

**THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION SCIENCE AND TECHNOLOGY**



**SCIENCE AND TECHNOLOGY SYLLABUS
FOR BASIC EDUCATION
STANDARD III-VI**

**THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION SCIENCE AND TECHNOLOGY**

**SCIENCE AND TECHNOLOGY SYLLABUS
FOR BASIC EDUCATION
STANDARD III-VI**

© Ministry of Education, Science and Technology, 2016
First edition, 2016

ISBN 978-9976-61-590-6

Tanzania Institute of Education
P.O. Box 35094
Dar es Salaam

Tel: 255 22773005/+255 222771358
Fax: 255 222774420
Email: director.general@tie.go.tz
Website: www.tie.go.tz

All rights reserved. No part of this Syllabus may be reproduced, stored in any retrieval system or transmitted in any form or by any means including electronic, mechanical, photocopying, recording or otherwise without the prior permission of the Ministry of Education, Science and Technology.

TABLE OF CONTENT

FOREWORD	v
1.0 Introduction	1
2.0 Curriculum.....	1
2.1 Basic Education Objectives in Standard III-VI	1
2.2 Competences of basic education std III-VI	2
2.3 The Objectives of Science and Technology Subject.....	2
2.4 The competences to be built by the pupils in the Science and Technology subject	2
2.5 Teaching and Learning Activities	3
2.6 Assessment of Learning.....	3
3.0 Syllabus Content.....	4
3.1 Main competence.....	4
3.2 Specific competences.....	4
3.3 Activities to be Performed by Pupils	4
3.4 Assessment Criteria	4
3.5 Benchmarking	4
3.6 Number of periods	4
3.7 STANDARD III Contents.....	5
3.8 STANDARD IV Contents	17
3.9 STANDARD V Contents.....	28
3.10 STANDARD VI Contents	41

FOREWORD

The revised 2014 education policy has changed the structure of basic education. Some reforms in the curriculum have been introduced to facilitate its implementation. Some subjects have been retained or reorganized while new ones have been introduced in the Standard III- VI curriculum. The Ministry of Education, Science and Technology has therefore prepared this syllabus for Science and Technology subject, for all English medium schools and other educational stakeholder so as meet the requirements of the Education and Training Policy.

Science and Technology syllabus has been prepared from the Basic Curriculum for Standard III-VI of 2016. This syllabus emphasizes teaching and learning which produces a well-equipped pupil. Through this syllabus, a pupil will develop the following skills; observation, discovery, creativity, scientific and technological studies.

This syllabus guides a teacher in teaching Science and Technology subject. A teacher is not obliged to follow the sequence of competences in this syllabus but has a duty to ensure that inter-connectedness among competences is considered. In preparing a scheme of work, a teacher has to consider the ability and interest of the pupil in learning. He/she is also advised to use the assessment criteria and benchmarks identified in this syllabus to assess the pupil's performance. However, in some cases the teacher is responsible for translating the benchmarks for pupil's performance depending on his/her teaching plan.

The Ministry of Education Science and Technology takes this opportunity to thank all organizations, coordinators and experts who contributed to the designing and writing of this syllabus. It also expresses its gratitude to the teachers for their inputs and regular feedback which contributed significantly to the development of this syllabus.

We will appreciate to receive any relevant feedback from all stakeholders for continual improvement of the Science and Technology Syllabus. All recommendations should be sent to the Director of Tanzania Institute of Education.



Prof. Eustella P. Bhalalusesa
Commissioner for Education
Ministry of Education, Science and Technology

1.0 Introduction

The Syllabus for Science and Technology subject has been prepared from the Basic Educational Curriculum for standard III-VI 2016. Science and Technology subject consists of technological skills, including Information and Communication Technology (ICT), experiments, different types of scientific and technological investigation and discovery.

The teaching of Science and Technology subject will bring about the use of knowledge and scientific innovations in the pupils everyday life. The knowledge of Science and Technology emphasizes to develop technology with sustainable resources, develop thinking skills and creativity in learning science and technology. This Syllabus is divided into three sections, which are general subject introduction, general curriculum overview and syllabus content.

2.0 General Curriculum Overview

The Curriculum process for Basic Education STD III – VI is comprised of various aspects which show that the curriculum is a holistic concept in which various aspects are understood in an integrative way. This part presents some of the curriculum aspects which include Objectives of Primary Education, Competence of Primary Education STD III to VI, The Importance and Objectives of Science and technology, Main and Specific Competences, Teaching and Learning Science and technology and Assessing Learning.

2.1 Objectives of Primary Education

The objectives of Basic Education for Standard III-VI are to:

- (a) Enable the pupil to develop his/her skills in reading, writing, arithmetic and oral communication.
- (b) Enable the pupil to know, use and appreciate the Kiswahili language.
- (c) Enable the pupil to know the foundation of the rule of law.
- (d) Enable the pupil to appreciate the culture of Tanzania and those of other countries.
- (e) Enhance the ability of the pupil to think, create and solve problems.
- (f) Enable the pupil to recognize the importance of ethics, integrity and accountability as being the qualities of a good citizen.
- (g) Enable the pupil to participate in games and sports and appreciate artistic activities.
- (h) Enable the pupil to discover and develop his/her talents and abilities.

- (i) Enable the pupil to appreciate and like to work.
- (j) Enable the pupil to recognize, appreciate and make use of technical skills.
- (k) Prepare the pupil for the next level of education and enhance a spirit of lifelong learning.

2.2 Competence of Primary Education – Standard III – VI

The competences for basic education intend to impact the pupils to:

- (a) Communicate correctly in Kiswahili and English orally and in writing.
- (b) Read confidently and understand specified texts.
- (c) Use theoretical and mathematical principles in daily life situations.
- (d) Apply scientific, technological and vocational skills in real life situations.
- (e) Appreciate his/her culture and that of other communities.
- (f) Respect the diverse beliefs and ideologies of the community in which he/she lives.
- (g) Participate in games and sports and artistic activities.
- (h) Respect oneself and others.
- (i) Perform patriotic duties.
- (j) Participate in different activities which are in line with his/her age.
- (k) Participate in activities which enhance his logical and analytical thinking.
- (l) Collaborate with other people to perform acceptable activities in the community.

2.3 The Objectives of Science and Technology Subject

The science and technology subject intends to enable the pupil to:

- (a) Build understanding and use knowledge to develop science and technology skills.
- (b) Build knowledge of using science and technology in solving problems in daily life.
- (c) Develop ability in using different technological tools.

2.4 The Main and Specific Competences

The Science and Technology subject will be taught by developing the competences indicated on table 1

Table 1: Competences to be acquired by the pupil in Science and Technology Subject Standard III-VI

Main Competences	Specific Competences
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment. 1.2 Recognize various types of energy and their uses. 1.3 Identify scientific and technological theories.
2. Understand the basics of Science and Technology.	2.1 Apply Information and Communication Technology (ICT). 2.2 Manage science-related skills. 2.3 Perform science-related practicals correctly.
3. Health care and environment.	3.1 Apply cleanliness principles for health and good environment. 3.2 Apply principles of health for good health. 3.3 Recognize various system of the human body.

2.5 Teaching and Learning Activities

The teaching and learning of Science and Technology subject is based on actions, practicals and investigations in order to attain the competence intended in the subject. The different teaching and learning participatory techniques which are used include project, role play, discussion, case study, games, assessment test and practicals.

