

### Overview

- This unit builds on other work completed in Year 8 and also work from Year 7.

Main purposes are:

- To develop pupils' ICT capability through:
  - Working within a group
  - Understanding development paths for small business
  - Timelines and Gantt charts
  - Developing a corporate image, mail merging and logo design
  - Financial modelling (spreadsheets)
  - Using LOGO programming (maze design)
  - Using FLOWOL (production line)
  - Report creation (Group PowerPoint presentation)
- To provide a framework for teaching and learning.
- The Pathways section offers some suggestions on ways to access these materials depending on your experience.
- The aspects of the 'yearly objectives' covered by this unit of work.

## Pathways

**Pathways are:** Routes for teachers to access these materials

These materials are designed to be used by staff that have a wide range of ICT experiences, as a result some staff may wish to browse the materials before doing anything else while others may prefer a more structured approach. Whichever method you prefer you will at some stage need:

- Access to a computer with sound capability
- Printing facilities if you need to print any of the teaching notes or resources (The premium version of Digit Strategy provides all resources ready to photocopy)
- Relevant software to look at the teacher and pupil resources

Please select the most appropriate experience level for a few guidelines on how best to access these materials.

Head of Department	ICT Teacher	Non ICT Specialist	Newly Qualified Teacher
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## Head of Department

**Guidance if you are:** The Head of Department or ICT Co-ordinator

These guidelines assume that you are familiar with the new ICT Strategy and its Framework.

If you also teach ICT in your school you will inevitably need to look at the guidance for the teaching and learning materials - please refer to the 'ICT Teacher' pathway for this.

These materials make some assumptions, which may not apply or be achievable and you may need to amend them:

- Pupils have suitable access to IT equipment, ideally one each
- Teachers have the means to show presentations to large groups
- Pupils receive a 1 hour ICT lesson per week throughout the year
- Your school has suitable software and peripherals
- All teachers should have a copy of the teacher notes and resource materials. You can make these available by:
  - Photocopying the pages from the folder (Premium version of Digit Strategy only)
  - Printing directly from the CD
  - Sharing the files over your network / intranet
  - Making a copy of the CD (your site licence allows you to copy this CD for teacher use only)
- All rooms should have an area to display the key language for the lesson
- Homework can be set. It may be beneficial to provide some form of after school workshop to allow pupils access to computers if they do not have one at home

Before starting this unit of work ensure that all staff are confident with its content, teaching outcomes and possible demonstrations. Included within the pupil area are demonstrations of key skills that some teachers may find beneficial to watch.

A better solution is to provide an opportunity for collective staff training on issues such as software, hardware, scanning, digital photography and printing.

Where your resources are limited:

- It may be possible to change the order that the lessons are taught
- Provide the resource in a central area
- Allow pupils to move between rooms
- Have after school access

It is unlikely that you will be able to deliver this unit without adequate preparation beforehand. You probably have a method already in place to ensure that any new teaching scheme is implemented correctly; the following is only offered as a reminder:

- Distribute the teaching notes and ask each teacher:
  - To become familiar with the various sections
  - To raise possible problems at an early stage
- Ask the teachers to experience the pupil activities for themselves to:
  - Provide you with a list of resources that they may wish to supplement their lessons
  - List the training that they may require to deliver the unit
  - Make themselves aware of what the pupils are being asked to do - they may also benefit from producing a finished piece of work themselves
- Discuss the possible outcomes and how the work will be assessed and moderated
  - Ask your teachers to keep evidence so that a department portfolio of work can be assembled at the end of the unit. This will assist moderation and be of particular help to new or inexperienced staff
- Where possible have a regular slot at your department meeting to discuss how the work is progressing
  - You may ask your staff to show example pupil presentations
  - Share experiences and good practice
- Have agreed policies on such things as:
  - Printing, use of external resources, use of floppy disks, and others such as e-mail, etc
- Ask your staff, if appropriate, to help with after school ICT workshops to provide computer access for those who do not have this at home

## ICT Teacher

**Guidance if you are:** An ICT Teacher

Practising teachers of ICT should be familiar with much of this material. It provides a structured approach to deliver some of the yearly objectives within the ICT Framework. It has an emphasis on pace, requiring pupils to complete activities each week or lesson. The teacher notes are divided into several sections and provide a lesson-by-lesson breakdown, while the pupils work through matched activities.

