

WJEC *Certificate of Educational Achievement: Mathematics*

Teacher Support

This pack complements the assessment material provided by the *Welsh Joint Education Committee* (245, Western Avenue, Cardiff, CF5 2YX, tel: 01222 265000) and the Practice Book provided by the *Mathematics Enhancement Programme*, and consists of resources to enhance the teaching of

- *Module 1*

Similar packs will be provided for

- *Module 2*
- *Module 3*
- *Extension to GCSE.*

The resources are divided into sections:

Notes on Implementation for all 3 Modules

Overview

Scheme of Work

Activities – in the form of Case Studies

Overhead Transparencies – masters

Mental Tests

Sample Module Test

Sample Aural Test

Answers to Practice Book Exercises

} for each Module

Notes on Implementation

These notes should be read in conjunction with the *WJEC* document

Certificate of Educational Achievement: Mathematics

The aim of this package is to provide support for students studying in Y10 and Y11 for the above qualification. We will also be providing support for those students who are keen to upgrade (at the end of their course) to the Foundation Tier of GCSE.

The assessment scheme, as given by the *WJEC*, is summarised below, and is based on three distinct but related modules.

<i>Module</i>	<i>Assessment Component</i>	<i>Weighting</i>	<i>Time Period</i>
1	Intermediate Test 1	16%	Term 1 (Y10)
	Aural Test 1	1.66%	" "
	Practical Exercise 1	2%	" "
2	Intermediate Test 2	16%	Terms 2/2 (Y10)
	Aural Test 2	1.66%	" "
	Practical Exercise 2	2%	" "
3	Intermediate Test 3	16%	Terms 4/5 (Y11)
	Aural Test 3	1.66%	" "
	Practical Exercise 3	2%	" "
	Investigative Tasks	20%	At any stage
	External Examination	21%	March (Y11)

Details of the connection of each component with National Curriculum objectives is given in the *WJEC* booklet.

Details of the resources provided by *MEP* are given below.

Scheme of Work / Timetable

This is a detailed scheme, which expands on the basic module syllabus and provides a timetable showing topics which should be covered and suggests when. This is for guidance only, and clearly you might wish to make modifications and adaptations (blank copies of the yearly scheme are also provided in case you want to produce a revised version).

Practice Book

There are two Practice Books

Practice Book Y10 – covering material in Modules 1 and 2 (Units 1-19)

Practice Book Y11 – covering material in Module 3 (Units 16-24) and extension material for GCSE.

In the main, these books provide plenty of exercises based on the content of the Units in the Scheme of Work.

There are some worked examples on key topics, particularly when we feel that students will gain from having a fully worked problem for reference. We do though expect the teacher to be providing the guidance and initial tuition for each topic. The Practice Books are *not* written for a self-study course but for a teacher-led course in which worked examples are developed along the lines of the *MEP* teaching philosophy, e.g. active involvement of members of the class including working on the board or OHP, keeping students on task, emphasising applications and encouraging mental maths skills.

You may find the Case Studies, OH Slides and Mental Tests (see below) helpful in implementing this teaching philosophy.

Case Studies

These are substantial sections of work which cover much of the content of the modules, but are optional. They have been designed for students to gain both motivation and confidence and can be used in conjunction with the more routine practice found in the Practice Books.

One of the important aspects of this project is to evaluate what teaching methods are most productive with students with low ability or with learning problems. We are particularly keen to see if this contextual approach provides better motivation and enhanced attainment.

Overhead Slides

These copy masters have been produced to cover the major topics and concepts throughout the course. They can be used in two distinct ways; namely

- as OH slides which can be completed by the teacher for instruction and by the pupils for whole class involvement and discussion,
- as worksheets copied for individual use, with teacher guidance.

Mental Tests

These tests are designed to support all the major topics covered where mental competence and agility are helpful. We do think that it is important for *all* students to have at least some mastery of mental maths skills. Though it may seem demotivating to go over topics again (e.g. multiplication tables) when they have not been mastered earlier, we can only stress that little progress can be made in maths without at least a basic understanding and knowledge of number and number facts.

This is another area which we will be looking at more closely to see what approaches are most effective at this age. For example, the use of exact number lines (including fractions and decimals) could be effectively used in many units.

Intermediate and Aural Tests

We are providing sample Intermediate and Aural Tests for each module, based directly on the question framework used in the *WJEC* tests.

General Comments

We hope that the package provided will help in this problem area of low achievers. Of course the problems started much earlier and may be due to *lack of basic knowledge*, *lack of motivation* and, in some cases, a genuine *lack of ability* in mathematics.

Maths is on the whole a 'linear' subject in that when a pupil has *not* understood or mastered a particular topic, it is difficult for them to get back on track. This certificate course is designed to help by encouraging successful achievement which will breed confidence, increased motivation and even enjoyment!

We very much hope that this course, and its supporting materials, will help to put more students back on track, and will provide an opportunity for those who achieve well to move on to a Foundation Tier GCSE after their final certificate external examination.