2.6 Assessment of Learning

Assessment of Science and Technology subject aims at assessing pupil's ability in performing practicals and scientific investigations, designing and develop various scientific and technological objects, use science and technology informations in solving problems. Moreover assessment aims at assessing the ability of a pupil in collecting analysing and interpreting information in respect to quality and quantity and also use scientific and technological tools.

3.0 Syllabus Content

The content of this syllabus is organised and presented as per class level to include: Main Competences, Specific Competences, activities to be performed by pupils, assessment criteria and performance standards (benchmarks) as well as the number of periods for each specific competence.

3.1 Main Competence

Main competence is the ability of a pupil to do something correctly and effectively as intended after learning for a particular time. Main competence is built by several specific competences that will be developed by a pupil while performing different activities.

3.2 Specific Competences

It is the ability of a pupil in doing different activities for a specific period.

3.3 Activities to be performed by the pupil

These are activities which a pupil ought to do in order to attain a specific competence intended in consideration to his/her ability and age.

3.4 Assessment Criteria

Assessment criteria are efficiency standards of a pupil's performance in order to attain a specific competence.

3.5 Benchmarking

Benchmarking is the extent of achievement for each activity performed by a pupil.

3.6 Number of Periods

It is the time estimated to be used in the process of teaching and learning according to the specific competence and activities to be performed by a pupil. The total number of periods in Science and Technology subject are five periods per week, and each period takes 40 minutes. Either, the number of periods in each specific competence can be changed depending on the teaching and learning circumstances.

3.7 STANDARD III Contents

Table 2: Competences for standard III

Main Competence	Specific Competence
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment. 1.2 Recognize various types of energy and their uses. 1.3 Identify scientific and technological theories.
2. Understand the basics of Science and Technology.	2.1 Apply Information and Communication Technology (ICT). 2.2 Manage science related skills. 2.3 Perform science related practicals correctly .
3. Health care and environment.	3.1 Apply cleanliness principles for health and good environment. 3.2 Apply health principles for good health. 3.3 Recognize various system in human body.

Syllabus Contents

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment.	a) To recognize living and non living things in the environment.	Living and non living things in the environment have been recognized correctly.	Living and non living things in the environment have been recognised.	Can recognize by mentioning few living and non living things in the environment.	Living and non living things in the environment are recognised and explained through example.	Living and non living things in the environment are recognized, explained and differentiated.	21
		b) To explain how to take precautions and safety measures against dangerous and poisonous organisms.	How to take precautions and safety measures against dangerous and poisonous organisms have been explained correctly.	How to take precautions and safety against dangerous and poisonous organism is explained unsystematically.	Explains how to take precautions and safety measures against dangerous and poisonous organism.	Explain how to take precautions and safety measures against dangerous and poisonous organism correctly and by using real examples.	How to take precautions and safety against dangerous and poisonous organism is explained and give advice to others.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) To explain how to value living and non living things in the environment.	How to value living and non living things in the environment has been explained correctly.	Explains how to value living and non living things without following important aspects.	Explains how to value living and non living things in the environment by considering some aspects.	Explains how to value living and non-living things in the environment correctly.	Explains how to value living and non living things in the environment by using real examples.	
	1.2 Recognize various types of energy and their uses.	a) To explain the concept of energy.	The concept of energy has been explained correctly by considering the aspects of meaning, type and importance.	Explains the concept of energy through trial and error.	Explains the concept of energy by considering some of the aspects.	Explains clearly the concept of energy.	Explains clearly the concept of energy through real examples.	14

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		b) To demonstrate how the sound, heat, and light energy travel.	Demonstration on how sound, heat and light energy travel have been done correctly.	Demonstrates on how sound, heat and light energy travel without following procedures.	Demonstrates on how sound, heat and light energy travel by following some few procedures.	Demonstration on how sound, heat and light energy travel are done correctly.	Demonstrates on how light, heat and sound energy travel and explain how they are done.	
		c) To explain the uses of sound, heat and light energy.	The use of sound, heat and light energy have been explained correctly.	Explains the use of sound, heat and light energy without clear explanations.	Explains some of the use of sound, heat and light energy with few mistakes	Explains the use of sound, heat and light energy correctly.	Explains with examples the use of sound, heat and light energy correctly.	
	1.3 Identify scientific and technological theories.	a) To explain the concept of matter.	The concept of matter has been explained correctly by considering the aspects of meaning, type and importance.	The concept of matter has been explained without using the important aspects.	The concept of matter has been explained by using some of the aspects.	The concept of matter is explained clearly by using all aspects and examples.	The concept of matter has been explained by using all aspects and give real examples.	28

