Addis Ababa City Administration

Education Bureau

Grade 8 **GENERAL SCIENCE** Model Exam

Table of Specification for Second Semester

April/2016E.C

2016 E.C GENERAL SCIENCE GRADE 8 TABLE OF SPECIFICATION (TOS)

Unit	Sub Unit Code	Total periods	Competencies	No.of que.	Behavioral dimension
1	1.1 Scientific Measurement	7	Describe the various indigenous methods of measurement;	3	Knowledge
			Explain the concept of measuring physical quantities;		Knowledge
			Categorize the basic and derived units of measurements (length, mass, time, temperature, volume, area, density, force)		Comprehension
	1.2 Doing Scientific Investigation	10	demonstrate ability to work effectively and respectfully with others in performing fair testing	4	Application
			describe the components of a scientific investigation		2Comprehension
			Practice scientific investigation procedures using appropriate contents to their age levels.		Application
2	2.1 Early Thinking about the Composition of Matter	3	Compare earlier conceptions of the structure of matter with their conceptions	1	Analysis
	2.2 Inside of an Atom	5	describe the structure of an atom as a nucleus containing protons and neutrons, surrounded by electrons in shells (energy levels	2	Comprehension
3	3.1 Introduction	2	define inorganic compounds as compounds of elements other than carbon	1	Knowledge
	3.2 Organic Compounds	6	Write the general formula of alkanes, alkenes and alkynes;	2	Synthesis
			Write the specific chemical formulas of the first ten		Synthesis,

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			members of alkanes, alkenes and alkynes;		
	3.3 Inorganic Compounds	9	describe the properties of acidic oxides and basic oxides	3	Knowledge,
			describe how indicators can be used to classify solutions as acidic or basic;		Comprehension
			name and write formulas for some common acids (HCl, HNO3, H2SO4) and bases (NaOH, KOH, NH4OH), using the periodic table, a list of ions, and rules for naming acids		Synthesis,
	3.4 Neutralization Reaction and Salts	4		1	
			identify some everyday uses of neutralization;		Knowledge
4	4.1 Integumentary Systems	5	describe the main functions of human integumentary system;	1	Knowledg
	4.2 Muscular system	4	distinguish the major structural components of human muscular system	2	Comprehension
			identify and discuss the main diseases or disorders associated with human muscular system		Comprehension
	4.3. Skeletal System	4	distinguish the major structural components of human skeletal system;	2	Knowledge/
			describe the main functions of human skeletal system		Comprehension
	4.4. Digestive system	4	describe the main functions of human digestive system;	2	Knowledge
			distinguish the major structural components of human digestive system		Comprehension
	4.5 Respiratory system	4	Identify and discuss the main diseases or disorders associated with human respiratory system	1	Comprehension
	4.6 Circulatory system	4	describe the main functions of human	2	Knowledge

Unit	Sub Unit Code	Total periods	Competencies	No.of que.	Behavioral dimension
			circulatory system;		
	4.7 Reproductive system	5	distinguish the major structural components of human reproductive system	2	Comprehension
			distinguish between the primary and secondary sexual characteristics;		Comprehension
	5.1. Ecosystem and Interactions	13	identify and describe the types of biological interactions of organisms in an ecosystem	5	Comprehension
			define ecosystem and components of ecosystem		Knowledge
			differentiate between food chain and food web;		Knowledge
			distinguish between the different components of food chain;		Comprehension
			explain how energy flows from producers to consumers;		Comprehension
	5.2. Conservation of Natural Resources	20	list down and describe the various soil conservation strategies	8	Knowledge
			explain the various uses of soil in nature and to human being		Comprehension
			describe the various types of soils		Comprehension
			explain the various uses of soil in nature and to human being		Comprehension
			describe the various components of atmospheric air		Comprehension
			list and describe the values of biodiversity		Knowledge
			discuss the impacts of air pollution with		

Unit	Sub Unit Code	Total periods	Competencies	No.of que.	Behavioral dimension
			examples		
	6.1 Family of the Solar System	5	explain family of the solar system	2	Comprehension
			name all planets in the solar system;		Comprehension
	6.2 Formation of the Solar system.	6	explain the motion of large bodies in the solar system;	2	Comprehension
			differentiate the motion of satellites and planets in the solar system		Comprehension
	6.3 Earth in comparison with solar system	6	Compare the distance, size, position and behavior of each planet from the Sun	2	2Analysis
	6.4 Our planet is Suitability for Life.	5	describe the suitability of Earth for life	2	Comprehension
			explain the unique characteristics of Earth;		Comprehension
	7.1 Phenomena of Light (Source & Properties	4	describe reflection and refraction;	1	Knowledge
	7.2 Vision and Imaging	3	classify materials as transparent, translucent and opaque;	1	Analysis
	7.3 Sound	4	define sound as a form of energy;	2	Knowledge,
			identify material medium for sound propagation		Comprehension
	7.4 Heat	4	classify materials as good conductors of heat and poor conductors of heat (insulators	2	2Analysis
	7.5. Simple Circuit	4	define magnetism	1	Knowledge
	7.6 Magnetism	3	explain the use of magnet	1	Knowledge

Summary:

I. ITEMS INTO EACH UNIT

Unit	Period allotment	Number of items	Number of items in terms of behavioral dimensions
1	17	17*60/156=7	2- knowledge,3- comp and 2-app
2	11	11*60/156=4	3- comp , and 1-analysis
3	21	21*60/156=8	5- knowledge,1- comp and 2-syn
4	30	30*60/156=12	5- knowledge,7- comp
5	33	33*60/156=13	5, - knowledge, 8- comp
6	22	22*60/156=8	6- comp and 2 analysis
7	22	22*60/156=8	5, - knowledge, 3 analysis
total	156	60	22-knowledege,28-comp,2-app, 6 analysis, 2-syn

III. Proportionality

Behavioral dimension	Knowledge/ remembering	Comprehension / understanding	Application/Analysis/synthesis	total
Number of items	22	26	12	60
Percentage weight	36.6%	46.6%	20%	100%