A suggested route to familiarise yourself with these materials:

- Read the pupil introduction to the unit (this is the home page for pupils)
- Read the delivery section for lesson 1, making a note of the following:
  - What you will be required to teach
  - Any demonstrations that you may need to give. The pupil area has a series of skills based tutorials for reference
  - The equipment to teach the lesson, e.g. large screen
- Look at the matching pupil activity, making a note of the following:
  - What each pupil will be required to do
  - The online resources available to the pupils
  - Other areas of the software, e.g. progress, store and language
  - Will you require pupils to print?
  - Will you use the other resources available, e.g. wordsearches?
- Read the other sections for lesson 1, making a note of the following:
  - Work to be differentiated
  - The resources available (these can be viewed, saved or printed)
  - Resources you may already have to support an activity of this type

Repeat this for other lessons.

**Make yourself aware of the objectives and decide how you will record pupils' achievements.**

## Non-ICT Specialist

**Guidance if you are:** A non-ICT Specialist

As a practising teacher you will be aware of the key elements for delivering a lesson. These materials provide a framework for each lesson together with pupil activities and resources.

You will soon realise that there is an emphasis on pace, requiring pupils to complete activities each week or lesson. The teacher notes are divided into several sections and provide a lesson-by-lesson breakdown, while the pupils work through matched activities.

As a non-ICT specialist you may wish to use the suggested route below to familiarise yourself with these materials. The text in *italic* may be of particular importance to you:

- Make yourself aware of the objectives.
  - *Ensure that you understand what these mean*
    - Further explanation can be found in the full ICT Framework document
- Read the pupil introduction to the unit (this is the home page for pupils).
  - *Highlight any areas that you may not understand from an ICT perspective*
- Read the delivery section for lesson 1, making a note of the following:
  - *What you will be required to teach*
    - List any technical terms that may require explanations
- Any demonstrations that you may need to give
  - *The pupil area has a series of skill-based tutorials for reference*
  - *Ask another teacher to show you relevant skills*
- The equipment to teach the lesson, e.g. large screen
  - *Arrange for these to be set up in advance or be shown how to do it for yourself*

- Look at the matching pupil activity, making a note of the following:
  - *What each pupil will be required to do*
    - Could you do what the pupils are expected to do?
    - Go through the activity for yourself
  - The online resources available to the pupils
- Other areas of the software, e.g. progress, store and language
- *Will you require pupils to print?*
  - Do you know how to set the printer on pause or print multiple documents on a single page
- Will you use the other resource materials available, e.g. wordsearches?
  - Do you know where to find the answers to these resources?
- Read the other sections for lesson 1, making a note of the following:
- Work to be differentiated
  - Do other staff have ideas on how you differentiate materials.
- The resources available (these can be viewed, saved elsewhere or printed)
- The resources that you may already have to support an activity of this type

Repeat this for other lessons.

## Newly Qualified Teacher

## Guidance if you are: A Newly Qualified Teacher

As a newly qualified teacher you should be familiar with many of the skills required to teach this unit of work. As with all preparation, familiarise yourself with these materials first as you will soon realise that there is an emphasis on pace, requiring pupils to complete activities each week or lesson. The teacher notes are divided into several sections and provide a lesson-by-lesson breakdown, while the pupils work through matched activities.

