SEQUENCING

As with all topics in the ICT Framework particular strands and sub-strands form the core focus for meeting yearly statutory learning objectives.

Students are unlikely to develop a rounded understanding of ICT techniques, knowledge and understanding through focus on one strand. The core strands of "***Finding Information***" and "***Evaluating***" figure highly in all work that students undertake and should consequently figure highly in schemes of work and lesson planning.

The purpose of this document is to present a range of statutory learning objectives that are associated with "***Sequencing***" in Years 7-9. It should be noted that the Framework places a statutory requirement on "***Sequencing***" objectives in Years 10 and 11.

How to use the following pages:

The strands are taken directly from the Framework document. The sub-strand headings are linked to the next and previous year in order that comparison can be made of how students are expected to progress. Whilst the learning objectives are statutory requirements this does not equate to suggesting that all students will complete all and only Year 7 objectives during Year 7. Two year Key Stage 3 environments will subsume objectives from three years into two. Similarly, time allocation, student ability and prior experience will influence how rapidly students cover learning objectives.

A number of the bulleted sub-strand descriptors of activity are linked directly to level descriptors using ***Assessing Pupil Progress*** criteria. This provides a mapping of lesson activity to formalised assessment providing a means of extracting a summative level and an opportunity to chart how students may progress through levels over an academic year or across Key Stage 3.

Where linked, the ***Assessing Pupil Progress*** level descriptors take you back to the sub-strands thereby providing a link between what students are expected to cover and at which level this is assessed.

The suggested links between strands, sub-strands and ***Assessing Pupil Progress*** statements are by no means exhaustive but serve to map student activity to assessment criteria.

Year 7 Framework Learning Objectives - Sequencing

Strand 1.1 Using data and Information Sources (click to compare with Y8)

- Use information from primary or secondary sources

Strand 1.2 Searching and Selecting (click to compare with Y8)

- Acknowledge sources and recognise copyright

Strand 1.3 Organising and Investigating (click to compare with Y8)

- Save files using appropriate file names and organise files in a hierarchical folder structure

Strand 2.1 Analysing and Automating Instructions (click to compare with Y8)

- **Represent** simple processes as diagrams to plan the task
- Use automated processes to support consistency of style and presentation

Strand 2.3 Sequencing Instructions (click to compare with Y8)

- Rationalise a set of instructions by repeating sections
- **Plan** and implement sets of instructions, predicting outcomes before execution

Strand 3.2 Refining and presenting information (click to compare with Y8)

- **Use ICT** to improve their work through drafting and refining
- Match the content and style of their work to the audience and purpose

Strand 4.1 Evaluating work (click to compare with Y8)

- **Select ICT** tools which will support the development and accuracy of their work, and learn the benefits of checking, correcting and refining their work as it progresses
- Agree and use simple criteria, and understand how to improve their work
- Explain the reasons for choices they have made
- **Act purposefully** on feedback

Year 8 Framework Learning Objectives - Sequencing

Strand 1.1 Using Data and Information Sources (click to compare with Y9)
(**Y7 comparison**)

- Use information from primary or secondary sources and know when to choose the different types
- **Justify the use of particular information** sources to support an investigation or presentation, and devise and apply criteria to evaluate how well various information types support a task

Strand 1.2 Searching and Selecting (click to compare with Y9)
(**Y7 comparison**)

- Acknowledge all sources, recognising copyright and other constraints

Strand 1.3 Organising and Investigating (click to compare with Y9)
(**Y7 comparison**)

- Save files in appropriate formats and create a hierarchical folder structure

Strand 2.1 Analysing and Automating Instructions (click to compare with Y9)
(Y7 Comparison)

- Identify the key elements of a problem and represent components in a plan
- Automate simple processes by harnessing software tools

Strand 2.2 Models and Modelling (click to compare with Y9)

- **Combine variables** within a model in different ways to form rules

Strand 2.3 Sequencing Instructions (click to compare with Y9)
(Y7 Comparison)

- Use precision and accurate syntax when framing instructions
- Test and refine sequences in order to achieve specific outcomes
- Recognise that sequencing instructions is fundamental to a wide range of ICT applications

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Strand 3.2 Refining and presenting information (click to compare with Y9)
(Y7 Comparison)

- Draft, refine and structure their work using a combination of ICT tools to convey meaning more effectively
- Modify and develop text, images, tables and sounds from several sources within the structure of a piece of work

Strand 4.1 Evaluating work (click to compare with Y9)
(Y7 Comparison)