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		b) To perform activities concerning characteristics of matter.	Activities on characteristics of matter has been performed correctly.	Performs activities concerning characteristics of matter without following procedures.	Performs some activities concerning characteristics of matter.	Performs activities concerning characteristics of matter correctly.	Performs activities concerning characteristics of matter and explain relationship between different states of matters correctly.	
		c) To make a model which can float on water	A model which can float on water is made correctly.	Makes a model which can float on water without considering the main principles.	By using some principles he/she can make a model which can float on water.	A model which can float on water is made properly.	Makes different models which can float on water correctly.	
		d) Making a model which can fly and float in air.	Model which can fly and float in air is made properly.	A model which can fly and float in air is made with some mistakes.	A model which can fly and float in air is made without considering some of the principles.	A model which can fly and float in air is made properly by considering principles correctly.	Different models which can fly and float in air are made and explained with examples.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
2. Understand the basics of Science and Technology	2.1 Apply Information and Communication Technology (ICT).	a) To explain the concept of communication.	Concept of communication has been explained by correctly by considering the aspects of meaning, steps and importance. .	Explains the concept of communication without using important steps.	By considering some steps, she/he can explain the concept of communication.	Explains the concept of communication correctly.	Explains the concept of communication through examples.	21
		b) To demonstrate how to use a mobile telephones.	Demonstration on how to use mobile telephone has been done by following procedures.	Demonstrates how to use a mobile telephone without following procedures.	By considering some principles he/she can use a mobile telephone.	Able to use a mobile telephone correctly by following all procedures.	Able to use mobile telephone and can explain the steps of using it.	
		c) To explain how to use a telephones in learning.	How to use telephones in learning has been explained correctly.	Explains how to use a telephones in learning without clear explanations.	Explains some of the steps on how to use a telephone in learning.	How to use telephones in learning is clearly explained by using examples.	Explains how to use telephone in learning through examples and advise to take precautions when using it.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	2.2 Manage science-related skills	a) To identify tools used to simplify work.	Tools for simplifying work have been identified correctly.	Identifies few tools for simplifying work without clear explanations.	Is able to identify some tools for simplifying work and differentiate them.	The tools for simplifying work are identified and differentiate through clear explanations.	Is able to identify and differentiate tools for simplifying work and explain how they are used.	14
		b) To use tools for simplifying work.	Tools for simplifying work have been used correctly.	Uses tools for simplifying work without following procedures for using them.	Uses tools for simplifying work by following some few procedures.	Uses tools for simplifying work by following procedures correctly.	Uses tools for simplifying work and explain to others on how they are used.	
		c) To practice on how to keep tools used to simplify work.	Practice on how to keep tools used to simplify work have been done correctly.	Practices on how to keep tools used to simplify work without using principles.	Practices some few procedures on how to keep tools for simplifying work.	Practices on how to keep tools for simplifying work properly.	Practices on how to keep tools for simplifying work and explain the importance of keeping them.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	2.3 Perform science-related practicals correctly.	a) To explain the concept of measurements in doing scientific experiments.	Concept of measurement in doing scientific experiments have been explained correctly.by considering the aspects of meaning, type and impotance.	Explains the concept of measurements in doing experiments without considering the important aspects.	By considering some important aspects, he/she can explain the concept of measurements in doing experiments.	The concept of measurements in doing experiments is explained correctly.	Explains the concept of measurements and explain precautions to be taken when measuring things.	21
		b) To use non standard measurement.	Activities of using non standard measurement have been done correctly.	Uses non standard measurement without following prosedures	Uses non standard measurement.	Uses non standard measurement correctly.	Uses non standard measurement and explain how they are used.	
		c) To use standard measurement in scientific experiment.	Activities of using standard measurement in scientific experiments have been done correctly.	Is able to use standard measurement without considering experiment procedures.	Performs some scientific experiments by using standard measurement.	Uses standard measurement in scientific experiments by giving real examples.	Uses standard measurement in scientific experiments and differentiate them.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
3. Health care and Environment	3.1 Apply cleanliness principles for health and good environment	a) To explain the importance of body and garments cleanliness.	The importance of body and garments cleanliness has been explained correctly.	The importance of body and garments cleanliness is explained without clear in information.	Explains the importance of body and garments cleanliness and being understood to a certain extent.	The importance of body and garments cleanliness is explained correctly.	Explains clearly with examples the importance of body and garments cleanliness.	35
		b) To keep tools for cleaning body and garments	Tools for cleaning body and garments are kept correctly	Keeps tools for garments and body cleaing unsystematically.	Is able to keep body and garments cleanliness tools systematically.	In a correct way, he/she is able to keep body and garments cleanliness tools in a systemic way.	Keeps tools for body and garments cleanliness properly and advise others to keep them.	
		c) To maintain the habit of body and garments cleanliness.	The habit of maintaining body hygiene and garments cleanliness has been demonstrated correctly.	Demonstrates how to maintain body hygiene and garments cleanliness at low level.	Demonstrates the habit of maintaining body hygiene and garments cleanliness.	Using procedures he/she can demonstrate the habit of maintaining body hygiene and garments cleanliness.	Using procedures he/she can show the habit of maintaining body hygiene and garments cleanliness and advising others.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		d) To explain the concept of First Aid	Concept of First Aid has been explained correctly.	First Aid concept is explained clear information.	By considering some of the important aspects he/she can explain the concept of First Aid.	Concept of First Aid is explained correctly through real examples.	Explains the concept of First Aid and advising others.	
		e) To give First Aid to a person who has been bitten by poisonous /dangerous insects.	The First Aid to the person who has been bitten by dangerous or poisonous insects has been done properly.	Practices giving first Aid to the person who has been bitten by dangerous or poisonous insects without considering important procedures.	By considering some of the principles and procedures, can practice giving first Aid to the person who has been bitten by dangerous/ poisonous insects.	Practices of giving first Aid to the person who has been bitten by dangerous/ poisonous insects are done clearly by considering principles and procedures.	By considering principles can practice giving first aid to the person who has been bitten by different dangerous/ poisonous insects.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	3.2 Apply health principles for good health.	a) To explain the concept of a balanced diet.	The concept of balanced diet has been explained correctly.	Explains the meaning of balanced diet unclearly.	Explains the meaning of balanced diet and its components.	Explains the meaning and importance of balanced diet and mention its components correctly.	Explains the meaning, importance of a balanced diet and mention the components that form it through real examples.	20
		b) To arrange the food which form a balanced diet.	Arrangement of food which form a balanced diet has been done correctly.	Arranges the food which form a balanced diet without following procedures.	Arranges some of the food which form a balanced diet.	Arranges a balanced diet by considering all components of food corectly.	Arranges the food which form a balanced diet properly and give real examples.	
		c) To explain ways of preventing against HIV.	Ways of preventing against HIV have been explained correctly.	Explains ways of preventing against HIV without correct explanations.	Explains some ways of preventing against HIV.	Explains ways of preventing against HIV correctly.	Explains with examples and give advise on the ways of preventing against HIV correctly.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	3.3 Recognize various systems in human body.	a) To explain the concept of digestive system.	The concept of digestive system has been explained correctly by considering the aspects of meaning and importance.	Explains the concept of digestive system without clear explanations.	Explains the meaning and importance of digestive system.	The concept of digestive system is explained correctly basing on examples.	The concept of digestive system is well explained basing on the interrelation between different parts of the system.	21
		b) To identify parts of digestive system.	Parts of digestive system have been identified correctly.	Parts of digestive system are identified without proper explanations.	Few parts of digestive system are identified.	Parts of digestive system are identified correctly.	Parts of digestive system are identified, differentiated and explanation on each part done.	
		c) To draw digestive system.	Digestive system has been drawn correctly.	Digestive system is drawn without labelling.	Digestive system is drawn with some few labelling.	Digestive system is drawn and labelled correctly.	Digestive system is well drawn and labelled correctly and its functions explained properly.	

3.8 STANDARD IV Contents

Table 2: Competences for standard IV

Main Competence	Specific Competence
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment. 1.2 Recognize various types of energy and their uses. 1.3 Identify scientific and technological theories.
2. Understand the basics of Science and Technology.	2.1 Apply Information and Communication Technology (ICT). 2.2 Manage science related skills. 2.3 Perform science related practicals correctly
3. Health care and environment	3.1 Apply cleanliness principles for health and good environment. 3.2 Apply health principles for good health. 3.3 Recognize various system in human body.

Syllabus Contents

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment.	a) To identify actions which destroy the safety of environment.	Actions which can destroy the safety of environment have been identified clearly.	Identifies actions which destroy the safety of environment without clear explanations.	Identifies through mentioning some actions that destroy the safety of environment.	The major actions which destroy the safety of the environment are identified with examples.	Identifies through explanations the major actions which destroy the safety of environment and advise others to stop them.	21
		b) To show the habit of maintaining cleanliness and air safety.	The habit of maintaining cleanliness and safety of air has been shown clearly.	Shows the habit of maintaining cleanliness and safety of air at a lower level.	Shows some of the habits of keeping cleanliness and air safety at a moderate level.	The habit of maintaining cleanliness and safety of air is shown clearly.	Shows the habit of maintaining cleanliness and safety of air and advise others to develop it.	
		c) To perform activities which verify the importance needs for the living things which are water, heat, air, light and soil.	The activities of verifying the importance needs for living things have been done correctly.	Activities to verify the importance of water, heat, air, light and soil are done unsystematic.	Performs some activities to verify the important needs of living things.	Activities to verify the importance of water, heat, air, light and soil for living things are done correctly.	Performs experiments to verify the importance of water, heat, air, light and soil for living things and explain their relationships.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	1.2 Recognize various types of energy and their uses.	a) To identify sources of electric energy.	Sources of electric energy are identified clearly.	Identifies sources of electric energy without clear explanation.	Identifies and mention some sources of electric energy.	Identifies the main sources of electrical energy clearly.	Identifies sources of electric energy and give some real examples.	21
		b) To identify things which allow light to pass through by doing experiment.	Experiment to identify the things which allow light to pass through have been done clearly by considering scientific procedures.	Performs activities to identify things which allow light to pass through without considering scientific procedures.	Performs experiment of identifying things which allow light to penetrate by using few procedures.	Performs activities to identify things which allow light to pass through clearly by considering scientific procedures.	Performs experiment to identify things which allow light to pass through by following all scientific procedures and give real examples.	
		c) To do activities which show how shadows occur.	Actions to show how shadow occur have been done clearly.	Practices to show how shadows occur without following any procedures.	Practices to show how shadows occur.	Practices to show how shadows occur clearly by following procedures.	Practices to show how shadows occur by following procedures and give examples.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	1.3 Identify scientific and technological theories.	a) To perform an experiment about three states of water.	Experiment to show three states of water has been done clearly.	Performs experiment to show three states of water without following any procedures.	Experiment to show changes on three states of water has been done.	Performs activities to show three states of water clearly.	Performs experiment to show three states of water and give out some examples.	21
b) To do experiment on freezing point of water.		Experiences on freezing point of water have been done clearly.	Performs experiments showing freezing point of water unclearly.	By considering some procedures can do experiments to show freezing point of water.	Performs experiments to show freezing point of water clearly by considering main procedures.	By following all procedures he/she can do experiments to show freezing point of water and give out some real examples.		
c) To do experiments on boiling point of water.		Experiences on boiling point of water have been done clearly.	Performs experiments showing boiling point of water without following procedures.	By considering some procedures can do experiments to show boiling point of water.	Performs experiments to show boiling point of water clearly by considering main procedures.	By following all scientific procedures, he/she can do experiments to show boiling point of water and give out explanations.		