You may wish to use the suggested route below to familiarise yourself with these materials. The text in *italic* may be of particular importance to you:

- Make yourself aware of the objectives
  - *Ensure that you understand what these mean*
    - Further explanation is in the full ICT Framework document
    - You may like to find out any prior learning for your class
- Read the pupil introduction to the unit (this is the home page for pupils)
  - *Highlight any areas that you may not understand from an ICT perspective*
    - Ask if there are any similar examples of work already in the department for you to look at
- Read the delivery section for lesson 1, making a note of the following:
  - *What you will be required to teach*
    - How you will organise the room for certain activities
  - Any demonstrations that you may need to give
    - The pupil area has skill-based tutorials for reference
    - Ask another teacher to show you relevant skills
  - *The equipment to teach the lesson, e.g. large screen*
    - Arrange for these to be set up or be shown how to do it



- Look at the matching pupil activity, making a note of the following:
  - *What each pupil will be required to do*
    - Have an idea how long you will allocate for each part. (There is some guidance on the quick view for each lesson)
    - Go through the activity for yourself. This will highlight any potential problems
  - The online resources available to the pupils
  - Other areas of the software, e.g. progress, store and language
  - *Will you require pupils to print?*
    - Do you know how to set the printer on pause or print multiple documents on a single page?
    - How will you organise the whole class to print?
  - Will you use the other resource materials available, e.g. wordsearches?
    - Do you know where to find the answers to these resources?
- Read the other sections for lesson 1, making a note of the following:
  - *Work to be differentiated*
    - Do you have any teaching support staff with you? If so, then you may need to prepare some work for them
  - *The resources available* (these can be viewed, saved elsewhere or printed)
  - The resources that you may already have to support an activity of this type

Repeat this for other lessons.

## Framework (Yearly Objectives)

The following are objectives for Year 8; those covered by this unit are highlighted

### Finding Information

#### Using data and information sources

- **use information from primary or secondary sources and know when to choose the different types**
- recognise how the content and style of information can influence the message it gives and that data can be distorted and misused
- **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**

#### Searching and selecting

- **select information from a range of sources and assess the potential value of the information for a task**
- frame searches in an appropriate and considered way in relation to the required results, for a more complex problem
- use basic logical operators and apply these when searching for information
- understand that the different ways in which search engines work can affect which information is returned
- **acknowledge all sources, recognising copyright and other constraints**

#### Organising and investigating

- **save files in appropriate formats and create a hierarchical folder structure**
- **identify the essential data and ICT tools required to solve a problem**
- **develop open and closed questions with sensitivity, recognising people's cultural, social and ethical differences**
- **design a questionnaire or data-collection sheet to collect relevant data, and obtain and use feedback to establish what are good questions**
- produce or adapt a data structure, enter data into this and check that data is reasonable and accurate
- use more complex queries – AND, OR, NOT; use different searches to produce the most effective result or to collect extra or different data for more detailed conclusions

- **represent information in graphs, charts or tables, and in a report where appropriate; justify the form of representation and check the plausibility of their conclusions**
- **identify examples of automated data collection and recognise the impact of electronic databases on learning, everyday life and employment**
- **evaluate different applications in terms of the structure and method of processing data**

## **Developing Ideas**

### **Analysing and automating processes**

- **identify the key elements of a problem and represent components in a plan**
- **automate simple processes by harnessing software tools; recognise where automation tools, such as filtering, can be used to improve safety when using the internet**

### **Models and modelling**

- **combine variables within a model in different ways to form rules**
- **recognise that the rules contained within a model determine its output, and make more complex predictions based on several variables**
- **amend existing simple models by changing variables and formulae**
- **identify whether a model has an appropriate set of variables to make it suitable for a particular purpose, and assess its accuracy by comparing its outcomes with those from other sources**

### **Sequencing instructions**

- **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**

**Communicating Information****Fitness for purpose**

- plan communication projects and select the appropriate communication (type, length, media) for the intended audience (considering audience needs and expectations), purpose and environment
- reflect on the work of others to help plan and amend their communications and understand how effective presentations or publications address specific audience needs and expectations

**Refining and presenting information**

- 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
- extract, combine and modify relevant information for a specific purpose, and structure and sequence this to meet audience needs
- use a range of ICT tools efficiently to refine the presentation of information for a specific purpose

**Communicating**

- select appropriate methods of exchanging digital information and recognise that the format affects the method of exchange
- use digital communications for the sharing and collaborative development of ideas for a variety of purposes
- work in a safe and responsible way when communicating with others

**Evaluating****Evaluating work**

- 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