and notify the subject leader.

Teachers will be encouraged to use IT and Computing to produce plans, reports, communications and teaching resources.

Health and safety (see also health and safety policy)

The school is aware of the health and safety issues involved in children’s use of IT and Computing.

All fixed electrical appliances in school are tested by an external contractor every five years and all portable electrical equipment in school is tested by an external contractor every two years.

It is advised that staff should not bring their own electrical equipment in to school but, if this is necessary, equipment must be PAT tested before being used in school. This also applies to any equipment brought in to school by, for

example, visitors running workshops, activities, etc. and it is the responsibility of the member of staff organising the workshop, etc. 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 then be reported to the IT Department, School Business Manager or head teacher who will arrange for repair or disposal.

In addition:

- Children should not put plugs into sockets or switch the sockets on.
- Trailing leads should be made safe behind the equipment.
- Liquids must not be taken near the computers.
- Magnets must be kept away from all equipment.
- Safety guidelines in relation to IWBs will be displayed in the classrooms.
- E-safety guidelines will be set out in the e-safety policy & Acceptable Use Guidelines.

Security

We take security very seriously. As such:

- The Computing technician will be responsible for regularly updating anti-virus software.
- Use of IT and Computing will be in line with the school's 'acceptable use policy'. All staff, volunteers and children must sign a copy of the schools AUP.
- Parents will be made aware of the 'acceptable use policy' at school entry.
- All pupils and parents will be aware of the school rules for responsible use of IT and Computing and the internet and will understand the consequence of any misuse.
- The agreed rules for safe and responsible use of IT and Computing and the internet will be displayed in all Computing areas.

Cross curricular links

As a staff we are all aware that IT and computing skills should be developed through core and foundation subjects. Where appropriate, IT and Computing should be incorporated into schemes of work for all subjects. IT and Computing should be used to support learning in other subjects as well as developing computing knowledge, skills and understanding.

Parental involvement

Parents are encouraged to support the implementation of IT and Computing where possible by encouraging use of IT and computing skills at home for pleasure, through home-learning tasks and use of the school website. Parents will be made aware of issues surrounding e-safety and encouraged to promote this at home.



Unit summaries

	Computing systems and networks	Creating media	Programming A	Data and information	Creating media	Programming B
Year 1	<p>Technology around us</p> <p>Recognising technology in school and using it responsibly.</p>	<p>Digital painting</p> <p>Choosing appropriate tools in a program to create art, and making comparisons with working non-digitally.</p>	<p>Moving a robot</p> <p>Writing short algorithms and programs for floor robots, and predicting program outcomes.</p>	<p>Grouping data</p> <p>Exploring object labels, then using them to sort and group objects by properties.</p>	<p>Digital writing</p> <p>Using a computer to create and format text, before comparing to writing non-digitally.</p>	<p>Programming animations</p> <p>Designing and programming the movement of a character on screen to tell stories.</p>
Year 2	<p>Information technology around us</p> <p>Identifying IT and how its responsible use improves our world in school and beyond.</p>	<p>Digital photography</p> <p>Capturing and changing digital photographs for different purposes.</p>	<p>Robot algorithms</p> <p>Creating and debugging programs, and using logical reasoning to make predictions.</p>	<p>Pictograms</p> <p>Collecting data in tally charts and using attributes to organise and present data on a computer.</p>	<p>Digital music</p> <p>Using a computer as a tool to explore rhythms and melodies, before creating a musical composition.</p>	<p>Programming quizzes</p> <p>Designing algorithms and programs that use events to trigger sequences of code to make an interactive quiz.</p>