NELSON MANDELA PRIMARY SCHOOL

"Putting your child at the heart of learning"

Our Vision

- Nelson Mandela School is committed to working in partnership with the community to ensure the best outcomes for all.
- We strive to remove the barriers which may hinder learning
- We will provide challenge and high expectations to help our children to reach their goals
- We strive to open minds and open doors to support everyone on their lifelong journey of learning.

Nelson Mandela School Computing Policy

Our School Aims:

In teaching Computing at Nelson Mandela Primary School we aim:

- To meet National Curriculum requirements
- To use technology as a tool to enhance learning throughout the curriculum.
- To provide a relevant, challenging and enjoyable curriculum for computing for all pupils.
- To use staff common to share planning and ideas
- That computing is presented as a creative and fascinating process in which children are encouraged to use their own initiative, imagination, reasoning and investigative skills.
- To respond to new developments in technology.
- To equip pupils with the confidence and capability to use computing skills throughout their later life.
- To develop the understanding of how to use technology safely and responsibly.
- To encourage all teachers to develop their own confidence and awareness of the ways in which Computing might contribute to their teaching and achievements across the curriculum

Computing Curriculum

Early Years Foundation Stage

It is important in the foundation stage to give children a broad, play-based experience of Technology in a range of contexts, including outdoor play. Technology is not just about computers. Early years learning environments should feature technology 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 drive a remote-controlled toy. Outdoor exploration is an important aspect, supported by toys such as metal detectors, microphones and walkie-talkie sets. Recording devices can support children to develop their communication skills. This is particular useful with children who have English as an additional language.

Understanding the world – Technology Early years outcomes

Birth to 11 months/ 8 to 20 months

• The beginnings of understanding technology lie in babies exploring and making sense of objects and how they behave.

16 to 26 months

• Anticipates repeated sounds, sights and actions, e.g. when an adult demonstrates an action toy several times.

• Shows interest in toys with buttons, flaps and simple mechanisms and beginning to learn to operate them.

22 to 36 months

• Seeks to acquire basic skills in turning on and operating equipment.

• Operates mechanical toys, e.g. turns the knob on a wind-up toy or pulls back on a friction car.

30 to 50 months

• Knows how to operate simple equipment.

• Shows an interest in technological toys with knobs or pulleys, or real objects.

• Shows skill in making toys work by pressing parts or lifting flaps to achieve effects such as sound, movements or new images.

• Knows that information can be retrieved from computers.

40 to 60+ months

• Completes a simple program on a computer.

• Interacts with age-appropriate computer software.

Early learning goal – technology

Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes.

Exceeding ELG

Children find out about and use a range of everyday technology. They select appropriate applications that support an identified need – for example in deciding how best to make a record of a special event in their lives, such as a journey on a steam train

National Curriculum

Purpose of study

A high-quality computing education equips pupils to understand and change the world through logical thinking and creativity, including by making links with mathematics, science, and design and technology. The core of computing is computer science, in which pupils are taught the principles of information and computation, and how digital systems work. Computing equips pupils to use information technology to create programs, systems and a range of media. It also ensures that pupils become digitally literate – able to use, and express themselves and develop their ideas through, information and communication technology – at a level suitable for the future workplace and as active participants in a digital world.

Aims

The national curriculum for computing aims to ensure that all pupils:

- Can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- 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.

Attainment targets

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

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 precise and unambiguous instructions
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Use technology safely and respectfully, keeping personal information private; know where to go for help and support when they have concerns about material on the internet
- Recognise common uses of information technology beyond school.

Key stage 2

Pupils should be taught 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 simple algorithms work 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
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Use technology safely, respectfully and responsibly; know a range of ways to report concerns and inappropriate behaviour
- 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.

Curriculum Planning

Resources

- Every classroom from nursery to y6 has a laptop connected to the school network and an interactive whiteboard with sound.
- We have a Computer suite of 30 desktop computers. Each class is allocated a time slot in the Computer suite each week, a timetable to available in the suite for staff to book the suite at other available times.
- Each year group from year two upwards has a laptop trolley always available for computing lessons and cross curricular use.
- Computers are also installed in some quiet areas throughout school and in nursery.
- We have a year group set of Ipads and a group set of 10 mini IPads,
- Control hardware (Bee-Bots, Pro-bots, remote control toys, microphones, video cameras) are available from Paddy (Please give time for batteries and charging to take place and return when not in use)
- The school has a technician and a computing Team, we are also supported by Link2ict.
- All children and staff members have personal login details. Children from year 2 onwards also have individual login details. When logged on children see a desktop that provides suitable programmes for their age level and ability.

Planning

Children should spend at least 45 minutes each week focusing on computing skills.

Each year group will use the Rising Stars Switched on Computing units, this provides plans, resources and support for staff, where staff are confident to plan own units based on National curriculum skills individual lesson plans will be written .

In Computing, as with all subjects, in order to develop the continuity and progression of teaching and learning, a balance between whole class, individual and group work, and direct teaching, pupil investigation and skills practice should be planned throughout the school.

During any teaching activities teachers should plan for and resource any special arrangements could be made available to support individual pupils, this could include G&T children, those with

SEN or those who have EAL. This is in line with the school inclusion policy. These children should be identified and planned for to give them access to the computing curriculum.

Cross-Curricular Links

An important feature of Computing in the National Curriculum is the intention that it be treated as a cross curricular subject.

- Children enjoy Computing and by incorporating this and multimedia resources into our curriculum we have a great way to offer fresh and interesting approaches to familiar material and also develops our own skills.

