




High Performance Learning in Computer Science / ICT

	<p>BIG PICTURE THINKING The ability to work with big ideas and holistic concepts.</p>	<p>ACP <i>Big Picture Thinking</i> Student think logically how to sequence steps in Computer Science. This is important in the concept of computational thinking</p>	<p>Model Give scenarios of what might happen in certain situations. Using abstraction to break-down a complex problem into manageable task</p>	<p>Define Big Picture Thinking is working with big ideas (the final website/program/computer system.....) and holistic concepts and applying the necessary skills when completing a project.</p>	<p>Explain Following a systematic approach by interconnecting all the stages in the development of a program cycle.</p>	<p>State (Success) Applying the theoretical aspects of programming constructs and using the skills to develop a solution to a given problem. Ability to use skills learnt and applying it to a given problem.</p>
	<p>SELF REGULATION The ability to monitor, evaluate and self-correct.</p>	<p>Self-Regulation Students self-assess using the given resources/mark schemes and evaluating performance. Students are taught skills how to develop their understanding and apply the necessary skills to move to the next stage of their learning.</p>	<p>Use modelling technique to teach students skills to structure their answers and ask the students to self/peer assess using the given mark schemes. The idea is to ensure students fully understand the mark scheme and <u>have the ability to confidently self-peer assess and give targets to move forward.</u> Students also self-correct any mistakes made (peer analysis). End of unit assessments are continual part of our evaluating process.</p>	<p>Self-Regulation is the ability to monitor performance, evaluate and self-correct to improve further in Computer Science/ICT.</p>	<p>Being able to self-regulate in Computer Science is knowing how to better your performance to be successful.</p>	<p>You will show you can self-regulate by correcting your performance in Computer Science. After analysing your performance, you compare your performance against it and set targets to move to the next stage of their learning cycle.</p>
	<p>CONNECTION FINDING The ability to use connections from past experiences to seek possible generalisations.</p>	<p>Connection finding Drawing on skills/understanding/knowledge from previous topics. This also applies to cross-curricular subjects (<u>e.g.</u> use of spreadsheet modelling)</p>	<p>Consolidation to incorporate retrieval tasks. (<u>e.g.</u> We Do, You Do). Students to self-assess/peer-asses using the given mark schemes and presenting their solutions to the given task.</p>	<p>Connection finding is the ability to create computer system by following a system life cycle. Students to analyse the user-requirements and connect their solutions by effectively designing and creating a -fit-for-purpose solution.</p>	<p>It is about being able to make links between the analysing the given problem and designing a suitable solution. It is important to ensure the end-product meets the user requirements. This can only be achieved through careful designing/implementation and using the prototypes to refine the solution. This also gives our students the opportunity to evaluate and act on feedback.</p>	<p>You will have shown effective connection finding by drawing links between different stages of the system life cycle.</p>

Written feedback on Formative Assessments identifies WWW, EBI and next steps

SELF REGULATION
The ability to monitor, evaluate and self-correct.

Teacher Feedback

When:
You know the difference between LAN and WAN
You know how to draw a star and mesh topology
You know the advantages and disadvantages you can identify the type of network
You know the purpose of a PC and server

How:
Explain the key differences between LAN and WAN
Know how to draw a star and mesh network
Find out the advantages and disadvantages identify the type of network
Find out the purpose of a PC and server

How much: 0 - 100%

0 - 20%
21 - 40%
41 - 60%
61 - 80%
81 - 100%

Total marks: 7/8 Grade: A

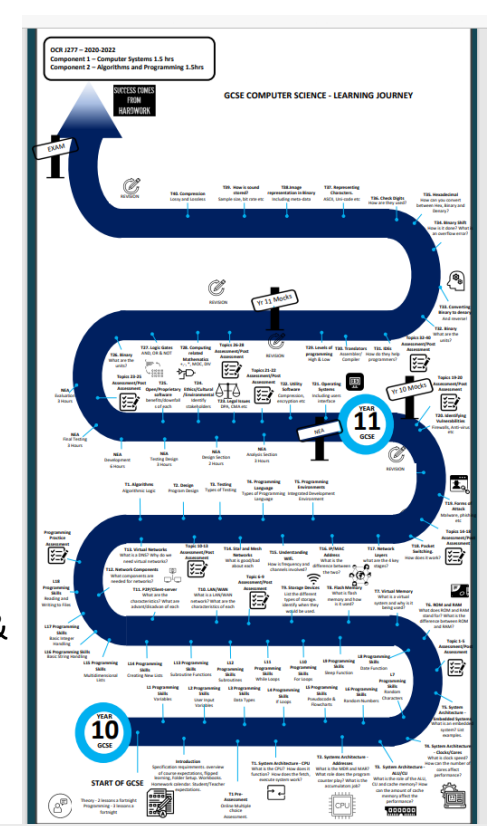
Opportunities to complete written responses to exam questions, are embedded in lessons

