Computing Subject Statement

Subject	Computing
	'We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world' – David Warlick

Purpose and aims	At Ashmount we aim to provide children with a high-quality computing education that equips them to use computational thinking and creativity to understand and change the world. We aim to ensure that our curriculum enables children to: • Understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation. • Analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems. • Evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems. • Be responsible, competent, confident and creative users of information and communication technology. • Inspire confident digital citizens now and for the future.

Core values	Community	Responsibility	Growth
	Computing allows children to participate and contribute to their community. Confidence in the three main strands provides lifelong skills for communication and for future employment.	Digital Citizenship and Online Safety lessons encourage children to learn about media balance and how to use technology in a responsible and safe way.	Confidence and progression across the three strands of computing provides opportunity for growth not only in the present day but in the future. Technology is a gateway to creative and educational endeavours.

Knowledge and skill progression	At Ashmount we have planned a bespoke computing curriculum with support from the computing lead teacher for Islington. We have ensured that it is as ambitious as the National Curriculum and fulfils all of the requirements stated in the National Curriculum. • In the EYFS, children are not explicitly taught computing but are exposed to high quality equipment through the learning environment throughout the school year. Teachers use high quality children's literature to expose children to vocabulary that they will learn in Key Stage One. This ensures that they have the opportunity develop their knowledge and understanding of technology. • From Key Stage One, the curriculum is split into 3 key strands, Digital Literacy, Information Technology and Computing Science (Programming). • All children are taught online safety and at the beginning of every half term, the first lesson is always centred around online safety. • Each half term will then focus on a specific strand.

In KS1, pupils are 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.

In KS2, pupils are 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.

Characteristics of effective learning	Engagement	Motivation	Thinking
	Children show a natural interest in computing, having the opportunity to learn hands on with the schools resources using fun and engaging programmes builds pupil enthusiasm.	Children enjoy the opportunity to use technology to enhance their creative skills and to engage in problem solving. They also enjoy having a source for new learning and information.	The curriculum is built in such a way that children have to use previously taught skills to continue to make progress in their learning. They will continually be revisiting relevant skills.

Communication and vocabulary	Computing plays host to a world of new vocabulary and language developed over the last two decades. Through engaging activities, direct teaching and conversation with their peers, children are able to use the vocabulary in a purposeful way during lessons. This enables a greater depth of understanding and retention. Teachers carefully plan the vocabulary that they use within lessons.
Cultural capital "the essential knowledge pupils need to become educated citizens" "introducing them to the best that's been thought and said" "engendering an appreciation of human creativity and achievement"	Computing at Ashmount encourages children to become: • Responsible citizens who understand how to stay safe online and make conscious decisions about media balance in their life. • Confident individuals who can use technology to be creative and communicate their ideas to others. • Confident in using technology as a source of information. • Effective contributors, who are able to use technology to solve problems, invent new ideas and share with their peers. • Successful learners who have both a broad and deep conceptual understanding of computing and its place in the world and can harness this to develop themselves and others.
Learning experiences	Computing is timetabled weekly to ensure it is a regular learning experience and a taught session. In KS1 and KS2, children receive a one hour taught session per week. We work with the computing lead at Islington to ensure we access high quality learning experiences for our children. They also help us to facilitate learning experiences for our staff, for example, team teaching with a subject specialist. Over time, children engage with a variety of workshops, events and experiences. Some examples are listed below: Bletchley Park, STEM Week, Internet Safety Day, Three Outreach, Microsoft partnership, Coding club.
High quality resources	We have iPads, Chromebooks and laptops available for weekly computing lessons. We have invested in a range of digital technology in order to support learning both at home and in the classroom. In addition, we have a fully integrated computing suite, programmable toys and a range of online resources, including but not limited to: Busy Things, Code.Org, Common Sense Media, Scratch, Kapow.