St Katherine's School

Computing Curriculum Guide

Year 9

In year 9 students have two lessons of computing per fortnightly cycle in a dedicated ICT suite. Students cover six topics over the course of the year that address some of the key skills in all three of the National Curriculum strands, E-safety, Digital Literacy and Computing. All students begin to develop their computer science knowledge in preparation for further study at KS4. Elements of business studies are also introduced alongside computer science in preparation for this option choice. Year 9 students will encounter the Python programming language that is our chosen KS4 coding language..

The teaching in year 9 builds upon what has gone before it and prepares students with the fundamentals for GCSE computer science.

Term	Topic
1	Problem solving - Decomposition and abstraction
2	Python coding - Create your own adventure
3	Understanding computer and hardware
4	Deepening spreadsheet knowledge
5	Create and pitch an ethical business idea
6	Ethical, legal and cultural issues in computing

Assessment

Assessment will take place in the form of 5 termly assessments and one formalised high control assessment covering the range of prior learning.

Subject		Computing	
Assessment type	**Frequency**	**Control**	**Weighting**
End of topic online assessment	Every term	In class low control	75%
High control assessment	Annually	High control	25%

How can I support my child's learning?

Where available encourage students to use Microsoft and Google based applications in developing their work. Encourage use of free coding resources such as www.fullstackpython.com, www.learnpython.org and www.repl.it There are also many online resources and websites students can explore to enhance their computer science

knowledge with a good starting point being www.bbc.co.uk/bitesize.com

Year 10

In years 10 and 11 the students who opt for computing study the OCR GCSE Computing (J277) specification. The GCSE is assessed by two external written exams at the end of Year 11, each worth 50% of the final grade. The focus of paper 1 is Computational systems and this content will be covered primarily in year 10 with paper 2 Computational thinking, algorithms, and programming key content in Year 11.

Students are also supported to develop their own programming skills throughout the course by progressing through a series of independent student-led activities and challenges available from the google classroom.

Term	Topics
1	1.1 Systems Architecture 1.2 Memory 1.3 Storage
2	1.3 Storage 1.4 Wired and Wireless Networks
3	1.5 Network Topologies, Protocols and Layers 1.6 Systems Security
4	1.6 Systems Security 1.7 Systems Software
5	1.8 Ethical, Legal and Cultural Issues of Computing
6	2.1 Algorithms 2.2 Programming Techniques

Assessment

Assessment will take place in the form of 5 termly assessments and one formalised high control assessment covering the range of prior learning. Assessment will also include in class work and homework to ensure a robust range of evidence.

Subject		Computing	
Assessment type	Frequency	Control	Weighting
End of topic assessment	Every term	In class medium control assessments in exam conditions	50%
High control assessment	Annually	High control	25%
In class work and homework	Ongoing	Low controls, open book activities	25%

How can I support my child's learning?

Students should be ensuring that they regularly undertake self-directed coding practice at home using the resources available to them on the class google drive, this should be done using www.repl.it.
Provision of revision guides are also available to all students through the class teacher.
Students should also be encouraged to ensure that they have a complete set of learning notes through catching up on any missed work by completing the activities in the classroom for that lesson.
Students should be encouraged to complete end of topic knowledge organisers and revision notes for each topic prior to their summative assessment.

Year 11

In years 10 and 11 the students who opt for computing study the OCR GCSE Computing (J277) specification. The GCSE is assessed by two external written exams at the end of Year 11, each worth 50% of the final grade. The focus of paper 1 is Computational systems and this content will be covered primarily in year 10 with paper 2 Computational thinking, algorithms, and programming key content in Year 11.

Students are also supported to develop their own programming skills throughout the course by progressing through a series of independent student-led activities and challenges available from the google classroom.

Term	Topic
1	2.2 Programming fundamentals
2	2.1 Algorithms
3	2.3 Producing robust programs
4	2.4 Computational logic 2.5 Translators and facilities of languages
5	Revision and Exam Preparation
6	Revision and Exam Preparation

Assessment

Assessment will take place in the form of two externally set exam papers of 90 minutes each:

Subject		Computer Science	
Assessment type	Frequency	Control	Weighting
Paper 1: Computer Systems	End of course assessment	High control externally examined assessment	50%
Paper 2: Computational thinking, algorithms and programming.	End of course assessment	High control externally examined assessment	50%

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