



Our Lady's Catholic College

COMPUTER SCIENCE ASSESSMENT POLICY

Our Lady's Catholic College, Morecambe road, Lancaster, La12rx

Assessment in Computing

In Computing at Our Lady's our aim is for our students to learn their curriculum well so that they know more and can do more. This knowledge and capability will prepare students well for success in Key Stage 4 and beyond. It is also important that any gaps are identified in Key Stage 3 so that these can be effectively addressed.

What do we assess in KS3 Computing?

In KS3 Computing we assess students' knowledge in two ways. The depth of their:

- Declarative knowledge – how well a student knows the core facts and ideas within our subject.
- Procedural knowledge – how well a student can apply these facts and ideas. This is often through practical skills, solving problems or constructing program.

The blend of these two aspects of knowledge allows a student to know both 'what' and 'how to'. The department uses a combination of formative and summative assessment to enable staff to gain a solid understanding of student progress.

Formative Assessment

On a regular basis, Multiple Inadequate Glances (MIGS) are used to formatively assess understanding, allowing for responsive teaching to help plan lessons and provide feedback to students about what they need to do next. Such feedback concentrates on students' learning gaps and how to close these.

MIGS feature regularly in lesson, they are highlighted within our scheme of work to enable all staff to clearly identify these assessment points.

Summative Assessment

Summative assessments take place twice throughout the year for Key Stage 3 and 4.

At Key Stage 3 summative assessments assess both declarative knowledge and procedural knowledge that has been taught. Students will complete project-based tasks or portfolios of work to demonstrate their learning and enable them to demonstrate their understanding of several key components, particularly their understanding of the more practical elements of Computing. The students will also complete more formal tests or exams, allowing them to demonstrate their understanding of concepts and theory.

Key Stage 4 are assessed based on past exam papers relevant to the units of work covered and practice coursework assignments which can be marked in line with the exam board mark scheme to ensure consistency.

Key Stage 3

Year 7																		
Formative		F	F			F	F			F		F	F	F			F	
Lesson	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Term	Autumn 1			Autumn 2			Spring 1			Spring 2			Summer 1			Summer 2		
Topic	7.1 Introduction to Computing						7.2 Computing Concepts						7.3 Computer Networking and Cyber Crime					
Summative				S							S				S			

Assessment Overview

Topic	Formative Assessment	Summative Assessment
7.1 Introduction to Computing	File Management - assess ability to complete basic ICT organisational skills Keeping your data safe – allows staff to check understanding of vital e-safety topic Intro to Computing end of topic – links to national curriculum to understand a range of ways to use technology safely, respectfully, responsibly and securely	Using email – students will demonstrate their skills sending an email to their teacher.
7.2 Computing Concepts	What is a computer system – assess understanding of key components of a computer system Computing concepts terminology – assess understanding of key concepts, algorithms, decomposition, abstraction, sequencing. Computing concepts end of topic test – overview of understanding of the unit	Scratch Programming Problem – Students will produce a computer program using Scratch
7.3 Computer Networking and Cybercrime	Networking hardware – assess students ability to identify relevant networking hardware The internet- introduces students to the concept of the internet and how the transfer of data occurs World Wide Web - assess understanding of threats posed and how to stay protected.	Network set up – students will be given a real life scenario and must design a network for it

Year 8																		
Formative	F		F			F	F			F		F	F	F			F	
Lesson	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Term	Autumn 1			Autumn 2			Spring 1			Spring 2			Summer 1			Summer 2		
Topic	8.1 Introduction to Programming						8.2 Digital Literacy						8.3 Computer Systems					
Summative			S								S						S	

Assessment Overview

Topic	Formative Assessment	Summative Assessment
8.1 Introduction to Programming	Selection – introduce students to the concept of selection Iteration – assess students understanding of promoting efficiency when coding Real life solutions – students are able to assess real life problems	Start of year assessment
8.2 Digital Literacy	Data and information – assess ability to define data and information and identify example pieces of data and information Software selection – assess whether students can successfully identify the relevant use of various pieces of software Effective use of software – are students able to evaluate the effective use of software for example solutions?	Digital Literacy Portfolio – students will complete a number of pieces of work which will be assessed through their portfolio of evidence
8.3 Computer Systems	Binary calculations Binary addition calculations Data representation – assessing understanding of how characters, images and sound are stored in binary.	Computer Systems Portfolio - students will complete a number of pieces of work which will be assessed through their portfolio of evidence