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
2. Understand the basics of Science and Technology.	2.1 Apply information and communication technology (ICT).	a) To identify the means of communication.	Means of communication have been identified clearly.	Identifies means of communication without clear explanations.	Identifies and mention some of the means of communication.	Major means of communication have been identified through examples of the surrounding area.	Identifies and explain means of communication and advise others to use them.	20
		b) Perform activities on how to use radio and a television.	Practices to use Radio and Television are done clearly.	Practices using Radio and Television without clear explanation and use.	Practices how to use a Radio and Television by following procedures and their use.	Practices using Radio and Television by considering procedures correctly.	By considering procedures and explanation of use can practice to use Radio and Television and advise others on how to use them correctly.	
		c) To value tools for information and communication technology.	Tools for information and communication technology have been kept correctly.	Keeps tools for information and communication technology without considering important procedures.	Values tools for information and communication technology.	Uses tools for ICT by following procedure to keep them	By considering procedures of using them, can keep tools for information and communication technology.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	2.2 Manage science related skills.	a) Explain precautions to take when using refrigerators and various cookers.	Precautions to take when using refrigerators and various cookers have been explained correctly.	Precautions to take when using refrigerators and various cookers are explained without clear explanations.	Few precaution when using refrigerators and various cookers are explained correctly.	The main precautions when using refrigerators and cookers are explained correctly.	The main precautions of using refrigerators and cookers are explained correctly and advise to others on how to use has been given.	21
		b) To demonstrate how to use cookers.	Demonstrations on how to use cookers have been done correctly.	Demonstrates how to use cookers without considering procedures.	Applies few procedures to demonstrate on how to use cookers correctly.	Demonstrations on how to use cookers are done properly by considering all procedures.	Applies procedures to demonstrate on how to use cookers and investigate the difference of the actions.	
		c) To demonstrate how to use a Refrigerators.	Demonstrations on how to use refrigerators have been done correctly.	Demonstrates how to use refrigerators without considering procedures.	Applies few procedures to demonstrate on how to use refrigerators correctly.	Demonstrations on how to use refrigerators is done properly.	Applies procedures to demonstrate on how to use refrigerators and explain the importance of using them correctly.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	2.3 Perform science related practicals correctly	a) To explain the concept of scientific experiments.	The concept of scientific experiments has been explained correctly.	The concept of scientific experiments is explained without following procedures.	The concept of scientific experiments is explained using some of the procedures.	The concept of scientific experiments has been explained correctly by using examples.	The concept of scientific experiments has been explained with critical examples.	21
		b) Identify the steps of doing a scientific experiment.	Steps towards scientific experiments have been identified correctly.	Steps towards scientific experiments are identified without clear explanations.	Some steps of scientific experiments are identified and mentioned with clear explanations.	The steps of scientific experiment are identified correctly.	Can identify through explanations steps of doing scientific experiment and its uses	
		c) Do experiments on the needs of living things.	Experiments about living organism's needs have been done correctly by considering scientific procedures.	Experiments about living organism's needs are done without following procedures.	Experiments about living organism's needs are done using some few procedures.	Experiments about living organism's needs are done by using scientific procedures correctly.	Experiments about living organism's needs are done by using scientific procedures and the importance of each needs explained correctly.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
3. Health care and Environment	3.1 Apply cleanliness principles for health and good environment.	a) To identify the sources of dirt and waste product in environment.	Sources of dirt and waste products have been identified correctly.	Sources of dirt and waste product are identified without clear under-standing.	Identifies through mentioning some few sources of dirt and waste products.	Identifies the main sources of dirt and waste products and give real examples.	Identifies sources of dirt and waste products and advise on how to stop them.	21
		b) To indicate the habit of maintaining cleanliness at home and school environment.	The habit of maintaing home and school environment cleanliness has been indicated correctly.	Maintanance of home and school environ-mental clean-liness habit is indicated at very low level.	Maintanance of home and school environ-mental cleanliness habit is indicated unsatisfactorily.	Maintanance of home and school environ-mental cleanliness habit is indicated at high level correctly.	Maintanance of home and school environmental clealiness habit is indicate and advise others to maintain.	
		c) To demonstrate how to give first aid to a person who has fainted.	Demon-stration on how to give first aid to a fainted person has been done correctly.	Demonstrates to give first aid to a fainted person without considering procedures.	Demonstrates to give first aids to a fainted person by considering some procedures.	Procedures for giving first aid to a fainted person are demonstrat-ed correctly.	Demonstrates to give first aid to a fainted person correctly and explain the benefit of giving it.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	3.2 Apply health principles for good health.	a) To identify infectious and non-infectious diseases.	Infectious and non-infectious diseases have been identified correctly.	Infectious and non-infectious diseases are identified without clear explanations.	Infections and non infections diseases are identified correctly.	The infectious and non-infectious diseases are identified through giving example.	The infectious and non-infectious diseases have been identified and explained precautions to be taken against them.	28
		b) To identify ways of preventing and control of eruption diseases.	Ways of preventing and control against eruption diseases have been identified correctly.	Ways of preventing and control against eruption diseases are identified without clear explanations.	Few ways of preventing and control against eruption diseases are identified.	The ways of preventing and control against eruption diseases are identified clearly.	The ways of preventing and control against eruption diseases and precautions to be taken are identified.	
		c) To explain the concept of body immunity.	The concept of body immunity has been explained using all aspects.	The concept of body immunity is explained without clear explanation.	The concept of body immunity is explained using some important aspects.	The concept of body immunity is explained correctly by giving real examole.	Can explain through examples the concept of body immunity and relate it with deficient of body immune	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		d) To show the habit of caring and respecting HIV and AIDS victims.	The habit of caring and respecting HIV/AIDS victims has been shown clearly.	The habit of caring and respecting HIV/AIDS victims is shown in a very low level.	Shows some habit of caring and respecting HIV/AIDS victims.	Gives help to HIV/AIDS victims	Gives help by using polite language to people living with HIV/AIDS.	
	3.3 Recognize various systems in human body.	a) To explain the defects that may occur in the digestive system.	The defects that may occur in the digestive system have been explained correctly.	Explains the defects that may occur in the digestive system without clear explanation.	Explains some of the defects that may occur in the digestive system.	Explains clearly the main defects that may occur in the digestive system.	Explains the defects that may occur in the digestive system correctly and advise others to take precautions.	21
		b) Explain habits to prevent occurrence of the problems in the digestive system.	Habits of preventing occurrence of the problems in digestive system have been explained correctly.	Gives unclear explanations on the habits of preventing occurrence of the problems in digestive system.	Explains some of the habits that prevent occurrence of the problems in digestive system.	The habits of preventing occurrence of the problems in digestive system are explained correctly.	Explains the ways that prevent occurrence of the problems in digestive system through examples.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) Demonstrating proper eating habits.	Proper eating habits have been demonstrated correctly.	Poorly demonstrates proper eating habits.	Demonstrates few proper eating habits correctly.	Proper eating habits are clearly demonstrated.	Proper eating habits are demonstrated clearly and encourage others to practice them.	

