Brockington College – Computing, ICT & Business Department			
KS3 ICT & Computing Year 7-9			
BC Grade	**Computer Science**	**Information Technology**	**Digital Literacy**
BC9	**A learner on track for Grade 9 can:** • Create, complete or interpret key algorithms that reflect computational thinking. • Evaluate computational abstractions. • Be able to show how elements of real life can be represented in programs and the difficulties that sometimes exist when doing this. • Make sure that programs developed are written so they are unlikely to crash or cause errors. • Be able to create a model for complex problems. • Make use of appropriate data structures within programming. • Design modular programs that use procedures or functions. • Be able to explain the uses of Boolean logic in programming. • Be able to carry out simple operations on binary numbers. • Understand the software components that make up computer systems. • Be able to explain how instructions are stored by computer systems.	**A learner on track for Grade 9 can:** • Create or modify digital products that are effective for a given audience and design decisions can be justified. • Select multiple applications or software that combine multiple activities to achieve a complex task. • Be able to explain how a range of advanced tools can be used within a digital product. • Be able to plan the production of digital products extensively with clear consideration of a range of factors that include the purpose, target audience, theme/style and type of product.	**A learner on track for Grade 9 can:** • Use version control effectively to show the progress of a product. • Use file management effectively to ensure files are named and located appropriately, and can be searched efficiently. • Be able to search effectively online considering the reliability and trustworthiness of sources. • Protect online identity and be able to explain how and why this is necessary. • Protect privacy in a range of different ways for data that is sent or stored; and be able to explain why this is necessary. • Use a variety of software applications seamlessly depending on the purpose of what is being created.
BC8	**A learner on track for Grade 8 can:** • Be able to show how elements of real life can be represented in programs. • Make sure that programs developed are written so they are unlikely to crash or cause errors. • Be able to create a model for complex problems. • Be able to explain the purpose of the hardware components that make up computer systems. • Be able to explain how text can be represented digitally in the form of binary digits. • Be able to explain how sounds can be represented digitally in the form of binary digits.	**A learner on track for Grade 8 can:** • Create or modify digital products that are effective for a given audience. • Select multiple applications or software that can contribute to achieving a complex task. • Be able to explain how a range of basic and advanced tools can be used within a digital product.	**A learner on track for Grade 8 can:** • Use file management effectively to ensure files are named and located appropriately. • Be able to search effectively online. • Protect online identity and be able to explain how and why this is necessary. • Protect privacy in a range of different ways for data that is sent or stored; and be able to explain why this is necessary. • Use a variety of software applications seamlessly depending on the purpose of what is being created.

	• Be able to explain how images can be represented digitally in the form of binary digits. • Create, complete or interpret some algorithms that reflect computational thinking. • Make use of appropriate data structures. • Design programs that use procedures or functions.		
BC7	**A learner on track for Grade 7 can:** • Be able to show how elements of real life can be represented in programs. • Use logical reasoning to detect and correct errors in programs. • Be able to explain how the different network topologies would affect a network. • Consistently use output, variables, input and selection and iteration in programs. • Understand simple Boolean logic. • Be able to explain the purpose of the hardware components that make up computer systems. • Be able to explain how text can be represented digitally in the form of binary digits. • Be able to explain how sounds can be represented digitally in the form of binary digits. • Be able to explain how images can be represented digitally in the form of binary digits. • Create, complete or interpret some algorithms that reflect computational thinking.	**A learner on track for Grade 7 can:** • Create or modify digital products that are effective for a given audience. • Select multiple applications or software that can contribute to achieving a complex task. • Be able to explain how a range of basic and advanced tools can be used within a digital product.	**A learner on track for Grade 7 can:** • Use file management effectively to ensure files are named and located appropriately. • Be able to search effectively online. • Protect online identity and be able to explain how and why this is necessary. • Protect privacy in a range of different ways for data that is sent or stored; and be able to explain why this is necessary. Use a variety of software applications seamlessly depending on the purpose of what is being created. • Be able to explain how file formats determine the use of the digital product.
BC6	**A learner on track for Grade 6 can:** • Use logical reasoning to detect and correct errors in programs. • Consistently use output, variables, input and selection in programs. • Use logical reasoning to explain how some simple algorithms work. • Use logical reasoning to detect and correct errors in algorithms. • Be able to explain how computer networks can provide multiple services, such as the world wide web.	**A learner on track for Grade 6 can:** • Create or modify digital products that are effective. • Select multiple applications or software that can contribute to achieving a simple or somewhat complex task. • Be able to explain how a range of basic tools and a limited number of advanced tools can be used within a digital product.	**A learner on track for Grade 6 can:** • Use file management to ensure files are named and located appropriately. • Be able to search effectively online. • Protect online identity and be able to explain how and why this is necessary. • Protect privacy in a range of different ways for data that is sent or stored; and be able to explain why this is necessary. • Use a variety of software applications seamlessly depending on the purpose of what is being created.

	• Be able to convert between denary and binary numbers consistently and perform some calculations of binary numbers, such as addition.		
BC5	**A learner on track for Grade 5 can:** • Design and create programs that are able to accomplish specific goal effectively. • Debug programs that accomplish specific goals. • Use selection in programs for decision making. • Be able to handle 8-bit binary numbers and convert from denary to binary, and vice versa.	**A learner on track for Grade 5 can**: • Create or modify digital products. • Combine a variety of software to accomplish given tasks. • Be able to explain how a range of basic tools can be used within a digital product.	**A learner on track for Grade 5 can**: • Be able to explain how file formats are used. • Be able to explain the importance of file management and folder structures.
BC4	**A learner on track for Grade 4 can:** • Write programs that accomplish specific goals. • Use sequence in programs so that the program is able to follow instructions in an order. • Work with various forms of input. • Work with various forms of output. • Be able to convert some numbers between binary and denary.	**A learner on track for Grade 4 can:** • Select a variety of software to accomplish given goals. • Demonstrate competence using a variety of different software applications. • Demonstrate the use of basic tools to create a digital product.	**A learner on track for Grade 4 can:** • Describe acceptable and unacceptable behaviour using computers or digital devices. • Be able to describe folder structures and why they are important.
BC3	**A learner on track for Grade 3 can:** • Understand that algorithms are implemented as programs on digital devices. • Debug simple programs. • Use logical reasoning to predict the behaviour of simple programs. • Be able to show how small numbers can be converted between binary and denary.	**A learner on track for Grade 3 can:** • Use technology purposefully to organise digital content. • Use technology purposefully to manipulate digital content. • Use search technologies effectively.	**A learner on track for Grade 3 can:** • Use technology responsibly. • Identify a range of ways to report concerns about contact.
BC2	**A learner on track for Grade 2 can:** • Describe what algorithms are and how they are used. • Be able to describe programs work by following precise and unambiguous instructions. • Create simple programs that can input and output.	**A learner on track for Grade 2 can:** • Use technology purposefully to retrieve digital content. • Use technology purposefully to collect information. • Use technology purposefully to design and create content. • Use technology purposefully to present information.	**A learner on track for Grade 2 can:** • Use technology safely and respectfully. • Keep personal information private and understand why this is important. • Identify where to go for help and support when there are concerns about content or contact on the internet or other online technologies.
BC1	**A learner on track for Grade 1 can:** • Describe what algorithms are. • Create simple programs that can output data. • Describe a computer system in simple terms.	**A learner on track for Grade 1 can:** • Use technology purposefully to create digital content.	**A learner on track for Grade 1 can:** • Use technology safely. • Keep personal information private.

		• Use technology purposefully to store digital content.	• Recognise common uses of information technology beyond school.