It is essential that Computing be treated as a classroom resource which every child should experience regularly. This requires each teacher to be aware of the potential for using computing in his/her teaching programme and to ensure that that potential is exploited to the benefit of the pupils.

The use of Computing within subjects should be recorded, or cross-referenced on the sheet for that subject.

Assessment including reporting to parents

Teachers regularly assess capability through observations and on-going assessment of skills.
Key objectives to be assessed are taken from the national curriculum to assess key computing curriculum and computing skills each term.

- Assessing computing work is an integral part of teaching and learning and central to good practice. It should be process orientated - reviewing the way that techniques and skills are applied purposefully by pupils to demonstrate their understanding of the concepts of computing.
- 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' capability and provide a best fit level. Use of independent open ended tasks, provide opportunities for pupils to demonstrate capability in relation to the term's work. 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 are emerging, expected or exceeded the learning objectives.

We assess the children's work in computing by making informal judgements as we observe the children during lessons against computing learning objectives. Once the children complete a unit of work, we make a summary judgement of the work for each pupil as to whether they have achieved outcomes from the Rising Stars units. We then record the results on Target Tracker using best fit statements, we use this to plan future work, to provide the basis for assessing the progress of the child and to pass information on to the next teacher at the end of the year.

- Sample work can be accessed on the school system on the common drive and IPad common.
- Parents are made aware of children's progress in Computing through on going conversations and with school reports.

Monitoring and evaluation

- The Computing co-ordinator regularly monitors all aspects of computing throughout school, this includes lesson observations, planning, use of Computing throughout school and the school system.
- The co-ordinator also monitors assessment through out school, giving support and then evaluating progression, skills covered, trends, use of programmes and equipment.

Equal opportunities

- All children have access to the use of Computing regardless of gender, race, cultural background or physical or sensory disability.
- Children with learning difficulties can also be given greater access to the whole curriculum through the use of technology. Their motivation can be heightened and they are able to improve the accuracy and presentation of their work. This in turn can raise self-esteem.
- For those children who are identified as talented, Computing provides opportunity to extend their ability through a wide range of programmes and resources and allows for independence and choice to continue their own learning. They are also able to extend their own skills through new software such as 'Scratch'.

Homework and parental involvement

- Parents are encouraged to support the implementation of computing where possible by encouraging use of computing skills at home during home-learning tasks and through the school website. They will be made aware of e-safety and encouraged to promote this at home through parent workshops.
- Our Website is also a great way of sharing important news with our parents, resources for our children's learning and for parents to contact us.

Setting homework for computing homework can be problematic, since we cannot expect that every child has Computing facilities at home. It may be appropriate, from time to time, to ask pupils to prepare ideas and content for work to be completed at school.

- Children can be given the opportunity of taking laptops home, giving those who are usually unable to access computing resources time to build on their skills. Parents will be involved with this to enable them to become confident to support their children.
- Presentations and display of children's work is now shared with parents through Computing, the use of smart boards and the Plasma TV in our school entrance hall are a great form of communication, and our developing website also aims to become a new form of communication with parents.
- All children have homework passes to Purple Mash, a great online learning resource.

Display

- Regular display of Computing work should stimulate, develop and maintain pupils' interest in and enjoyment computing. This is displayed in many ways - in classrooms, the Computer suite, around school areas, on Plasma screen and Smart boards.
- Computing work should be displayed but teachers must not always only use word processed text to label. Handwriting should be modelled on display.
- Displays also reinforce children's understanding of E-safety and how they can keep safe at home and in school when using technology.

E-safety – See E-safety policy

- We have a school E-safety policy that is updated annually and reviewed by the Head teacher, staff and Governors.
- The technician /coordinator will be responsible for regularly updating anti-virus software along with Link2ICT.
- Use of 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' throughout school.
- All pupils and parents will be aware of the school rules for responsible use of technology and the internet and will understand the consequence of any misuse.
- The agreed rules for safe and responsible use of technology and the internet will be displayed throughout school.

Health and safety

- Children should not be responsible for moving heavy equipment around the school. They may load software but should not be given the responsibility of plugging in and switching machines on without a member of staff present.
- Food and drink should not be consumed near technical equipment.
- It is the responsibility of staff to ensure that classroom equipment is stored securely, cleaned regularly and that their class or they leave the computer Suite clean and tidy after use.
- Staff should ensure that the children are seated at the computers comfortably and be aware of the dangers of continuous use.

Role of coordinator

- To provide help and support to other staff to ensure Computing is implemented into their daily teaching across the curriculum.
- Providing staff insets to support staff training needs.
- To provide sufficient information for medium term planning to cover national curriculum standards.
- To monitor Computing throughout school and provide feedback and evaluation from this.
- To give guidelines for assessment and support staff with choices for assessment tasks.
- To ensure staff common drive is being used effectively and maintained.
- To ensure all Computing resources are fully working and up to date.
- To produce a Computing school development plan and for the implementation of the computing policy across the school.

- To manage the computing budget
- To attend appropriate in-service training and keep staff up to date with relevant information and developments.
- To keep parents and governors informed on the implementation of Computing in the school.

The role of the class teacher

- Individual teachers will be responsible for ensuring that pupils in their classes have opportunities for learning computing skills and using computing across the curriculum.
- To plan and deliver the requirements of the Early Years Outcomes and National curriculum
- Providing equality of opportunity through teaching approaches.
- Using appropriate assessment approaches
- Setting suitable targets for learning as outlined in the inclusion policy.
- 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.
- To keep up to date assessment records.