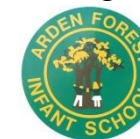


Computing Curriculum Purpose and Rationale

At Arden Forest our vision is to enable our whole school community with the skills to be happy, successful and independent life-long learners with healthy mind, bodies and spirit.

'Little Learners, Big Achievers'



Taken from Arden Forest vision statement and school motto.

Statutory Commitment

EYFS Framework - Understanding the World (Sept 2021)

There is **no statutory** guidance to teach Computing and Technology like in the revised EYFS Framework 2021.

Educational Programmes – Understanding the World

Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, **technologically** and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.

Birth to Five Matters: (non -statutory March 2021)

Children require access to a range of technologies, both digital and non-digital, in their early lives. Opportunities to explore different technologies support their growing technological skills, which children will go on to refine and develop in their lifetime in order to thrive within a technological society. Through technology children are afforded additional opportunities to learn across all areas in both formal and informal ways, and as such technology

KS1 National Curriculum – Computing (2013)

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.

should be positioned as both a tool to learn from and with, in order for effective integration within early years practice.

School Commitment

Our Curriculum Intent (Appendix A) identifies what opportunities and experiences our pupils have on entering our school. This also recognises what our pupils need in order that we fully enable our school vision in both phases in our school. Even though there is no statutory guidance, children in EYFS will have access to technology within their learning environment as part of good practice.

Through our Computing curriculum, we want to ensure that children are given a broad range of skills; including communicating via various computing equipment to prepare them for the ever-changing digital world. The children will be given a varied selection of devices, apps to learn how to use; to enable them to widen their technology skills.

Our Growth Mindset Learning Behaviours help children develop the right attitudes to Computing in order that they fulfil their learning potential. E.g. a think-a-docus understanding what algorithms is and programming instructions or a Team Rex helping their friends to use technology or even a Solv-a-tops to debug simple programs.

Within all aspects of Computing, there are opportunities for pupils to develop their School Responsibilities' of being kind and respectful, learn and let others learn and keeping themselves and others safe. E.g. being kind and respectful by sharing computing equipment with their peer and looking after equipment carefully or keeping themselves and other safe through learning about online safety.

Why do learners at Arden Forest Infant School need to study Computing?

At Arden Forest Infant School, our teaching of Computing supports our vision of inclusive practice and it enables all children to achieve their potential. We believe that through our Computing lessons all children in our whole school community will gain lifelong skills to help them in the future; both socially and vocationally.

'A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems. The core of computing is computer science, in which pupils are taught the principles of information and computation, how digital systems work, and how to put this knowledge to use through programming. Building on this knowledge and understanding, pupils are equipped to use information technology to create programs, systems and a range of content. Computing 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.' (National Curriculum 2013)

How we promote personal characteristics and relationships?

At Arden Forest Infant School, the Computing curriculum delivers a vast range of social, moral, spiritual and cultural aspects which reflects the school's Personal Characteristics and Relationships principles. It encourages the children to be responsible, show kindness, respect, positivity, tolerance and resilience. All of these themes are woven through our wider curriculum, but are also echoed in Computing, where the children are encouraged to show kindness and respect for one another when learning, the computing equipment they are using and when using the internet.

It may also include teamwork to allow reflective thinking time, for children to share how they may adapt their algorithms etc, they will need to understand to respect and tolerate the thoughts and ideas of others.

Within Computing, children will often have opportunities to work responsibly, sharing devices and using the internet. Children are encouraged to support each other positively and respectfully, as some children will be more of a computing expert than others. This demonstrates respect and tolerance for each other and each other's contributions or work.

Children are able to show and share their self-knowledge and self-confidence in using computing skills to either digitally produce something or program an object to follow instructions.

What are the aims for the Computing Curriculum? (What do we want learners to be able to know and do by the time they leave Arden Forest Infant?)

In line with 2014 National Curriculum for Computing, our aim at Arden Forest Infant School, is to provide a quality computing education which will equip children to use computational thinking and creativity to understand and change the world through digital means. We recognise that our pupils lives, both socially and vocationally, will increasingly take place within a digital medium and therefore, this subject is seen as vital in developing a broad range of skills; including communicating via various computing equipment. It will enable digital competence but also ensure an understanding of how to be a responsible online citizen: our curriculum therefore places equal emphasis on teaching 'online safety' in line with the expectations of Keeping Children safe in Education 2019.

In order to achieve these aims, the Computing curriculum at Arden Forest, provides lots of first hand and real-life experiences to make learning relevant and purposeful. The children will be asked questions at the beginning and end of each lesson to check they are knowing and remembering more. In Computing lessons, the children are given the opportunity to be reflective and evaluate their work, thinking about how they can make changes and keep improving all the time.

How does Computing help our pupils to be aspirational lifelong learners?

Having good computing skills, including the ability to communicate effectively via various computing equipment, children will be 'ready' for the social and vocational aspects of later life; with direct links to future employment. These opportunities will mean that our

children will contribute to community and wider society, this might include careers in digital marketing, administrators, journalism, digital content producer, media producer etc. This includes, being able to use the skills flexibly, even for the jobs that don't yet exist!