3.9 STANDARD V Contents

Table 3: Competences for standard V

Main Competence	Specific Competence
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment. 1.2 Recognize various types of energy and their uses. 1.3 Identify scientific and technological theories.
2. Understand the basics of Science and Technology.	2.1 Apply Information and Communication Technology (ICT). 2.2 Manage science related skills. 2.3 Perform science related practicals correctly
3. Health care and environment	3.1 Apply cleanliness principles for health and good environment. 3.2 Apply health principles for good health. 3.3 Recognize various system in human body.

Syllabus Contents

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment.	(a) To identify the groups of living things.	Groups of living things have been identified correctly.	Identifies groups of living things without clear explanation.	Mentions some of the main groups of living things.	Identifies the main groups of living things through real example.	Identifies the groups of living things and explain their characteristics.	30
		(b) To explain how plants make their food (photosynthesis)	Explanations on how plants make their food have been done correctly.	Explains how plants make their food without using clear explanation.	Explains some of the steps of how plants make their food.	Explains show plants make their food clearly (photosynthesis).	Explains how plants make their food clearly and help others to understand the process.	
		(c) To explain the concept of reproduction in animals and plants.	The concept of reproduction in animals and plants has been explained correctly.	Explains the concept of reproduction in animals and plants without clear explanation.	Explains the concept of reproduction in animals and plants with few details.	Explains clearly concept of reproduction in animals and plants in details.	Explains clearly the concept of reproduction in animals and plants by giving real examples.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		(d) To explain the interdependence between living things in the environment.	Clear explanation of the interdependence between living things in the environment have been done correctly.	Explains the interdependence between living things in the environment with unclear explanation.	Explains some of the ways of interdependence between living things in the environment.	Gives clear explanation about interdependence between living things in the environment	Clearly explain the interdependence between living things in the environment by giving real examples.	
		(e) To explain the concept of adaptation of living things to their environment.	Concept of adaptation of living things to their environment has been explained by pointing out the main correctly.	Explains the concept of adaptation of living things to their environment without clear explanations.	Explains the concept of adaptation of living things to their environment by pointing out some main features.	Explains clearly the concept of adaptation of living things to the environment by pointing out the main features correctly.	Explains clearly with real examples the concept of adaptation of living things to the environment by pointing out the main features.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	1.2 Recognize various types of energy and their uses.	(a) To demonstrate uses of convex and concave lenses	Demonstration on uses of concave and convex lenses have been done correctly.	Demonstrates uses of concave and convex lenses without applying scientific procedures.	Demonstrates the use of concave and convex lenses by applying some of scientific procedures	Uses of concave and convex lenses can clearly be demonstrated.	Demonstrates the uses of concave and convex lenses by using scientific procedures and identifying the examples of their uses.	24
		(b) To do experiments about series and parallel electrical circuits.	Experiments about series and parallel circuits have been done correctly.	Performs experiments about series and parallel circuits without applying scientific procedures.	Applies some scientific procedures to do experiments about series and parallel circuits.	Performs experiments correctly on series and parallel circuits according to scientific procedures.	Performs experiments correctly on series and parallel circuits by applying scientific procedures and explain their differences.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		(c) To perform activities on magnetic principles.	Demonstration on magnetic principles has been done clearly.	Demonstrates magnetic principles without applying scientific procedures.	Demonstrates some of the magnetic principles by applying some of scientific procedures.	Applies scientific procedures to demonstrate magnetic principles correctly.	Demonstrates actions to identify magnetic principles and explain their uses correctly.	
		(d) To demonstrate the properties of light when it falls on a plain mirror.	Experiment on properties of light when falls on a plain mirror have been demonstrated correctly.	Performs experiment to demonstrate the properties of light when falls on plain mirror without applying scientific procedures.	By applying scientific procedures he/she can do experiment to demonstrate the properties of light when falls on plain mirror.	Demonstrates correctly the properties of light when falls on plain mirror by applying scientific procedures.	Performs experiment to demonstrate the properties of light and their uses when falls on plain mirror correctly and relate them to the real example in the surrounding.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	1.3 Identify scientific and technological theories.	(a) To explain forces which cause changes in matter.	Forces which cause changes in matter have been explained correctly.	Explains forces which cause changes in matter unclearly.	Explains some of the forces which cause changes in matter.	The main forces which cause changes in matter can be explained correctly.	Forces which cause changes in matter and their uses can be explained clearly.	18
		(b) To perform activities to show how forces cause changes in matter.	Activities to show how forces cause changes in matter have been performed correctly.	Without using procedures he/she can perform activities to show how forces cause changes in matter.	By applying procedures he/she can perform some activities to show how forces cause changes in matter.	By applying procedures he/she can perform activities to show forces which cause changes in matter correctly.	By applying procedures he/she can perform activities to show forces which cause changes in matter correctly and give explanation.	
		(c) To differentiate the concept of physical and chemical changes.	Concept of physical and chemical changes has been differentiated correctly.	Concept of physical and chemical change can be explained without clear explanations.	Can explain only one concept either physical or chemical changes without showing their difference.	Can differentiate the concepts of physical and chemical change by using real examples.	It able to differentiate the concepts of physical and chemical change through examples.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
2. To understand the basics of Science and Technology.	2.1 Apply Information and Communication Technology (ICT).	(a) To explain the concept of a computer.	The concept of a computer has been explained correctly.	Explains the concept of a computer without clear explanations.	By considering some aspects the concept of a computer can be explained.	The concept of a computer can be explained clearly by considering the main aspects.	The concept of a computer can be explained by giving examples.	28
		(b) To explain precautions to be taken when using a computer.	Precautions to be taken when using a computer have been explained correctly.	Gives unclear explanation about precautions to be taken when using a computer.	Explains some precautions to be taken when using a computer.	Gives correct explanation of the precautions to be taken when using a computer.	Gives correct explanation of the precautions to be taken when using a computer by giving real examples.	
		(c) To use a computer word process programs.	Computer word processing programs have been used properly.	Uses a computer word processing programs without applying proper procedures.	Uses a computer word processing programs by applying some of the procedures.	Uses a computer word processing programs by applying all procedures correctly.	By using procedures he/she can use a computer word processing programs and explain their importance.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		(d) To use computer game programs to promote learning skills (3Rs).	Computer game programs have been used to promote learning skills correctly.	Uses a computer game programs to promote learning skills without applying correct procedures.	Uses a computer game programs to promote learning skills by applying some of the procedures.	Uses a computer game programs to promote learning skills correctly.	By using procedures he/she can use a computer game programs to promote learning skills and differentiate those games.	
	2.2 To manage science related skills	(a) To identify simple machines.	Simple machines have been identified correctly.	Identifies simple machines without clear explanation.	Identifies simple machines and some of their components.	Identifies simple machines and their components correctly.	Identifies simple machines and give examples of them.	12
