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MINISTRY OF PRIMARY AND SECONDARY EDUCATION

CURRICULUM DEVELOPMENT AND TECHNICAL SERVICES

FOOD TECHNOLOGY AND DESIGN

SECONDARY SCHOOL LEVEL

FORMS 1-6

2015-2022

TEACHER'S GUIDE

Curriculum Development Unit
P.O.BOX MP133
Mount Pleasant
Harare

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1.0 Organisation of the teachers' guide

The guide is divided into 2 parts:

- Part A: Critical Documents
- Part B: Curriculum Delivery –which focuses on content, objectives, methodology, instructional material, assessment and evaluation

It is important to constantly refer to critical documents to enhance effectiveness as a teacher.

2.0 PART A: THE CRITICAL DOCUMENTS

Introduction

The teacher as the facilitator must have access to critical documents that the Ministry has developed in order to implement the new curriculum. It is of paramount importance for you to embrace the changes that come with it. This guide discusses the critical documents that a teacher should have in order to develop an in-depth understanding of the new curriculum content and underpinning philosophy.

Rationale.

Critical documents are policy documents that outline and specify the Food Technology and Design learning area philosophy, aims, objectives, learning/teaching concepts and content. They guide the facilitator on how to execute work. Critical documents are used as reference, help to track learner performance and learner profiling.

Objectives of Critical documents

The facilitator should be able to:

- deliver the Food Technology and Design curriculum effectively.
- foster an in-depth understanding of the new curriculum content.

As a facilitator, you must be in possession of the following critical documents:

- Curriculum Framework for Primary and Secondary Education 2015-2022
- National Syllabus Food Technology and Design
- School syllabus
- Scheme Cum Plan
- Learner Profile Guide
- Records
- Register of Attendance
- Inventory
- Assessment Framework

Unit 1:

Curriculum Framework for Zimbabwe Primary and Secondary Education 2015-2022

Introduction

This is a policy document that outlines underpinning principles, national philosophy, learning areas, the description and expectations of Ministry of Primary and Secondary Education (MoPSE) at policy level. It outlines what the government expects you to deliver as you go about your duties. You should therefore be familiar with the document. It also informs you where Food Technology and Design as a learning area is placed.

It is important for you to familiarize with the curriculum framework for Zimbabwe Primary and Secondary Education 2015-2022.

Objectives

Curriculum framework seeks to:

- motivate learners to cherish their Zimbabwean identity and value their heritage, history and cultural traditions and preparing them for participatory citizenship
- prepare learners for life and work in an indigenized economy and increasingly globalized and competitive environment
- ensure learners demonstrate desirable literacy and numeracy skills including practical competences necessary for life
- prepare and orient learners for participation in voluntary service and leadership

Key Elements of the Curriculum

The new curriculum framework consists of the following:

- Pillars of the Curriculum
- Aims of the curriculum
- Principles underpinning the curriculum
- Learner Exit Profile
- Organisation of the Curriculum
- Learning areas
- Assessment
- Life Skills Orientation Programme

Unit 2:

Syllabus Interpretation

Introduction

Syllabus interpretation is based on the Curriculum Framework for Primary and Secondary Education 2015-2022, as the guiding policy document. Syllabus interpretation is the process of making sense of the syllabus. It is about finding meaning of the syllabus. It involves the process of unpacking the syllabus, analysing and synthesising it.
It is important for you as the teacher to understand that planning begins with syllabus interpretation which forms the basis for development of school syllabus and scheme-cum plan.

Objectives

The objectives of the syllabus interpretation is for the facilitator:

- To understand the demands regarding content, methods and assessment of the new curriculum.
- To narrow the gap between planned curriculum and implemented curriculum.
- To prepare the facilitator for effective syllabus implementation.
- To give clarity and confidence to the facilitator so as to be able to deliver.

Types of Syllabi

There are two types of syllabi, namely the National Syllabus and the School Syllabus. Development of school syllabus involves re-organising the national syllabus, taking into account local factors. Scheme-cum plans are derived from the school syllabus.

2.1 National Syllabus

It is a policy document that outlines and specifies the learning area philosophy, aims and objectives, Learning/teaching concepts and content, suggested methodology and assessment criteria at every level. As a teacher, you should always have the national syllabus and use it as a guide in day to day teaching and learning activities.

