

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0091050 -Session-1989-90

-Superclass- RB

-Title- USING NUMBERS IN EVERYDAY SITUATIONS

-DESCRIPTION-

Purpose

This module is designed for the student who requires a basic understanding of the use of money, time and measurement in everyday situations.

The successful completion of this module could enable the student to progress to 91051 Mathematics: Grade 1 or 61173 Personal and Social Development: Managing Your Money.

Refer to the Appendix for guidance on the framework of the mathematics modules.

Preferred
Entry Level

No formal entry requirements.

Learning
Outcomes

The student should:

1. use money and budget;
2. tell the time and calculate time intervals;
3. use common units of length, weight and volume.

Content/
Context

Corresponding to Learning Outcomes 1-3:

1. Understand the value of money and use of money in everyday situations. Identify sources of income: allowances, benefits, jobs, pocket money. Identify methods of payment: cash, cash cards, cheques, postal orders, stamps. Paying for meals, travel, shopping, leisure activities, mail-order items, hire purchase instalments, contribution to keep and/or rent. Checking of prices charged and change returned. Saving and budgeting. Estimation, price comparison and value for money should be

introduced in relation to these spending and saving activities.

2. Telling the time on the twelve hour clock to at least five minute intervals, am and pm, time intervals, early and late, fast and slow. Daily routine related to time of day: meals, getting to work/college/school, starting and finishing work, television programmes, hours of business for shops and clubs. Calendars, holidays, birthdays. Estimation and passage of time: time required for journey, to complete job, to cook a meal. Using the twenty-four hour clock to tell the time, record the time. Twenty-four hour clocks: digital watches, station clocks, television displays. Interpreting timetables using twenty-four hour clock.

3. Using appropriate items of equipment eg ruler, tape measure, scales, balance and weights, measuring jugs/spoons. Estimation of measurements.

- (a) Length. Using units for measuring length: mm, cm, m, km. Imperial measures should be used when appropriate. Awareness of parts of units eg. $\frac{1}{2}$ cm, $\frac{1}{4}$ mile.

Practical activities: measurement of curtains, carpets, paper, tiles, clothes, room, furniture/ equipment, garden. Distances of journeys.

- (b) Weight. Using units for measuring weight: g, kg. Imperial measures should be used when appropriate. Awareness of parts of units.

Practical activities: weight of parcels, foods, personal weight.

- (c) Volume. Using units for measuring volume: ml, litres (1). Imperial measures should be used when appropriate. Awareness of parts of units.

Practical activities involving measuring substances: liquids, solids, powders and the use of space: furnishing a room or house, filling cupboard shelves, packing goods/cases.

Suggested Learning and Teaching Approaches

The module should be activity based with opportunities to develop the skills in real or simulated situations. The activities chosen to develop numerical skills should be based on the student's personal, social and work experiences.

A variety of materials/equipment should be available to meet the wide range of individual needs and could include worksheets, computer programs, games, models, measuring instruments.

The learning and teaching approaches adopted and the time required will be determined by the individual needs of the student. They could include individual/small group work, discussion, assignments, practical activities, role play and simulation exercises and participation in real situations wherever possible. Where necessary, opportunities should be available for practising and reinforcing numerical skills.

Tutors involved in developing the programme of activities should liaise with staff in other curricular areas so that the student is encouraged to relate to transfer skills.

The student should maintain a folio/log of completed work in which relevant information is included.

During the work of the module the student should have several opportunities to practise the tasks listed in the performance criteria for each Learning Outcome. It is recommended that the tutor assesses the student at the stage where he/she is showing a consistent competence in a given task. Once such a competence has been demonstrably achieved there is no need for further assessment.

Assessment Procedures

Acceptable performance in the module will be satisfactory achievement of all the performance criteria specified for each Learning Outcome.

The following abbreviations are used below:

LO Learning Outcome
IA Instrument of Assessment
PC Performance Criteria

L01 USE MONEY AND BUDGET

PC The student:

- (a) identifies forms of income and methods of payment;
- (b) pays a bill in cash;
- (c) budgets a weekly income.

IA (1) Objective Questions

6 objective questions to test the student's ability to identify 3 forms of income and 3 methods of payment. The objective questions could be oral, short answer, completion, multiple choice, etc.

IA (2) Simulation

The simulation exercise should test the student's ability to use money in a shop situation. The student will be required to pay for up to 6 items in cash. This will involve totalling the bill, tendering an appropriate amount of money and checking the change. The student should have access to a calculator.

IA (3) Completion

The completion exercise should test the student's ability to use money in a budgeting situation. The student should be given a grid to be completed with his/her weekly income. The grid should have at least 4 categories (eg leisure, travel, housekeeping, savings). The student will be required to total amounts in the grid for 4 weeks. The student should have access to a calculator.

Satisfactory achievement of the Learning Outcome will be demonstrated by the student producing the correct response to each task.

L02 TELL THE TIME AND CALCULATE TIME INTERVALS

PC The student:

- (a) tells the time on analogue and digital clocks/watches;
- (b) converts am and pm to 24 hour clock times and vice versa;
- (c) calculates approximate time intervals;
- (d) uses a calendar to calculate time intervals.

IA Simulation

The simulation exercise should test the student's ability to tell the time and calculate time intervals in simulated situations. The exercise should be resource based with students having access to watches/clocks, calendars and calculators where appropriate.

The student will be required to:

- (a) tell the time on an analogue clock/watch on 2 occasions and on a digital clock/watch on 2 occasions;
- (b) convert each of the following on one occasion:
 - (i) am to 24 hour clock;
 - (ii) pm to 24 hour clock;
 - (iii) 24 hour clock to am;
 - (iv) 24 hour clock to pm;

- (c) calculate time intervals for each of the following on one occasion:
 - (i) within an hour eg 20 minutes;
 - (ii) in complete hours eg 2 hours;
 - (iii) within a day eg 3½ hours;
- (d) calculate time intervals for each of the following on one occasion:
 - (i) up to one month eg 15 days;
 - (ii) whole weeks eg 3 weeks;
 - (iii) whole months eg 4 months.

Satisfactory achievement of the Learning Outcome will be demonstrated by the student producing the correct response to each task.

L03 USE COMMON UNITS OF LENGTH, WEIGHT AND VOLUME

PC The student:

- (a) selects appropriate units of length, weight and volume for given situations;
- (b) measures length in given units;
- (c) measures weight in given units;
- (d) measures volume in given units.

IA (1) Objective Questions

The student should be given 12 questions with 4 real life examples for each of length, weight and volume to test his/her ability to select appropriate units.

IA (2) Practical Exercise

The exercise should test the student's ability to measure length, weight and volume.

The student will be required to measure everyday items using a variety of units eg length: 20cm, 75cm, 3m; weight: 75g, 250g, 3kg; volume: 200ml, 3 litres, 1 pint.

Satisfactory achievement of the Learning Outcome will be demonstrated by the student identifying appropriate units for each of length, weight and volume on 3 occasions for (a), measuring 3 lengths for (b), measuring 3 weights for (c) and measuring 3 volumes for (d).