Computing statement 2021

1. Curriculum intent:-

At Gearies Primary School we recognise that Computing/ICT plays a significant role in the education of our children as Computing/ICT underpins today's modern lifestyle. We aim to promote learning that encourages, excites the children to build on their confidence, and motivates them to become independent learners through positive experiences.

When the children enter EYES, Computing/ICT takes place every day through one the 7 areas of learning "understanding the world". Children are given the opportunity to explore, many different types of hardware and software enhancing their imagination and excitement, encouraging them to promote their own curiosity to learn through play.

The national curriculum states that the principal focus for children in KS1 is to understand what algorithms are, how they are implemented as programs on digital devices. 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 and identifying where to go for help.

The national curriculum focus for children in Ks2 is children to continue to build on previous knowledge and understanding to become equipped with skills that enable them to become digitally literate, to create programs, systems and a range of content. In upper Ks2 learning is of a deeper content. Computer science digital literacy, information and communication technology allows them to prepare to achieve a level suitable for the future workplace and as active participants in a digital world, Children at Gearies become confident independent learners, inspired by the invaluable teaching and learning, especially

Our local community is very ethnically diverters. All pupils have the right and are exposed to learning computing science, digital literacy and information, communication technology irrespective of age, gender, race, disabilities, religion or belief.

2. How our vision is ambitious

At Gearies, we are ambitious in our approach to the teaching Computing as we provide great exposure to new opportunities and experiences which can be referred to in the real world. We make connections with outside organisations to deliver workshops to promote and complement our Computing curriculum. Our vision of Computing also helps pupils to gain fulfilment from the curriculum through building their confidence for the next chapters in their lives. Pupils are given opportunities to develop an understanding and awareness of opportunities that are available to them.

3. Curriculum enhancement

Children have the opportunity to become digital leaders, meetings are held every week this enables the children to share their knowledge and skills through teaching their peers and supporting adults. The digital leaders deliver presentations through assemblies within the school and take part at various conferences and meetings showcasing different projects which they have worked on. The University of East London is one of the venues in London that Gearies children present to annually. The year 6 children take part every year in a charity project Apps for Good, this enables every child in Year 6 the chance to design and develop an App for the companies National Award. Gearies Primary School is also part of a video conferencing network, which offers the children the chance to link with schools locally and abroad. The conferences are cross-curriculum which are used to support literacy, music, science and computing science.

Opportunities also arise for children to attend exhibitions at Emirate Stadium that the borough of Islington hold.

4. The curriculum implementation

Children from years 1 to 6 have weekly lessons that are specific to the computing curriculum. These lessons take place within the computer suite and are taught by class teacher and a specialist. The lessons are taught using a blocked curriculum approach with a different focus each half term ensuring that progression is being made through development of their knowledge and skills, over the duration of each of their computing topics. In addition to these weekly lessons laptops, tablets and robot designed devices are available to support the wider curriculum within the classroom providing cross-curricular links which motivates pupils to make connections and remember their prior learning.

The computing curriculum ensures a balanced coverage of computer science, digital literacy and information technology. The children will be taught all three strands within each year group. As the children progress through each year group the subject knowledge become more specific and in depth, with more complex skills being taught. For example Key Stage 1 children are taught what algorithms are, those skills are then transferred into Key Stage 2 to help the children develop their thinking of what is behind their algorithms, enabling them to debug and write basic programs.

5. Impact of curriculum on our children

The computing/ICT curriculum provides the children to become independent confident learners as it enables them to develop a wide range of fundamental skills. It provides the children with enquiring minds, motivates creativity and makes them very aware of the world around them where digital technologies are constantly evolving. They will be confident have secure knowledge of how to stay safe and will be able to apply the British values of tolerance, mutual respect and have understanding about the consequences of using the Internet inappropriately. Children will be able to apply confidently life skills like problem-solving and logical thinking. All children experience high-quality fun and engaging computing education that provides them with their individual needs. The quality of all the children's learning prepares and equips them to become digitally literate and having the knowledge of how to apply it to accomplish a wide variety of goals both at home and at school. Gearies provides the children with building blocks that enables them to pursue a wide range of interests and vocations in the next stage of their lives, secondary school, further education and future workplaces.

6. Our strengths

At Gearies, our teachers are given CPD to ensure continuous development of teaching and learning strategies. The use of effective strategies support closing the gaps in learning between girls and boys. For several years, Gearies have been involved in the Gender balance research project that provides learning materials and outcomes of evidence on closing the gap between boys and girls. Our strength is that we continually research and keep updated with the current devices and projects. We encourage our children to take risks and develop resilience, for them to have high aspirations, to strive to be the best they can be and to make a positive contribution to the school community and beyond. One example of this is that we provide opportunities for children to enter national awards like Apps for Good, developing children's confidence through debates and presentations.