Elements of the Food Technology and design National Syllabus

To interpret the syllabus there is need to identify its components and establish links between and among them. Components of the syllabus include;

- Preamble
- Presentation of Syllabus
- Aims
- Syllabus Objectives
- Methodology
- Time Allocation
- Topics
- Scope and Sequence
- Competency Matrix
- Assessment
- Glossary/Appendices

2.2 School Syllabus

The school syllabus is drawn from the National Syllabus by reorganising content taking into account local factors. The components of the School Syllabus are similar to the National Syllabus. The development of the Food Technology and Design school syllabus should be a task for all teachers in the department. The department can re-organise topics in the National syllabus to fit its circumstances.

Factors influencing drafting

The following are the factors that influencing the drafting:

- Availability of resources
- Cognitive ability of learners
- Time allocation

Elements of the School syllabus

These are the elements of school syllabus:

- Preamble
- Aims
- Syllabus Objectives
- Methodology and Time Allocation
- Topics
- Scope and Sequence
- Competency Matrix
- Assessment
- Glossary/Appendices

Unit 3

Schemes of Work

Scheme cum Plan

This is a document that the facilitator should draw from the national and school syllabus. The scheme of work outlines what the facilitator ought to execute on day-to-day teaching and learning activities. The document should therefore be clear in terms of objectives activities, content, and methodologies to be employed. Scheme of work/scheme cum plans should be drawn two weeks ahead of lesson delivery date. (Use of ICT in drawing the documents is encouraged). Note that at Secondary school, the scheme of work is optional but the scheme-cum plan is expected from the facilitator.

Components of the scheme-cum plan

The scheme-cum plan has the following components which will help to deliver with less challenges. The scheme-cum plan should have the following components:

- Week ending: which usually fall on every Friday as the last day of the week. For example; 19 May 2017.
- Topic/ Content: This constitute the main concept to be covered. For example, Proteins/ Nutrients
- Objectives: These are specific teaching objectives. Good objectives provide the facilitator with clear delivery focus, provide a means for assessing learner performance, and also allow for self-evaluation. The rule for ob jectives is that they should be SMART.
- Competences: These are life-long qualities and skills that the facilitator would want to see in learners. They include critical thinking, problem solving, creativity, modelling, communication, collaboration, Unhu/Ubuntu/ Vumunhu, leadership and technological competences.
- Methods and Activities: The golden rule is that learning and teaching methods and activities should be learner centred and should encourage learner creativity in terms of competence acquisition by the learner.
- Source of Material (SOM)/Reference/Media: This is an indication of where the facilitator is getting the content and the media one is likely to use.
- Evaluation: It is looking back at how one has delivered, successes and challenges as well as learner performance.

Table 1: scheme-cum plan sample

Form 2: Scheme of Work: Meal Planning

AIM: To plan meals for different age groups.

WEEK ENDING	TOPIC	OBJECTIVES By the end of the week pupils should be able to:	COMPETENCIES/	METHODS/ ACTIVITIES	SOURCES REFERENCES /MEDIA	EVALUATION
17-01-17	-Importance of meal planning -Factors to consider when planning meals -Meal planning, preparing, cooking and serving. -Components of a meal. -Components of balanced diet -Garnishing and decorating a dish. -Terms used in meal service.	● -justify the importance of planning meals. ● -explain factors to consider when planning meals. ● -name courses in a meal. ● -discuss what a balanced diet is made up of ● -explain the importance of mixing a variety of foods in a meal. ● -plan, prepare, cook and serve simple meals. ● -demonstrate garnishing and decorating dishes ● -state terms used in a meal service.	-Critical thinking -problem solving, -communication, -hands-on - financial literacy - self-management -artistic skills	-Analyzing findings of a 3 day dietary record from the class to check adequacy of meals -Discussing factors to consider when planning meals. -Identifying courses in a meal. -Analyzing different meals to check balance of nutrients. -Evaluating the importance of mixing a variety of foods in a meal. -Planning, cooking and serving different types of meals attractively. -Garnishing and decorating dishes. -Explaining the following terms: cover, portion, meal service, garnishing and course	● -Textbooks ● -Internet ● -Magazines ● -Journals ● - Newspapers ● -Charts ● -Work card	

Conclusion

You should always prepare the scheme cum plan well in advance, on average a week ahead but certainly not more than two weeks in advance. The scheme cum plan should not be a rigid document; you should be able to change it if you realize the need to do so. For example, you may realize that there are better methods than you indicated or you have better aids.