		(b) To demonstrate position of effort, load and fulcrum on a lever.	Demonstration of the position of effort, load and fulcrum has been done correctly.	Demonstrates the position of effort, load and fulcrum incorrectly.	Demonstrates some of the actions to show position of effort, load and fulcrum.	Demonstration of the position of effort, load and fulcrum is be done correctly.	Demonstrates the actions to show the position of effort, load and fulcrum and give real examples.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		(c) To perform activities on simple machines.	Activities h on simple machines have been performed correctly.	Performs activities on simple machines wrongly.	Performs activities on simple machines.	Serforms activities on simple machines by applying all important aspects correctly.	Performs activities on simple machines how they are used.	
	2.3 Perform science related practicals correctly.	(a) To do scientific experiments on heat energy.	Experiments on heat energy have been done by applying correct scientific procedures.	Performs experiments on heat energy without applying scientific procedures.	Performs experiments on heat energy by applying some steps of scientific procedures.	Performs experiments on heat energy by applying main steps of scientific procedures correctly.	Performs experiments on heat energy correctly and explain their uses by applying the steps of doing scientific experiments.	18
		(b) To do scientific experiments on light energy by using concave and convex mirror.	Experiments on light energy using concave and convex mirror have been done correctly by applying scientific procedures.	Performs experiments on light energy by using concave and convex mirror without applying scientific procedure.	Performs some experiments on light energy by using concave and convex mirror by applying steps of scientific procedures.	Performs experiments on light energy by using concave and convex mirror correctly by applying scientific procedures.	Performs experiments on light energy by using concave and convex mirror correctly and relate.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		(c) To do experiments on bending of light energy by using lences.	Experiments on bending of light energy using lences have been done correctly.	Performs experiments on bending of light energy using lences without applying the scientific procedure.	Performs some experiments on bending of light energy using one type of lence.	Performs experiments on bending of light energy using lences correctly.	Performs experiments on bending of light energy using lences correctly and give example.	
3. Health care and Environment	3.1 Apply cleanliness principles for health and good environment	(a) To maintain cleanliness and smartness of body and garments.	Maintenance of cleanliness, and smartness of the body and garments have been done correctly.	Maintains cleanliness and smartness of the body and garments without applying proper aspects.	Maintains cleanliness and smartness of the body and garments by applying some proper aspects.	Maintains high standard of cleanliness and smartness of the body and garments.	Maintains high standard of cleanliness and smartness of the body and garments by encourage others to do the same.	18
		(b) To perform action which destroy insects that transmit diseases.	Actions which destroy insects that transmit diseases have been performed properly.	Performs action of destroying insects which transmit diseases without applying proper aspects.	By applying some procedures he/she can perform action of destroying insects which transmit diseases.	Destroys insects which transmit diseases correctly.	By applying procedures he/she can destroy the insects which transmit diseases and explain their differences.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		(c) To give first Aid to a person burnt by fire or hot fluid.	Practices to give first Aid to a person burnt by fire or hot fluid have been done correctly.	Practices to give first Aid to a person burnt by fire or hot fluid without considering the important steps.	By considering some of the steps, can practice to give first Aid to a person burnt by fire or hot fluid.	The main practices to give first Aid to a person burnt by fire or hot fluid have been done correctly.	Gives first Aid to a person burnt by fire or hot fluid mention other things that may be used in such situation.	
	3.2 Apply health principles for good health.	a) To identify health principles.	Health Principles have been identified correctly.	Identifies health principles without clear explanation.	Identifies and mention only some of the health principles.	Identifies correctly the main health principles.	Identifies correctly the main health principles and explain to others.	30
		b) To explain the behaviour which help to maintain health.	Explanations of the behaviour which help to maintain health have been explained correctly.	Explains the behaviour which help to maintain health without clear explanations.	Explains only some of the behaviour which help to maintain health.	Explains clearly the behaviour which help to maintain health.	Explains clearly the behaviour which help to maintain health and give real example.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) To explain the concept of eruption diseases its causes, symptoms and effects.	Concept of eruption diseases has been explained correctly.	Explains the concept of eruption diseases without applying the proper aspects.	Explains the concept of eruption diseases by explaining some of the aspects.	Explains the concept of eruption diseases correctly with examples.	Elaborates the concept of eruption diseases correctly and give example of the diseases.	
		d) To explain the means in which eruption diseases spreads.	Means in which eruption diseases spreads have been explained correctly.	Explains the means in which eruption diseases spreads without clear explanation.	Explains some of the means in which eruption diseases spread.	Explains the means in which eruption diseases spread by applying the proper aspects correctly.	Explains the means of eruption diseases by applying the proper aspects correctly and give advice to others.	
		e) To explain main things to be considered for Antiretroviral (ARVs) users.	Main things to be considered for Antiretroviral (ARVs) users have been explained clearly.	Explains the main things to be considered for Antiretroviral (ARVs) users without clear explanation.	Explains only some of the main things to be considered for Antiretroviral (ARVs) users clearly.	Explains the main things to be considered for Antiretroviral (ARVs) users correctly.	Explains with example the main things to be considered for Antiretroviral (ARVs) users and suggests how to use them properly.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	3.3 Recognize Various systems in human body.	(a) To explain the concept of excretory system in the human body.	The concept of excretory system in the human boy has been explained by applying the important correctly.	Explains the concept of excretory system without clear explain.	Explains the concept of excretory system by using aspects.	Explains the concept of excretory system correctly.	Explains the concept of excretory system correctly with examples.	18
		(b) To identify the life styles which may cause problems in the excretory system.	The life styles which may cause problems in the excretory system have been identified correctly.	Identifies the life styles which may cause problems in the excretory system without clear explanations.	Identifies some of the aspects of life styles which may cause problems in the excretory systems.	Identifies the main life styles which may cause problems in the excretory system correctly.	Identifies and explains the life styles which may cause problems in the excretory system correctly with examples.	
		(c) To identify proper life styles to avoid problems in the excretory system of the human body.	Identify the proper life styles which can not cause problems in the excretory system of the human body correctly.	Identifies the proper life styles which can not cause problems in the excretory system of the human body without clear explanation.	Identifies some of the proper life styles which can not cause problems in the excretory system of the human body correctly.	Identifies the main proper life styles which can not cause problems in the excretory system of the human body correctly.	Identifies the proper life styles which can not cause problems in the excretory system of the human body correctly with real examples.	

3.10 STANDARD VI Contents

Table 4: Competences for standard VI

Main Competence	Specific Competence
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment. 1.2 Recognize various types of energy and their uses. 1.3 Identify scientific and technological theories.
2. Understand the basics of Science and Technology.	2.1 Apply Information and Communication Technology (ICT). 2.2 Manage science related skills. 2.3 Perform science related practicals correctly
3. Health care and environment	3.1 Apply cleanliness principles for health and good environment. 3.2 Apply health principles for good health. 3.3 Recognize various system in human body.