Why has the specific knowledge been selected?

At Arden Forest Infant School, the Computing curriculum is taught discreetly, however skills learnt in Computing lessons may be embedded in other subjects such as History by using research skills on the internet, Geography by searching google maps to locate places in the country or wider world and English where children may produce a set of visual instructions with audio etc. The Computing curriculum is designed to help our children to know and remember more. Each year, they will increase their knowledge and understanding of a range of computing skills and programs.

How is Computing implemented?

In Reception, there is a mixture of weekly discrete lessons and/or use of technology resources within the environment. E.g. Using Beebots linked to Maths teaching, using an ipad to take videos of the natural world. In KS1, Computing is taught in weekly discreet lessons, following the Switched on Computing Curriculum. Additional opportunities are also provided to enhance their computing learning such as Safer Internet Day. The teaching of computing allows collaborative work between pupils and it is fully inclusive of pupils of all ability and allows opportunities for scaffolded support. The development of subject specific vocabulary is given high priority.

What is the impact?

The impact of our Computing curriculum can be seen not only in the discreet computing lessons but also it is important to give children the opportunity to use and transfer computing skills taught into other subjects such as History by using research skills on the internet. Each computing unit has end of unit outcomes (All pupils can, most pupils can and some pupils can) and children are 'best-fit assessed' against these.

Appendices:

- A. Overall School Curriculum Intent
- B. Computing aims/end points of specific stages of curriculum
 - EYFS Framework and National Curriculum
- C. Progression in Learning Framework for Computing which overarching maps that show the sequence and progression in learning from the beginning of Year One until the end of Year Two.

Appendix A

Arden Forest Infant School – Curriculum Intent

What do we know about our community of learners? What opportunities/experiences have they had already and what have they not yet benefited from?

Our pupils start Reception from a large number of different pre-school settings. They have a diverse range of cultural and family backgrounds which are valued and shape our unique relationships with our school community.

Communication skills vary on entry, children are often reluctant to engage in extended conversations or articulate their thinking. Children often need support to identify and moderate their own feelings and are not able to solve minor disagreements.

We have an increasing percentage of children with additional needs compared to the national average, including those with ASD. As such, communication and language, physical development and personal and social and emotional development is significantly lower for these children. **Recently, many children have not been able to access outside agency support due to COVID restrictions.**

When our children begin Reception, they are often confident, show curiosity and are eager to explore their environment. However, our pupils' often lack sustained thinking and focus. Children are reluctant to be independent in their learning and life skills, and often their resilience and perseverance in the face of challenge is low which is a barrier to success. They lack experience of opportunities to take calculated risks.

Children typically have good access to outdoor spaces which enable a knowledge of the natural world around and gross motor skills to be typically at age related expectations. However, children's fine motor skills are typically not as developed.

Children generally access books and stories at home. However, the ability to blend and segment in phonics is a barrier for most children which impacts on their reading and writing on entry. Most parents generally take an active role as partners in their children's learning.

The majority of children show everyday application of skills in mathematics. **Children usually have access to technology at home.** Imagination is often good in small world and role play but children lack creativity and skill with music, art and design. We have observed that our children tend to have a limited cultural experiences of the arts or awareness of their wider community.

In September 2021, some children starting with us will have lived nearly half of their life with the pandemic.

Our Year One children spent a third of their Reception Year Learning remotely and missed a significant part of their pre-school experience due to lockdown. Our Year Two children spent a third of their time in Year One being taught remotely and missed a significant part of their Reception Year due to lockdown.

Appendix B

Computing aims/end points of specific stages of curriculum

EYFS Framework (September 2021)

None

Birth to Five Matters: (March 2021)

Children require access to a range of technologies, both digital and non-digital, in their early lives. Opportunities to explore different technologies support their growing technological skills, which children will go on to refine and develop in their lifetime in order to thrive within a technological society. Through technology children are afforded additional opportunities to learn across all areas in both formal and informal ways, and as such technology should be positioned as both a tool to learn from and with, in order for effective integration within early years practice.

Birth to 5 Matters (Non -statutory March 2021)

As part of **understanding the World: Technology**, it states that children in Reception will be learning to:

Range 5:

- Knows how to operate simple equipment, e.g. turns on CD player, uses a remote control, can navigate touch-capable technology with support
- Shows an interest in technological toys with knobs or pulleys, real objects such as cameras, and touchscreen devices such as mobile phones and tablets
- 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 technological devices and the internet

Range 6:

- Completes a simple program on a computer
- Uses ICT hardware to interact with age-appropriate computer software
- Can create content such as a video recording, stories, and/or draw a picture on screen
- Develops digital literacy skills by being able to access, understand and interact with a range of technologies
- Can use the internet with adult supervision to find and retrieve information of interest to them

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Subject content - 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
- 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.



Appendix C