Unit 4

LESSON PLAN

This is a detailed daily plan of what you intend to deliver during the lesson. This is to be used in the event of you having drawn a scheme of work rather than a scheme cum plan. Though lesson planning is most common at Infant and Junior school, you may use it if you want. However, you are encouraged to use the Scheme-plan when teaching Food Technology and Design.

Components of a Food Technology and Design Lesson

DATE:	17 May 2017
TIME:	8:00 to 8:40
LEARNING AREA:	Food Technology and Design
TOPIC:	Meal Planning
CLASS:	Form 2

SOURCES OF MATERIALS/ INSTRUCTIONAL MEDIA

- National and School syllabuses
- Schemes of work
- Cooking and serving equipment
- Video showing cooking of different meals

ASSUMED KNOWLEDGE:

The learners cook different meals at home

OBJECTIVES

By the end of the lesson learners should be able to:

- Define terms.
- State types of meals.
- Plan simple balanced meals

Competences

- Critical thinking and problem solving
- hands on and artistic
- Planning and designing

INTRODUCTION:

Learners are asked to mention different meals (3 minutes)

LESSON DEVELOPMENT

STAGE	ACTIVITIES	Time-Minutes
STAGE 1	• Learners state meals they eat at home	5
STAGE 2	• Learners watch a video clip showing the preparation, cooking and serving different meals.	15
STAGE 3	• Learners plan a meal	10

CONCLUSION

The teacher show again the video and learners compare their meals with the video dishes (8)

Task

Learners to plan, prepare, cook and serve meals for different age groups

EVALUATION

Learners were able to:

- Describe the meal planning
- Explain different meals and suitable age group, however Blessing and Alen had challenges on explaining different meals.
- Anotida and Anenyasha had excellent dishes for toddlers

UNIT 5

RECORD – KEEPING

Introduction

Records are critical documents about the teaching-learning process which you must keep as a teacher. They should be accurate and up to date. They must be kept safely so that the next teacher to take that class will be well and correctly informed. The following are some of the reasons why you should keep records:

- Records helps guide you on your day-to-day operations
- Help you to track learner's performance
- Planning and re-adjustment of plans
- Source documents for reference
- Basis for profiling
- Basis for counselling
- For reference when you are absent or when you transfer

Types of Records

You are expected to keep the following documents:

- Curriculum Framework for Primary and Secondary Education 2015-2016
- Syllabi: National and School
- Scheme cum plan
- Class attendance register
- Teachers' Guide
- Performance Lag Address Programme (PLAP) record
- Social record
- Progress record
- Remedial and Performance Lag Address Programme (PLAP) record
- Asset and stock control registers
- Circulars
- Inventory
- Learner Profiles

UNIT 5

RECORD – KEEPING

Records to be kept

You are expected to keep the following records:

- Syllabi: National and School
- Schemes of work, lesson plans/scheme cum plans
- Class attendance register
- Performance Lag Address Programme (PLAP) record (where applicable)
- Social record
- Progress record
- Remedial and Performance Lag Address Programme (PLAP) record
- Asset and stock control registers
- Circulars

Conclusion

All these documents are equally important and you should administer them honestly and constantly. They should also be readily available for supervision. Records should be accurate and constantly be up-dated. You should always keep them safely with a back-up.

UNIT 6

3.0 PART B: CURRICULUM DELIVERY

Introduction

Food Technology and Design is concerned with food, its nutritive value and application of tools to solve real life problems. It covers the importance of food service for the health of the individual, family, community and the nation. This form 1- 4 learning area seeks to develop positive attitudes towards locally available foods and healthy eating habits. It aims to develop skills and knowledge in food preparation, resource management, self-reliance and interprising. It helps learners to become innovative and adaptable as they select and use relevant technologies, process information and achieve worthwhile outcomes. This learning area lays a foundation for further studies in food related professions in nutrition, health, food production and hospitality industry.

Rationale

Zimbabwe has an agro-based economy which values the health of its people. The Food Technology and Design syllabus will enable learners to develop a sound food processing industry, hence improving food security. It is imperative that learners with diverse needs learn to use locally available foods and technology to instil healthy eating habits. This course will impart skills in food preparation, service and resource management. Promotion of indigenous healthy foods, use of technology in processing, storage and utilisation of food will enable learners to acquire enterprising skills as well as preserve the acceptable norms and values (Unhu /Ubuntu/Vumunhu) in food preparation and service. Food Technology and Design covers theory and practical activities and seeks to develop the following skills among others:

- technical
- technological
- self-management
- communication
- problem solving
- critical thinking
- evaluation and analysis
- leadership
- management
- innovation
- enterprising
- creativity
- interpersonal
- decision making

