

# KS3 Specification 2017/18



# COMPUTING

## **Topic 1 – Problem Solving**

- 1.1 Algorithms
- 1.2 Decomposition and abstraction

## **Topic 2 - Programming**

- 2.1 Develop code
- 2.2 Constructs
- 2.3 Data types and structures
- 2.4 Input/output
- 2.5 Operators
- 2.6 Subprograms

## **Topic 3 - Data**

- 3.1 Binary
- 3.2 Data representation
- 3.3 Data storage and compression
- 3.4 Encryption
- 3.5 Database

## **Topic 4 – Computers Machines and computational modelling**

- 4.1 Hardware
- 4.2 Logic
- 4.3 Software
- 4.4 Programming languages

## **Topic 5 – Communication and the internet**

- 5.1 Networks
- 5.2 Network security
- 5.3 The internet and the World Wide Web

## **Topic 6 – The bigger picture**

- 6.1 Emerging trends issues and impact

## Year 7 Formal Assessment

1. Baseline examination
2. Presentation
3. Publication
4. Examination/Practical
5. Publication
6. End of year exam

## Year 8 Formal Assessment

1. Baseline examination
2. Presentation
3. Publication
4. Examination/Practical
5. Publication
6. End of year exam

## Year 9 Formal Assessment

1. Baseline examination – GCSE Paper
2. Presentation
3. Publication
4. Examination/Practical – Mock Controlled Assessment
5. Publication
6. End of year exam - GCSE Paper

# Band Descriptors

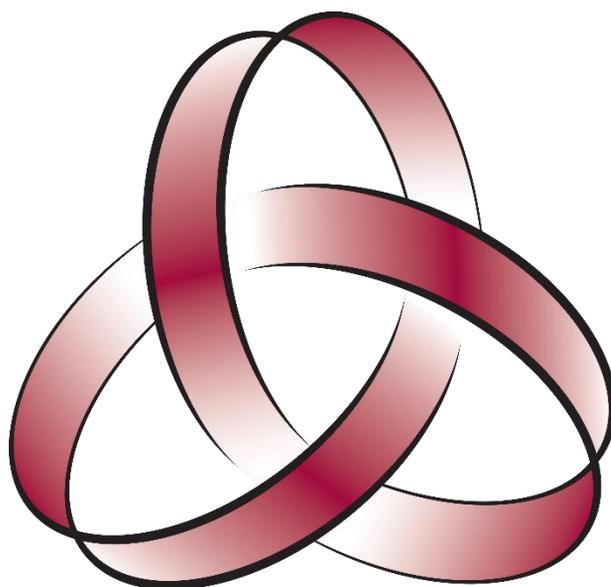
Band	Problem Solving	Programming	Communication and the internet	Computer Theory
1	<p>Use IT independently</p> <p>Identify how people interact with computers</p> <p>Compare how IT can be used effectively</p> <p>Analyse how IT can be used to enhance learning</p> <p>Discuss how IT can enhance an outcome</p> <p>Use IT to solve a problem</p>	<p>Choose correct software for a purpose</p> <p>Define how to store data in a logical way</p> <p>Use office tools to develop digital content</p> <p>Demonstrate an awareness of the quality of digital content collected</p> <p>Recognise how to store digital content using appropriate file and folder names</p> <p>Use a variety of office tools to develop digital content</p>	<p>Explain the need to plan a project</p> <p>Be able to generate a basic plan for a chosen outcome</p> <p>Understand the need to organise assets for a project</p> <p>Recognise the need to brainstorm and plan a project before developing</p> <p>Create a plan for a digital product which meets a criterion</p> <p>Review how a plan can help with the development of a project.</p>	<p>Recognise the importance for reviewing work</p> <p>Be able to state the key requirements of a task</p> <p>List some improvements for a task</p> <p>Be able to implement improvements to your work</p> <p>Discuss a range of improvements that could be made to improve a project</p> <p>Understand the reason why work should be reviewed</p>