7. Programme of study

Each year group have specific topics – provided by Switch on Computing – Rising Stars - using lesson plans that we have adapted providing for the children at Gearies Primary School.

Year 1

Programming toy/floor turtles	**Algorithms**	**Finding images using the web**
Producing a talking book	**Creating a card digitally**	**Illustrating an eBook**

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Use technology purposefully to create, organise, store, manipulate and retrieve digital content. 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.

Software/Apps/Hardware:- Internet connection, laptop/desktop computers/2Paint a picture/Purple Mash/2Simple/2Publish Extra/2create a story/Online safety books/videos. Programmable toys Bee Bots /Apps Bee Bots/2 Code/Purple Mash sequencing instructions/Clicker 6 writing instructions.

Year 2

Programming on screen	**Algorithms**	**Exploring how computer games work**
Researching a topics	**Collecting data**	**Presenting data**

Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions. Use logical reasoning to predict the behaviour of simple programs. 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. Recognise common uses of information technology beyond school.

Software/Apps/Hardware:- J2E – 2Code/Bee Bot software/Purple Mash coding/Internet/Scratch/Barefoot Computing

Year 3

Programming an animation	**Finding errors in a program**	**Correcting bugs in programs**
Exploring computer networks	**The difference between Internet and WWW**	
Communicating safely on the internet		

Design, write and debug programs that accomplish specific goals; solve problems by decomposing them into smaller parts. 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.

Software/Apps/Hardware:- Web browser/ Google Forms,/Google Search/Purple Mash e-mail/J2E /data/Scratch/Laptops/Computers/CAT 5 cables/Internet

Year 4

Developing simple educational games	**Prototype toys, input/outputs**	**Editing and writing HTML,**
Producing digital music	**Creating presentations**	**Blogging/wiki and online safety**

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems. Use sequence, selection, and repetition in programs; work with various

forms of input and output. 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. Be discerning in evaluating digital content. Solve problems by decomposing them into smaller parts. Use search technologies effectively. Use ... a variety of software (including internet services) ... to ...create ... content ... including ... presenting information. Use search technologies effectively. Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

Software/Apps/Hardware:- Isle of Tune/Audacity/Je2 blogging//PowerPoint/Wikipedia/Google slides/Internet/Scratch/Learn.playto website/Computers/laptops/Tablets.

Year 5

Developing an interactive game (coding)	**Cracking codes**	**Creating blogs/websites**
Geometry and art	**3D models/virtual space**	**Online Safety**

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.

Software/Apps/Hardware:- Sketchup/Internet/Scratch/J2E blogging/Google/Virtual galleries/Tessellation paint software/Computers/Laptops/Tablets

Year 6

Planning a creation of mobile app	**Researching app market**	**Project management skills**
Designing a interface for an app	**Developing a simple mobile app**	
Creating video and web copy for mobile		

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. 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. Be discerning in evaluating digital content. Recognise acceptable/unacceptable behaviour.

Software/Apps/Hardware:- Appshed/Apps for Good/Internet/Wireframe software Balsamiq Mockup/Computers/Laptops/Tablets/Videos

8. Assessment arrangements

Assessment is carried out through formative assessments, this is carried out on a weekly basis through discussions with the children whilst working, during carpet time using questions and answering method. The children's work is analysed during and after lessons. The children complete a self-evaluation sheet after completing each unit of study. The observations and findings are then recorded onto a class list/planning which informs the teacher of the child's progression. This provides feedback to adjust ongoing teaching to improve student's achievements. At the end of each half term the child's progression is then recorded onto Gearies computing/ICT assessment sheets, which are records that show progression that each child has attainted throughout the year.

Feedback is given to parents during parent's consultants and recorded on their child's end of year report.

9. Aspects we are currently developing

At Gearies, CPD is available for teachers to develop their understanding of Computing and subject knowledge. Laptop use within the classroom is being promoted to support across the curriculum. We are currently researching opportunities for children to be exposed to additional resources and experiences from communities outside of school.

10. Impacts of recent professional development on standards

Professional development has enhanced teachers' confidence with planning detailed lessons while differentiating to meet all children's needs and ability. The delivery of Computing lessons are of good standard, with teachers showing a good understanding of the Computing language, which helps to develop children's knowledge and understanding of Computer Science.

Teachers are now confident in using blogs to showcase learning and support parents with home learning. This has helped to improve communication with parents and crucially allowed the school to share work and strategies of how we teach with home, during a time that access to the school is restricted because of Covid. This can be evidenced through the work Reception has done in sharing learning through videos and images from home.