3.1 Content

Food Technology and Design will cover theory and practical activities in areas such as nutrition, food preparation and serving, preservation, packaging and storage

3.2 Syllabus objectives

By the end of secondary education, learners should be able to:

- identify nutrients for a healthy diet, their sources and functions in the body
- relate nutritional needs to the health of the individual family, community and the nation
- use indigenous foods, herbs, spices and other locally available foods in preparing nutritious meals
- demonstrate knowledge and understanding of the use of technology.
- apply hygienic practices and safety precautions when handling, preparing, cooking, serving food and bever ages
- apply scientific principles underlying the preparation, cooking methods, serving and
- preservation of food
- use First Aid skills in attending to casualties
- demonstrate skills in selection, planning, preparation and artistic presentation of meals and beverages
- plan entrepreneurial activities in food, nutrition and food services
- use gender education to remove stereo-typing and gender inequalities in Food Technology and Design
- determine the causes and effects of malnutrition and draw preventive strategies
- explain how family size relates to food supply resources and quality life
- demonstrate an understanding of consumers

The syllabus encourages learner-centred methods and approaches. The need to impart enterprising skills, and promote employment creation, indigenization, self-reliance and relevance, should influence the choice of teaching and learning methods in Food Technology and Design.

The following methods are suggested.
Mini enterprise approach
Problem solving
Demonstrations
Case studies
Educational tours
Research
Group work
Role play
Guided discovery
Seminars
Debates
Project work
School on the shop floor

3.3 Teaching-learning Materials

Instructional materials are the tools you should use during learning and teaching process. Any resource you can use as a medium for the delivery of content, helping in achieving learning objectives should be an effective instructional material.

Importance of Teaching-learning Materials

Teaching-learning materials help learners to learn better and faster if you carefully choose and use them. They also:

- capture learners` interest and create virtual reality.
- promote meaningful communication hence effective learning.
- ensure better retention, thus making learning more permanent.
- provide direct or first-hand experience with the realities of the social and physical environment.
- help overcome the limitations of the classroom
- stimulate and motivate students to learn.
- help develop interests in other areas of learning.
- encourage active participation, especially if learners are allowed to manipulate materials used.

Types of teaching-learning Materials

- **Objects:** real things-such as Computers, delivery vans.
- **Models:** are recognisable representation of a real thing.
- **Specimens:** are objects which are representative of a group or a class of similar objects e.g. cheque, money.
- **Printed materials:** Textbooks, and Modules.
- Boards such as bulletin board, electronic board, chalkboard.
- Overhead projectors.
- **Graphics:** Charts, Graphs, Maps and globs, Posters and diagrams.
- **Audio Aids:** Radio and Recorded audio.
- **Audio**-Visual Teaching-learning Materials.
- **Motion pictures** such as Television and video clips.

Educational research has it that learners remember only 10% of what they have read, about 20% of what they hear and about 50% of what they hear and see and only 20% of what they touch or manipulate.
You should therefore select appropriate instructional aids, make good quality aids from available resources, use instructional aids effectively and design meaningful and effective instructional aids.

3.4 ASSESSMENT AND EVALUATION

In evaluation and assessment, you should consider:

- whether learners are benefiting from the syllabus implementation?
- Whether the objectives are being met?

Evaluation/assessment can be in the form of exercises, tests, projects and group tasks. There are two main types of evaluation:

- Formative evaluation is on-going/ continuous.
- Continuous assessment is a major innovation in the new curriculum.
- Summative evaluation comes at the end of the course.
- Continuous and summative assessment will be done in theory, assignment and practical components of the syllabus. Weighting of the components are as follows:

Summative Assessment	60%
Continuous Assessment	40%

3.5 Class Management

This is the process of planning, organising, leading and controlling class activities to facilitate effective learning. This should help you to create an effective learning environment, motivate the learners, maintain class discipline and supervise class activities.

Organisational Skills for Effective Learning

Classroom organisation is critical for conducive learning environment. Classroom management covers: physical environment, emotional environment, grouping the learners, class control, discipline and supervision.

Physical Environment

- The classroom should be clean, tidy and well ventilated.
- Appropriately arrange furniture to encourage interactive learning, and safety.
- Teaching aids should be visible and clear to the learners.
- As a teacher, it's your responsibility to ensure learner safety during learning.

Emotional Environment

While learning is learner- centred, you remain in control to direct effective learning. You should therefore be firm, warm and pleasant, set the right tone and tell learners what behaviour you expect.