Band	Problem Solving	Programming	Communication and the internet	Computer Theory
2	<p>State how IT can help to solve specific problems</p> <p>Compare a range of IT problems</p> <p>Evaluate how IT packages can impact on a person</p> <p>State how IT can improve collaboration</p> <p>Demonstrate how to collaborate effectively using IT</p> <p>Explain how collaboration can impact on a problem.</p>	<p>Use a range of appropriate software to effectively manipulate and present digital content (office packages and some graphics packages)</p> <p>Choose an appropriate method of organising digital content</p> <p>Use a range of packages to achieve a goal</p> <p>Demonstrate recognition of audience and purpose when using software to develop digital content</p> <p>Combine software packages and internet services to communicate information</p> <p>Compare the quality of assets used in digital content</p>	<p>Understand the key requirements of a project plan</p> <p>Develop an appropriate project plan for a specific scenario</p> <p>Understand the audience and purpose of a plan when developing a project</p> <p>Be able to identify key design decisions and requirements of a project plan</p> <p>Implement a range of information within a plan to meet a given scenario</p> <p>Understand the impact that planning will have on the end product</p>	<p>Make appropriate judgement when improving work</p> <p>Analyse a range of strengths and targets for a project with some understanding of where to go next</p> <p>Demonstrate a clear understanding of the importance of the review cycle</p> <p>Compare how reviewing work can allow you to achieve an outcome</p> <p>Effectively employ a range of improvement techniques to your work</p> <p>Evaluate the impact of improvements to the original objective</p>

# Band Descriptors

Band	Problem Solving	Programming	Communication and the internet	Computer Theory
3	<p>Review methods in which you can collaborate in IT</p> <p>Demonstrate how to collaborate with someone else within IT</p> <p>Summarise how sharing and collaborating information can solve a problem</p> <p>State some of the barriers to collaboration in IT</p> <p>Identify the negatives of collaboration within IT</p> <p>Evaluate the effectiveness of using collaboration in IT</p>	<p>Demonstrate effective judgement and control when merging software to create digital content</p> <p>Develop a range of collaborative approaches to sharing digital content for educational purposes</p> <p>Adapt assets to fulfil an outcome</p> <p>Evaluate the appropriateness of application software to achieve given goals</p> <p>Employ collaboration within creating digital content</p> <p>Assemble assets for a chosen purpose</p>	<p>Formulate a fully annotate plan which includes a detailed overview of intentions</p> <p>Explain what a product will be intended to look like</p> <p>Describe a range of important design decisions for the chosen product.</p> <p>Develop an effective and clear structure of intended designs for a project</p> <p>Implement an effective plan which will show intentions of a product and final outcomes</p> <p>Be able explain the reasons behind key inclusions in the plan.</p>	<p>Evaluate performance towards an outcome with the use of evaluative review</p> <p>Identify an appropriate plan of improvements to clearly meet a criterion</p> <p>Understand the need for reflecting on reviews</p> <p>Assess why you must regularly review and evaluate working practice</p> <p>Compare a project using evaluative comments and suggest future developments</p> <p>Formulate an effective overview of how review has affected the initial outcome</p>

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4	<p>Compare the drawbacks of relying on digital devices.</p> <p>Evaluate the impact of digital devices on a specific user</p> <p>Compare the drawbacks of relying on digital devices.</p>	<p>Adapt assets to fulfil an outcome</p> <p>Develop a range of collaborative approaches to sharing digital content for educational purposes</p> <p>Demonstrate effective judgement and control when merging software to create digital content</p>	<p>Formulate a fully annotate plan which includes a detailed overview of intentions</p> <p>Describe a range of important design decisions for the chosen product.</p> <p>Explain what a product will be intended to look like</p>	<p>Evaluate performance towards an outcome with the use of evaluative review</p> <p>Identify an appropriate plan of improvements to clearly meet a criteria</p> <p>Understand the need for reflecting on reviews</p>



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