Year 9																		
Formative	F		F			F	F			F		F	F	F			F	
Lesson	1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Term	Autumn 1			Autumn 2			Spring 1			Spring 2			Summer 1			Summer 2		
Topic	9.1 Graphics						9.2 Python Programming						9.3 Digital World					
Summative		S						S								S		

Assessment Overview

Topic	Formative Assessment	Summative Assessment
9.1 Graphics	What is a vector image – introduce students to vector images. Review examples and be able to identify key features. Basic editing skills check – assess development of basic skills being developed using Inkscape Advanced skills check - assess development of advanced skills being developed using Inkscape	Start of year assessment
9.2 Python Programming	Warm up – assess understanding of input and output. Problem solve basic syntax errors While Loops – assess efficiency within programs and ability to reduce instructions but applying while loops Wrap up – assess ability to combine key programming concepts – iteration, selection.	Programming Project – providing students with the challenge of breaking down a real life problem, applying analytical and problem solving skills
9.3 Digital World	What is AI?- assess understanding of the fundamental concepts of AI Ethics – review ethical considerations regarding AI Overview – assess whether the students have a secure understanding of the benefits and drawbacks of AI	AI Guidance Document - students are to produce a guidance document for younger students informing them of how to safely and effectively make use of AI.

Key Stage 4

Year 10 ICT						
Formative	■	■	■	■	■	■
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer1	Summer 2
Summative		S			S	S

Formative	Summative
Storage – assess understanding of solid state, magnetic, optical Cloud Storage Software – assess understanding of software (systems software, utility software and applications software). Technology – smart technology, immersive technology Social networking – advantages and disadvantages Management information systems – benefits to organisations e-commerce – impact and effectiveness Assistive technology Immersive technology Data – quality of data, file properties, checking data Networking – network hardware, topologies, the internet and network protocols Social engineering – impacts to ICT users and businesses Cyber resilience – benefits and limitations Security – malware, emerging threats Security preventions – data protection methods, security policies Wider issues – environmental and cultural issues impacting ICT Employment patterns - development over time, impact of ICT. Digital footprint - impact upon the ICT user	Theory based assessment - review of students understanding of topics IT1-IT20. Mock exam – assess all theory completed in Unit 1 prior to commencing Unit 2. Practical Assessment – mock coursework project

Year 11 ICT						
Formative	Coursework			Exams		
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer1	Summer 2
Summative	Coursework				Exams	

Formative	Summative
Functionality of hardware – inputs and outputs, solid state, magnetic, optical. Services provided by IT Purposes of data – how and why is data fit for purpose Data validation and verification – how data is checked Networks – data transfer, network topologies Security – impact of data loss, protecting data, legal, moral and ethical issues.	Mock exam Completion of Unit 2 Coursework

Year 10 Computing						
Formative	■	■	■	■	■	■
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer1	Summer 2
Summative			S	S		S

Formative	Summative
Systems architecture – Von Neumann architecture, internal components Primary storage Secondary storage Basic Programming concepts – input, output, print Binary conversions – binary to denary, denary to binary Hexadecimal Conversions – hex to binary and denary and vice versa. Binary addition – 8 bit binary addition, stack overflow Images – data storage Sound – data storage Compression – lossy and lossless compression Python Skills – Iteration Computer networks 1 - connections and protocols Computer networks 2 – topologies Network security – encryption, firewalls Python skills - Selection Systems software – user interfaces, operating systems, utility software, compression Python project – combining skills and applying to real life situations	Midpoint assessment Programming assessment Mock exam



Ethical issues – Data Protection Act, Computer Misuse Act, environmental issues	
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Year 11 Computing						
Formative						Exams
Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer1	Summer 2
Summative		S		S		Exams

Formative	Summative
Algorithms - Abstraction, decomposition, binary search Programming fundamentals – programming constructs, variables, casting, constant Producing robust programs – testing, debugging Boolean Logic – logic gates, truth tables Programming languages- machine code, translators Midpoint review – overview of theory covered in Unit 2 Revision assessments - Assess key areas of weakness to provide specific revision content as required - Key areas to focus on: - Memory and storage - Networks - Systems software	Component 1 and 2 mock exams 1 Component 1 and 2 mock exams 2