Alexandra Infants' and Junior School

COMPUTING POLICY

This is the computing policy for both Alexandra Infants School and Alexandra Junior School. Our schools understand that every child has the right to an education (*as in accordance in with UNCRC article 28*). The teaching of computing will fulfil the children's rights.

Intent

We know that our children start school with different levels of computing understanding. Our curriculum is designed to ensure that all children have access to progressive, creative and engaging opportunities in computing; preparing them for their future as a lifelong learner. Specific language development will enable them to understand the technical vocabulary linked to computing and the skills they are learning.

Through the study of Computing, children will be able to develop a wide range of fundamental skills, knowledge and understanding that will actually equip them for the rest of their life. Computers and technology are such a part of everyday life that our children would be at a disadvantage would they not be exposed to a thorough and robust Computing curriculum. Children must be taught in the art form of 'Computational Thinking' in order to provide them essential knowledge that will enable them to participate effectively and safely in the digital world beyond our gates.

IMPLEMENTATION

The use of information and communication technology is an integral part of the national curriculum and is a key skill for everyday life. Computers, tablets, programmable robots, digital and video cameras are a few of the tools that can be used to acquire, organise, store, manipulate, interpret, communicate and present information. At Alexandra Infant School and Alexandra Junior School, we recognise that pupils are entitled to quality hardware and software and a structured and progressive approach to the learning of the skills needed to enable them to use it effectively.

We aim to inspire all children to reach their full academic potential. In computing, this means ensuring a curriculum that is fully inclusive of all children which develops:

- A positive attitude towards computing and an awareness of the fascination of digital learning;

- Understanding in computational knowledge, concepts and skills;

- An ability to solve problems, to reason, to think logically and to work systematically and accurately;

- Initiative and an ability to work both independently and in co-operation with others;

- An ability to communicate computationally;

- An ability to use and apply computing across the curriculum and in real life;

- An understanding of computing through a process of enquiry and experiment.

- Opportunities for all children within the school to develop their full potential in computing.

This policy is set within the context of the schools' vision, aims and policy on teaching and learning. As a result of their learning in computing across the curriculum children will:

- Be prepared for applying their skills effectively in everyday life situations, in their future learning and in the work place.

- Have the building blocks in place and to provide a solid foundation to lead onto secondary, further and higher education.

Through teaching with a problem solving approach, children will learn to understand, distil and clarify information; consider what they know that will help them to solve problems, realise what they need to know next; create systems and strategies, organising information in a way that helps find patterns and ultimately solutions and to communicate and present their findings effectively.

Strategy for implementation.

Computing is divided into the following areas:

- Programming
- Data
- Communication
- Digital Literacy and Research
- Multimedia

Opportunities to use and apply key computing skills exists throughout all the strands, as well as opportunities to address e-safety.

The new 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.

Teaching and learning

Foundation Stage

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. They also start to understand where technology is used in the world around them, particularly in their immediate surroundings such as in the home. Recording devices can support children to develop their communication skills. This is particular useful with children who have English as an additional language.

Key Stage 1

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.

Key Stage 2

Children need to understand general internet safety before moving into the elements of what they use the internet for, therefore E-Safety is the first unit we will cover in each year group. We know that our children are more often corresponding with each other through chat and instant messaging with many of them using social software including online gaming. In the summer term, before the summer holiday it is important to recap everything under the topic of using mobile phones and the mobile internet as this is more than likely to be the way they contact over the 6 week break and they need to be reminded of how to use them appropriately and responsibly.

Although there are ilearn2 E-safety units, we ask that teachers spend the first lesson of each half term with a focus on E-Safety.

Autumn 1 – using the internet
Autumn 2 – using email
Spring 1 – using chat and instant messaging
Spring 2 – using social software, including online gaming
Summer 1 – using file sharing services
Summer 2 – Using mobile phone and the mobile internet

Each year group will focus on elements relevant to their year group's age and needs according to current issues.

We use ilearn2 to support the planning and teaching of computing lessons as this programme has been created with progression of skills in mind. Units have been selected carefully to ensure progression in evident throughout the key stage with children building upon skills learn in previous year groups. Some units do stand alone, but the key computing skills the children will be learning will continue to progress through these units too.

At Alexandra Junior, it is important that lessons are designed to support all learners and the key to iLearn2 is that pupils can access activity pack online. Each pack includes video tutorials, tasks, challenges and extension activities which allow the pupils to learn digital skills as their own pace. Teachers can assign activity packs to the children to ensure the correct level of challenge.

Teachers will sometimes decide, that in order to best support a child who requires further support, mixed ability pairs or groupings will be used with the activity packs to give the children peer support and allow for discussion between the children.

For some children, particularly those who are new to English, it may be more important for them to learn key computing skills, for example mouse control or opening and saving documents, rather than being asked to complete the ilearn2 tasks.

Not all lessons will require the children to physically use the digital devices, although most will, but all lessons should be a balance of discussion about the learning and digital learning.

Our school delivers the Computing curriculum through topic areas and discrete lessons. We have a range of equipment to enable us to do this: interactive whiteboards, laptops, kindles and iPads.

By the end of 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.
- Select, use and combine a variety of software (including internet services) 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/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Planning

Teachers will follow the school's curriculum overview. Teachers may change the order that their year groups units are taught, to enable cross-curricular links to be made provided all units are complete by the end of the academic year.

We recognise that all classes have children with widely differing computing abilities. This is especially true when some children have access to equipment at home, while others do

not. We provide suitable learning opportunities for all children by matching the challenge of the task to the ability and experience of the child. We achieve this in a variety of ways, by

- Setting common tasks which are open-ended and can have a variety of responses.
- Setting tasks of increasing difficulty (not all children complete all tasks).
- Grouping children by ability in the room and setting different tasks for each ability group.
- Providing resources of different complexity that are matched to the ability of the child.
- Using classroom assistants to support the work of individual children or groups of children.