Grouping

Learners may be grouped according to needs, abilities, problems but not gender.
Promote sharing of ideas among learners. Whatever way you use to group learners, it should not disadvantage the learner but rather motivate learner to feel being part of the learning process.

Class Control and Discipline

Know the government and school policy on discipline. You should be firm and fair. Punishment should be corrective and constructive. Acknowledge good behaviour and reward it wherever possible. Aim for intrinsic discipline. Create an atmosphere of trust and honesty within your class.

Motivation

Make learners feel important and capable of making it. Create in learners the feeling that learning is easy and enjoyable. Focus on the strength of individual learners and build on that. Recognise and reward attempts to do good work. As a teacher, know that your learners look forward and emulate you, so be a role model in terms of your demeanour.

Supervision

Check learners` work in order to guide and correct them. Areas that require supervision include practical work, written work, discussions, group work and field trips. Outcomes of supervision will also help you on learner profiling.

Classroom management during learning process always help you to achieve the best. It is important for you to know all your learners by name and also understand their backgrounds.

Unit 7

Scope of the Guide

Introduction

The Food Technology syllabi has 15 topics for forms1-4 and 7 topics for forms 5 and 6

Table 5: Topics

FORM 1-4	FORM 5 & 6
● Kitchen ● Equipment ● Food ● Nutrition ● Methods of cooking ● Meal planning and food service ● Preparation, cooking and presentation of different foods and beverages. ● Flour mixtures ● Food contamination ● Food preservation ● Convenience foods ● Consumer education ● Gender ● Entrepreneurship ● Health and Physical Development	● Macro and Micro Nutrients ● Human Anatomy, Physiology, diet and health ● Food production cycle ● Advanced food preparation and service ● Indigenous and modern food technology and designs ● Food security ● Enterprise

Teaching Units

Any of the topics listed are broad for coverage, it is therefore your responsibility to break the topic into small teachable units. The teachable units are determined by the objectives you need to achieve. Each topic has clear objectives you should achieve and hence formulation of the teachable units and even the teaching methodology should be developed around the objectives. For example, when you are teaching the topic, Macro and Micro Nutrients at Form 5. This topic is generally a broad topic that has a lot to be covered. The syllabus should therefore guide you on what exactly need to cover under this topic (because certainly not all must be covered). This is how you can break it to teachable unit:

These are the actual concepts which you need to cover under the topic Macro and Micro Nutrients, which are in away, your teaching units:

- Proteins
- Carbohydrates
- Lipids
- Vitamins
- Mineral Elements
- Water
- Energy

However, these can also be further broken into even smaller lesson units. Let take Protein and further break it to lesson unit. Under it will then focus on:

- Chemistry of protein
- Functions of proteins

Each of these smaller teachable units can be timed, resources to lesson set aside or be prepared and methods and activities be prepared. All these should be helpful in assisting achievement of lesson objectives and the expected competences. The table below summarises how you can break broach topics into small teachable units.

Table 6: Breaking topics into teachable units sample

TOPIC	CONCEPTS (TEACHABLE UNITS)	OBJECTIVES	ACTIVITIES	RESOURCES	COMPETENCES TO BE ACHIEVED	ASSESSEMENT
Proteins Functions of proteins	Chemistry of protein	● illustrate the protein structure ● classify proteins chemically ● explain the nature of proteins ● identify presence of protein in food stuffs. ● examine the chemical and physical properties of proteins. ● ● analyse the functions of proteins	•Drawing the structure of protein •Distinguishing proteins. •Experimenting on the presence of protein. •Discussing methods of assessing protein quality • Researching on the functions of proteins •Presenting functions of protein •Designing protein products •Preparing protein products	•Jaws software •Perkins braille •Slates and stylus •Resource person •Textbooks •Electronic media •Laboratory apparatus •Gadgets		

Conclusion

The Ministry hope that this guide will be helpful in assisting the teacher to deliver in Food Technology and Design learning area. Food Technology and Design learning area has a lot more new components that you may have not experienced. This is due to the scientific approach that the learning area has been configured to.

The following are important key notes to remember:

- interpret the syllabuses correctly
- use teaching methods appropriate to the learning area
- prepare engaging and appropriate teaching aids
- design appropriate strategies for problem solving
- manage your class effectively
- be resourceful
- draw up and maintain comprehensive records
- guide learners to study effectively on their own
- objectively evaluate your own teaching and the learners` progress
- acquire teaching techniques