Syllabus Contents

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
1. Perform scientific investigation and technological discovery.	1.1 Investigate things that are in the environment.	a) To identify the gases which form air components.	Gases which form air components have been identified correctly.	Identifies gases which form air components without clear elaborations.	Identifies some of the gases which form air components.	Identifies the gases which form air components correctly.	Identifies the gases which form air components correctly and their uses.	25
		b) To identify essential needs for plant growth.	Essential needs for plant growth have been identified correctly.	Identifies essential needs for plant growth without correct explanations.	Identifies some of the essential needs for plant growth.	Identifies the essential needs for plant growth correctly.	Identifies the essential needs for plant growth correctly and explain effects of their absence.	
		c) To perform experiments to prove how photosynthesis takes place in plants.	The experiments to prove how photosynthesis takes place in plants have been done correctly.	Performs experiments to prove how photosynthesis takes place in plants without considering important procedures.	Performs experiments to prove how photosynthesis takes place in plants by considering some important procedures.	Performs experiments to prove how photosynthesis takes place in plants correctly.	Performs experiments to prove how photosynthesis takes place in plants correctly and explain its importance.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		d) To identify types of soil.	Types of soil have been identified correctly.	Identifies the types of soil without clear explanation.	Identifies some of the types of soil correctly.	Identifies the types of soil correctly through clear explanation.	Identifies the main types of soil correctly and explain their characteristics.	
		e) To identify activities which cause soil effects.	The activities which causes soil effects have been identified correctly.	Identifies activities which cause soil effects without clear explanation.	Identifies by mentioning some activities which cause soil effects.	Identifies activities which cause soil effects examples and clear explaining.	Identifies by explaining activities which cause soil effects through example correctly and explain their effects.	
		f) To perform soil conservation activities.	Activities to conserve the soil have been performed correctly.	Performs activities to conserve the soil without applying scientific procedures.	Performs some activities to conserve the soil by applying some proper procedures.	Performs activities to conserve the soil correctly.	Performs activities to conserve the soil correctly and to explain their benefits.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	1.2 Recognize various types of energy and their uses.	a) To perform activities which prove the ohm's law in electrical circuit.	Activities to prove ohm's law in electrical circuit have been performed.	Performs activities to prove ohm's law in an electric circuit without applying scientific principles.	Performs some of the activities to prove ohm's law in an electric circuit.	Performs activities to prove ohm's law in an electric circuit by giving example.	Performs activities to prove ohm's law in an electric circuit and explain their importance.	25
		b) To explain the concept of protecting an electric circuit and buildings against high voltage current.	The concept of protecting an electric circuit and buildings against high voltage current has been explained correctly.	Explains, the concept of protecting an electric circuit and buildings against high voltage current without clear informations.	Explains, the concept of protecting an electric circuit and buildings against high voltage current by applying some of aspects.	Explains, the concept of protecting an electric circuit and buildings against high voltage current correctly.	Explains, the concept of protecting an electric circuit and buildings against high voltage current correctly give out real examples to the daily life.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) To explain the concept of renewable energy.	The concept of renewable energy has been explained.	Explains the concept of renewable energy without applying important aspects.	Explains the concept of renewable energy through clear explanation.	Explains the concept of renewable energy by applying the important aspects correctly.	Explains the concept of renewable energy and give out real examples of its uses.	
		(d) To explain how to generate electric energy in various ways.	How to generate electric energy in various ways has been explained correctly.	Explains how to generate electric energy in various ways without clear explanation.	Explains how to generate electric energy in various ways by applying some important aspects.	Explains how to generate electric energy in various ways correctly.	Explains how to generate electric energy in various ways by applying important aspects correctly and explain the the benefit of it.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		(e) To explain the concept of complex machine.	The concept of complex machine has been explained correctly.	Explains the concept of complex machine without clear explanations.	Explains the concept of complex machine by mentioning some of the aspects.	Explains the concept of complex machine by applying important aspects correctly.	Explains and elaborate the concept of a machine and plate complex and symple machine.	
	1.3 Identify scientific and technological theories.	a) To do experiment on chemical and physical changes.	Experiment on physical and chemical changes have been done correctly procedures.	Performs experiment on physical and chemical changes without considering procedures.	Performs experiment on physical and chemical changes by considering some procedures.	Performs experiment on physical and chemical changes correctly.	Performs experiment on physical and chemical changes with real examples of the changes.	16
		b) To do experiment on diffusion.	Experiment on diffusion have been done correctly.	Performs experiment on diffusion without applying procedures.	Performs experiment on diffusion by applying some procedures.	Performs experiment on diffusion by applying procedures correctly.	Performs experiment on diffusion correctly and give out real examples of the uses.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) To do experiments on osmosis.	Experiments on osmosis have been done correctly.	Performs experiments on osmosis without applying scientific procedures.	Performs experiments on osmosis by applying some scientific procedures.	Performs experiments on osmosis by applying scientific procedures correctly.	Performs experiments on osmosis correctly and give out real examples of their uses.	
2. Understand the basics of Science and Technology.	2.1 Apply Information, Communication and Technology (ICT).	a) To use excel program.	The activities on how to use the excel program have been performed correctly.	Performs activities on how to use excel program without following proper procedures.	Performs activities on how to use excel program.	Performs activities on how to use excel program by correctly.	Performs activities on how to use excel program correctly and explain its uses.	30
		b) Explain the concept of security in internet network connection.	The concept of security in internet network connection has been explained correctly.	Explains the concept of security in internet network connection without clear explanation.	Explains the concept of security in internet network connection by applying some of the aspects.	Explains the concept of security in internet network connection by clear explanation.	Explains the concept of security in internet network connection correctly and mention its benefits.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) Explain effects of the internet network.	The effects of the internet network have been explained correctly.	Explains effects of the internet network without considering important aspects.	Explains some of the effects of the internet network.	Explains the effects of the internet network correctly.	Explains the effects of the internet network with clear examples.	
		d) To explain the concept of e-mail.	The concept of e-mail has been explained correctly.	Explains the concept of e-mail without clear information.	Explains the concept of e-mail by applying some of the important aspects.	Explains the concept of e-mail correctly.	Explains the concept of e-mail correctly with its benefits.	
		e) To practice how to use e-mail.	Practising on how to use e-mail has been done correctly.	Practices how to use e-mail without applying important procedures.	Practices how to use e-mail by applying some of the important procedures.	Practices how to use e-mail by applying important procedures correctly.	Practices how to use e-mail by applying important procedures and advice others to use.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		f) To perform activities of using search engine to find scientific and technological information.	Activities on using search engine to find scientific and technological information have been performed correctly.	Performs activities on using search engine to get scientific and technological information without considering important procedures.	Performs activities on using search engine to get scientific and technological information.	Performs activities on using search engine to get scientific and technological information through examples.	Performs activities on using search engine to get scientific and technological information correctly and to explain their benefits.	
		g) To use telephone and computer to find scientific information.	Shows the habits of finding scientific information by using telephone and computer in low level.	The use of telephone and computer to has been shown correctly.	Shows some of the habits of finding scientific information through telephone and computer by following important procedures.	Uses telephone and computer to find scientific information correctly.	The uses of telephone and computer to has been shown correctly and advice others.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
	2.2 Manage science related skills.	a) To identify pulley wheel simple machines.	Pulley wheel simple machines have been identified correctly.	Identifies pulley wheel simple machines without clear explanation.	Identifies and mention some of the pulley wheel simple machines and explain clearly.	Identifies the main pulley wheel simple machines correctly.	Identifies pulley wheel simple machines correctly with concrete example.	20
		b) To do the calculations on load and effort pulley wheel.	Calculations on load and effort have been done correctly.	Performs calculations on load and effort without proper procedures.	Performs calculations on load and effort by applying	Performs calculations on by applying proper one formulers correctly.	Performs calculations on applying proper formular correctly and relate the answers with the value.	
		c) To explain the concept of work.	The concept of work has been explained correctly.	Explains the concept of work without clear explanation.	Explains the concept of work.	Explains the concept of work by giving out real exmple correctly.	Explains the concept of work by applying proper on how work is done.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		d) To calculate work done.	The work done has been calculated using the correct formular.	Calculates the work done without using the correct formular.	Writes the formular without calculating the workdone	Calculates the work done by using the correct formular correctly.	Calculates the work done explain.	
	2.3 Perform science related practicals correctly.	a) To perform experiments on electric energy.	Experiments on electric energy have been performed by applying scientific procedures correctly.	Performs electric energy experiments without applying scientific procedures.	Performs electric energy experiments by applying some of the scientific procedures.	Performs electric energy experiments by applying scientific procedures correctly.	Performs electric energy experiments by applying scientific procedures correctly and explain their importance.	15
		b) To perform experiments on renewable energy.	Experiments on renewable energy have been done by applying scientific procedures correctly.	Performs experiments on renewable energy without using scientific procedures.	Performs experiments on renewable energy by using scientific procedures.	Performs experiments on renewable energy by using scientific procedures correctly.	Performs experiments on renewable energy by using scientific procedures and explain their importance correctly.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) To perform practicals on how to generate electricity through dynamo and a dry cell.	Practicals on how to generate electricity using dynamo and dry cell have been performed correctly.	Performs practicals on how to generate electricity using dynamo and dry cell without applying scientific procedures.	Performs some of the practicals on how to generate electricity using dynamo and dry cell.	Performs practicals on how to generate electricity using dynamo and dry cell correctly.	Performs practicals on how to generate electricity using dynamo and dry cell correctly and give out real examples.	
3. Health care and Environment	3.1 Apply cleanliness principles for health and good environment.	a) To explain the importance of maintaining cleanliness and smartness of garments.	The importance of maintaining cleanliness and neatness of garments has been explained correctly.	Explains the importance of maintaining cleanliness and neatness of garments without clear explanations.	Explains some of the importance of maintaining cleanliness and neatness of garments.	Explains the importance of maintaining cleanliness and neatness of garments correctly.	Explains the importance of maintaining cleanliness and neatness of garments and explain its benefits.	15
		b) To identify sources of dirt and waste products.	Sources of dirt and waste products have been identified clearly.	Identifies sources of dirt and waste products without correct explanations.	Identifies some of the sources of waste products and dirt.	Identifies sources of dirt and waste products correctly and give out examples.	Identifies sources of dirt and waste products and explain precautions to take to prevent them.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) To give First Aid to a person who has been bitten by a snake, a fractured bone, drowning in water, vomiting and diarrhea.	Practices on how to give first aid to a person who has been bitten by a snake, fractured bone, drowning in water, vomiting and diarrhea have been done by applying correct procedures.	Practices how to give First Aid to a person who has been bitten by a snake fractured bone, drowning in water, vomiting and diarrhea without considering procedures.	Gives first Aid to a person who has been bitten by a snake fractured bone, drowning in water, vomiting and diarrhea by considering some procedures.	Uses all main practices for giving first Aid to a person who has been bitten by a snake, fractured bone, drowning in water, vomiting and diarrhea by considering procedures.	Gives first Aid to a person who has been bitten by a snake, fractured bone, drowning in water, vomiting and diarrhea by considering procedures correctly and give advise others.	
	3.2 Apply health principles for good health.	a) To explain importance of cleanliness and safety of diet to the victim of HIV/AIDS.	The importance of cleanness and safety of diet to the HIV/AIDS victim has been explained correctly.	Explains the importance of cleanliness and safety of diet to the HIV/AIDS victim without correct explanation.	Explains some of the importances of cleanliness and safety of diet to the HIV/AIDS victim.	Explains the main importance of cleanliness and safety of diet to the HIV/AIDS victim correctly.	Explains importance of cleanliness and safety of diet to the HIV/AIDS victim correctly and advise others.	20