Key Stage 2

We use iLearn2 to help us to ensure we appropriately cover the national curriculum objectives in our Computing lessons. The key to iLearn2 is that pupils can access activity pack online. Each pack includes video tutorials, tasks, challenges and extension activities which allow the pupils to learn digital skills as their own pace. Teachers can assign activity packs to the children to ensure the correct level of challenge. The units have been chosen so that the children can build upon their skills within the next year group as the ilearn2 programme allows for a variety of skills to be taught to achieve the objectives.

The computing lessons support our school context-based drivers, the 5Es (Excel yourself, Embrace yourself, Explore the world, Engage with others, Express yourself). These are explicitly shared with the children.

Catch-up plans have been created to ensure that any objectives missed due to the COVID-19 pandemic lockdown will be addressed within the next two years of computing teaching.

Assessment

Assessment is an integral part of the teaching and learning process. Assessment is used to inform planning and to facilitate differentiation. The assessment of children's skills is on-going to ensure that understanding is being achieved and that progress is being made.

In Computing we use assessment to:

- Check understanding,
- Identify misconception,
- Set targets for future success,
- Raise self-esteem,
- Provide motivation.

Key Stage 2

Listening to the children is an important way of assessing what they really understand and may identify misconceptions to aid future planning.

This form of assessment can take place:

i) Between teacher and child in private conversation
ii) Between children in a group
iii) Between teacher and class
iv) Completion of the assessment activity on ilearn2 website

Assessment in computing comes at the end of a unit of work through the use of the online badges on the ilearn2 website and 'I can' statements have been designed for each objective that will be evident on the floor book for each lesson. Where a child has achieved the objective green will be used to indicate this. If they have partially achieved the objective yellow will be used to indicate this. If a child has not achieved the objective, then red will be used.

In the case that a child has not achieved the objective, the teacher must make a note explaining why (for example absence or focusing on key computing skills rather than completing the unit). If a child is focusing on computer skills rather than the objectives that the rest of the class are using their assessment will be on the progression skill tracker. These progression skill trackers, which focus on key computing skills such as mouse control and opening and saving documents) are set out in year groups and will move up with the children as they move year groups to enable each teacher to set the appropriate level of challenge for each child.

Teaching and Learning Techniques

As the aims of computing are to equip children with the skills necessary to use technology to become independent learners, the teaching style that we adopt is as active and practical as possible. While at times we do give children direct instruction on how to use hardware or software, the main emphasis of our teaching in computing is for individuals or groups of children to use computers to help them in whatever they are trying to study. So, for example, children might research a history topic by on the Internet. Children

who are learning science might use the computer to model a problem or to analyse data. We encourage the children to explore ways in which the use of Computing can improve their results, for example, how a piece of writing can be edited or how the presentation of a piece of work can be improved by moving text about, etc.

Resources

The school acknowledges the need continually to maintain, update and develop its resources and to make progress towards a consistent, compatible PC system by investing in resources that will effectively deliver the strands of the national curriculum and support the use of computing across the school. Teachers are required to inform the technicians of any faults as soon as they are noticed via the book in the office.

Health and Safety and Safeguarding

The school is aware of the health and safety issues involved in children's use of computing. All electrical appliances in school are tested accordingly. It is advised that staff should not bring their own electrical equipment in to school but if this is necessary, then the equipment must be PAT tested before being used in school. This also applies to any equipment brought in to school by, for example, people 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 ICT technician, bursar or head teacher who will arrange for repair or disposal.

(See E-safety and Anti-Bullying Policies)

Monitoring and Reviewing

The monitoring of the standards of the children's work and of the quality of teaching in computing is the responsibility of the subject leader. The subject leader is also responsible for supporting colleagues in the teaching of computing, for keeping informed about current developments in the subject. The subject leader gives the head teacher an annual summary report in which s/he evaluates the strengths and weaknesses in the subject and indicates areas for further improvement.

Security

- The ICT and Computing technician will be responsible for regularly updating anti-virus software.
- 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.

- All pupils and parents will be aware of the school rules for responsible use of computing and the Internet and will understand the consequence of any misuse.
- The agreed rules for safe and responsible use of computing and the Internet will be displayed in all computing areas.
- Children are aware of the SMART rules and these are sent home.

Inclusion

At Alexandra Infants' and Junior School it is our belief that all children have an equal right to a broad and balanced curriculum, which enables them to meet their full potential. Through our teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those who are deemed more able and talented and those learning English as an additional language, and we make all reasonable adjustments to achieve this. For further details, see separate policies: Special Educational Needs; SEND Information Report; Equality policy and scheme; Able and Talented; English as an Additional Language (EAL).

As a school we strive to ensure that all children, staff and members of our school community are treated fairly and equally. All children have equal rights to access all areas of the curriculum, regardless of race, gender, religious beliefs, sexual orientation and disability. Within this subject area, the Senior Leadership Team (SLT) and all staff endeavour to provide the appropriate provision for this to occur. This policy follows the guidelines and practices that are stated and outlined in Alexandra Infants' and Junior Schools Equality Scheme. Please see this policy for further detail.

For further details of a KS2 approach please see the Intent and Implementation document

Learning Recovery (KS2)

In light of missed learning due to COVID 19, recovery provision has been planned for and is detailed in specific year group catch up plans. These have been formulated through collaboration of SLT, subject leaders, teachers and across the Key Stage with the feeder Infant School. These plans will be reviewed, modified and RAG rated regularly to inform future teaching & learning. For further detail please see each year group's separate plans.

Review date: Jenna Nicholls (Infants) Stephanie Barnett (Juniors)
August 2020