Formative assessments prepare students for summative assessments
Practice case studies are completed together before students make attempt case studies exam questions

T&L linked to prior learning
Use of scaffolds learning through I Do/We Do/You Do Tasks
Case studies and discussions
Enabling students to apply skills – using their own imagination and being creative

CONNECTION FINDING
The ability to use connections from past experiences to seek possible generalisations.

PRACTICE
The ability to train and prepare through repetition of the same processes in order to become more proficient.



Key Stage 4 & 5 Learning Journey's record

Template for Planning Your Writing

Exam Question
Explain why data is stored in computers in a binary format. [4 marks]

How to achieve 8 marks? A simple structure!

Identify [1 - 2]
Definition of binary
Give an example

Explain [3]
Explain using examples why binary is used in the context of computers

Justify [4]
Justify why the use of binary in computers is necessary

Binary is a number system that is made up of.....
There are only 2 possibilities, for example,.....
.....In computers circuit only needs to check for two states/uses switches and binary allows computers to know if.....Each character is assigned a unique character code and each letter is converted to its character code (which is a binary number). We therefore use binary because.....
.....Using binary results in more reliable circuits.

Peer-Assessment Feedback: Mark given []

Writing frame

Identify [1 - 2]
Definition of binary
Give an example

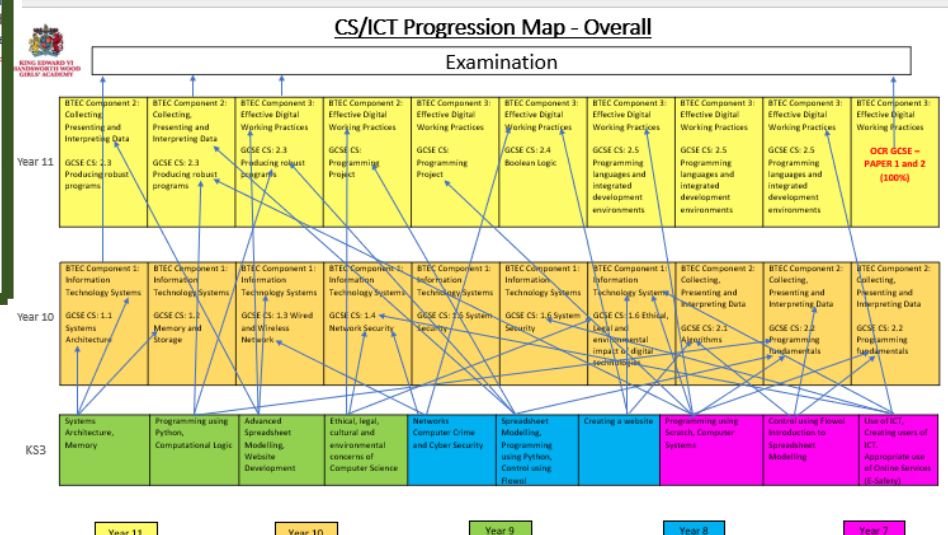
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IMAGINATION
The ability to represent the problem and its categorisation in relation to more extensive and interconnected prior knowledge

CREATIVE AND ENTERPRISING
The ability to be open-minded and flexible in your thought processes; demonstrate a willingness to innovate and invent new and multiple solutions to a problem or situation; adapt your approach according to need; surprise and show originality in your work, developing a personal style; be resourceful when presented with challenging tasks and problems, using your initiative to find solutions.



Progression map showing how all units interconnect

Written responses are scaffolded
Students are provided with writing frames and Literacy Support
Marking bands/Grades are used to complete and assess own work