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		b) To explain the relationship between sexual transmitted diseases and HIV/AIDS.	The relationship between sexual transmitted diseases and HIV/AIDS has been explained correctly.	Explains relationship between sexual transmitted diseases and HIV/AIDS without correct explanation.	Explains some of the relationship between sexual diseases and HIV/AIDS correctly.	Explains main relationship between sexual diseases and HIV/AIDS correctly.	Explains comparing and differentiating the relationship between sexual transmitted diseases and HIV/AIDS correctly.	
		c) To explain effects of HIV and AIDS to the family, society and the nation.	Effects of HIV and AIDS to the family, society and nation have been explained correctly.	Explains the effects of HIV and AIDS to the family, society and nation without clean explanation.	Explains some of the effects of HIV and AIDS to the family, society and nation.	Explains main effects of HIV and AIDS to the family society and nation correctly.	Explains effects of HIV and AIDS to the family society and nation correctly and real giveout example.	
		d) To identify hereditary diseases.	Hereditary diseases have been identified correctly.	Identifies hereditary diseases without correct explanations.	Identifies some of the hereditary diseases.	Identifies main hereditary diseases correctly.	Identifies main hereditary diseases correctly and advise others on things to be considered when you have those diseases.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		e) To identify different groups of people who need special health services.	Different groups of people who need special health service have been identified clearly.	Identifies the different groups of people who need special health services without correct explanations.	Identifies some of the groups of people who need special health service.	Identifies groups of people who need special health services correctly.	Identifies with examples different groups of people who need special health services correctly and give advise on how to care them.	
	3.3 To recognize various human body systems.	a) To identify blood circulation system.	The blood circulation system has been identified correctly.	Identifies the blood circulation system without correct explanation.	Identifies some of the parts of the blood circulation system.	Identifies main parts of the blood circulation system correctly.	Identifies the blood circulation system correctly and explain its importance.	30
		b) To identify defects that may occur in the blood circulation system.	Defects that may occur in the blood circulation system have been identified correctly.	Identifies defects that may occur in the blood circulation system without correct explanations.	Identifies some of the defects that may occur in the blood circulation system.	Identifiesthe major defects that may occur in the blood circulation system with examples.	Identifies defects that may occur in the blood circulation system and advise precaution to take.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		c) To identify reproductive system.	The reproductive system is identified correctly.	Identifies reproductive system without correct explanations.	Identifies some of the parts of the reproductive system.	Identifies the main parts of reproductive system and explain correctly.	Identifies main parts of the reproductive system correctly and explain how to keep them.	
		d) To identify problem that may occur in female and male reproductive system.	Problems that may occur in female and male reproductive system is explained correctly.	Identifies some of the problems that may occur in female and male reproductive system without correct explanation.	Identifies some problems that may occur in female and male reproductive system.	Identifies major problems that may occur in female and male reproductive system correctly.	Differentiates and explain problems that may occur in female and male reproductive system correctly.	

Main Competence	Specific Competence	Activities to be performed by the pupil	Assessment Criteria	Benchmarking				No of periods
				<i>Beginning</i>	<i>Average</i>	<i>Good</i>	<i>Very Good</i>	
		e) To explain the concept of puberty for boys and girls.	The concept of puberty for boys and girls is explained correctly by considering important aspects.	Explains the concept of puberty for boys and girls without considering the important aspects.	Explains the concept of puberty for boys and girls by considering some of the important aspects.	Explains the concept of puberty for boys and girls correctly by considering important aspects.	Explains the concept of puberty for boys and girls correctly and advise things to consider.	
		f) To identify ways of family plan.	Ways of family planning have been identified correctly.	Identifies ways of family plan without correct explanations.	Identifies only some of the ways of family plan.	Identifies the ways of family plan correctly.	Identifies ways of family plan correctly and give out examples.	