- Improve the quality of outcomes for specific audiences and purposes by using a range of ICT tools
- **Make and use** simple success criteria that ensure fitness for purpose
- Justify the process they use in relation to the task
- Gather and use feedback to inform future work
- Reflect on their previous work and learning in order to improve their work

Year 9 Framework Learning Objectives - Sequencing

Strand 1.1 Using Data and Information Sources (click to compare with Y8)

- Collect data systematically from sources for an identified purpose

Strand 1.2 Searching and Selecting (click to compare with Y8)

- Acknowledge sources, defining primary and secondary sources, and recognise copyright and other constraints

Strand 1.3 Organising and Investigating (click to compare with Y8)

- **Establish complex success** criteria to evaluate a solution to a problem

Strand 2.1 Analysing and Automating Instructions (click to compare with Y8)

- Represent complex information systems in diagrammatical form to support their development
- **Refine existing** systems and make them more efficient through automation

Strand 2.2 Models and Modelling (click to compare with Y8)

- Extend the scope of a complex model by incorporating or changing rules

Strand 2.3 Sequencing Instructions (click to compare with Y8)

- Use efficient structuring of instructions and recognise how this increases flexibility and eases testing
- Break down a problem into manageable sections that can be represented by sub-procedures where appropriate
- **Review own** and others' sequences of instructions to improve efficiency

Strand 3.2 Refining and presenting information (click to compare with Y8)

- Refine and combine different components of text, images, tables and sounds from a range of sources

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Strand 4.1 Evaluating work (click to compare with Y8)

- Devise and review complex success criteria to modify and develop their work as it progresses
- Evaluate the effectiveness of their approach to developing an ICT solution
- Gather, record and use systematic feedback from users to improve their work
- Apply prior learning to their work

ICT ASSESSSMENT GUIDELINES – ASSESSING PUPIL PROGRESS

	AFI - Planning, developing and evaluating	AF2 - Handling data, sequencing instructions and modelling	AF3 - Finding, using and communicating information
Level 4	• Plan and implement solutions that combine and refine different forms of information. • Evaluate the quality and success of their solutions. • Explain how and why the use of ICT varies in and out of school	• Organise and process data for a purpose. Devise and refine sequences of instructions. • Use models to explore relationships between inputs and outputs and explain how the models work	• Use appropriate search criteria to find relevant information, and check its plausibility and usefulness. • Present information in different forms suited to purpose. • Use ICT to communicate and collaborate, identifying some of the risks and acting to minimise them
Level 5	• Plan and develop structured solutions to problems which use a combination of ICT tools and techniques. • **Use criteria to evaluate** the quality of solutions, identifying improvements and refining their work. • Identify benefits and limitations of using ICT both inside and outside school	• Use logical and appropriate structures to organise and process data. • **Create precise** and accurate sequences of instruction • Change variables within models and explain the impact	• Take account of accuracy and potential bias when searching for and selecting information. • Present information in a range of forms for specific purposes and familiar audiences. • Use ICT safely and responsibly
Level 6	• **Plan and develop** solutions which show efficiency and integration of ICT tools and techniques. • Use criteria and feedback to improve the effectiveness and efficiency of solutions. Explore the impacts of the use of ICT in work, leisure and home	• Devise a data handling solution to test hypotheses that uses techniques to reduce input errors. • Create efficient sequences of instructions including the use of subroutines. • Test predictions by varying rules in models and assess the validity of the conclusions	• **Use complex lines of enquiry** efficiently to interrogate information. • Explain choices when presenting information for different purposes and wider or remote audiences

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Level 7	• Design and plan an ICT-based system by: ○ scoping the information flow through the system ○ devising and applying success criteria to ensure a quality solution that meets user needs, refining as work progresses ○ identifying the advantages and limitations of the system. • Identify the impact of ICT on people, communities and cultures	• **Select appropriate** tools and techniques to implement an ICT based system in which: • data flow is automated through the system • sequences of instructions are developed, tested and refined • assumptions, variables and rules are identified	• Develop an appropriate user interface for an ICT based system which: ○ enables efficient data input ○ displays system outcomes that are fit for purpose and audience
Level 8	• Design and implement ICT based systems for others to use which: ○ meet the needs of the user ○ take account of ease of use ○ collect and prepare information for processing efficiently ○ include an appropriate interface between the system and the user ○ use appropriate ICT tools and techniques ○ integrate evaluation into the development process to inform subsequent refinements • Explain the impacts of ICT on social, economic, ethical and moral issue		

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