

Republic of the Philippines

Department of Education REGION XI SCHOOLS DIVISION OF DIGOS CITY

OFFICE OF THE SCHOOLS DIVISION SUPERINTENDENT DIVISION MEMORANDUM No. 138, s. 2022

March 7, 2022

VIRTUAL CONFERENCE OF SELECTED JUNIOR HIGH SCHOOL TEACHERS FOR THE ALIGNMENT OF CURRICULA OF STE REGULAR AND ELECTIVE SUBJECTS

To: Chief, Curriculum Implementation Division

Dr. Clarence S. Pillerin – PSDS, Secondary Schools District

Dr. Jem Boy B. Cabrella – Education Program Supervisor in Mathematics

Mrs. Elizabetha R. Bueron – School Head, Digos City NHS

Mr. Rogan G. Adanza – Officer In-Charge, Mathematics Dept., Digos City NHS

Selected Junior High School Mathematics Teachers

- 1. The Department of Education Regional Office XI through an unnumbered Regional Memorandum dated September 11, 2020, entitled "MELCs for the Special Science Program and Its Suggested Curriculum for Uniformity" advises all SSES and STE implementing schools to use the most essential learning competencies and the suggested subject offerings with time allotment effective SY 2020-2021 while waiting for the issuance of the guidelines from the Central Office. The said issuance was relayed to the field through Division Memorandum No. 417, s. 2020 dated September 14, 2020.
- 2. The suggested curriculum of STE for Uniformity includes the elective subjects on top of the regular subjects offered in the K to 12 Curriculum, namely: Introduction to Algebra, Advanced Geometry, Advanced Trigonometry, and Basic Calculus. However, there were no learning competencies provided by the Regional Office for these elective subjects.
- 3. Furthermore, it was found out during the DLDM monitoring and online class observations of STE teachers that the prepared learning competencies of elective teachers overlapped with the most essential learning competencies provided by DepEd CO. With these findings, this Office initiates to conduct virtual conference for selected junior high school teachers for the alignment of curricula of the STE regular and elective subjects on March 16, 2022 from 8:00 am to 12:00 noon using the link: https://meet.google.com/tjp-ypcs-dup.
- 4. The participants of this virtual conference are the Education Program Supervisor in Mathematics, and the Officer In-Charge of Mathematics Department, Master Teachers, and those teachers handling STE Regular and Elective Mathematics subjects of Digos City National High School, to wit:

No.	Name of Participants	Position/Designation	School/Office
1	Jem Boy B. Cabrella	EPS-Math	Digos City NHS
2	Rogan G. Adanza	OIC-Dept Head, Math / Master Teacher I	Digos City NHS
3	Veronica T. Delima	Master Teacher II	Digos City NHS
4	R-jhon C. Alag	Master Teacher I	Digos City NHS

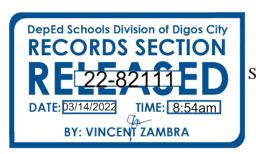


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5	Cathelene N. Cabras	Master Teacher I	Digos City NHS
6	Jernalyn L. Castro	Master Teacher I	Digos City NHS
7	Wellisa P. Milca	Master Teacher I	Digos City NHS
8	Gary M. Nugas	Master Teacher I	Digos City NHS
9	Elvira I. Peñas	Master Teacher I	Digos City NHS
10	Jouy Hope A. Silabay	Master Teacher I	Digos City NHS
11	Iris Josette H. Duldulao	Teacher III	Digos City NHS
12	Alden Rhee A. Degamo	Teacher III	Digos City NHS
13	Ralph D. Lim	Teacher I	Digos City NHS
14	Jhobelle P. Racho	Teacher III	Digos City NHS
15	Jesmarie S. Peñol	Teacher III	Digos City NHS
16	Ferlyn Mae S. Depacaquibo	Teacher I	Digos City NHS
17	Glent Ian T. Delima	Teacher III	Digos City NHS

- 5. Enclosed in this Memorandum are the assigned committees and the regional memorandum.
- 6. Internet communication allowance and other incidental expenses incurred by the teachers in attending this virtual conference shall be charged against School MOOE subject to the usual accounting and auditing rules and regulations.
- 7. Immediate and wide dissemination of this Memorandum is desired.





Enclosure 1 of DM <u>138</u>, s. 2022

Assigned Committees

No.	Committee	Assigned Teachers
1	Attendance	Jernalyn L. Castro and Wellisa P. Milca
2	Program	Cathelene N. Cabras and Ferlyn Mae S. Depacaquibo
3	Prefatories	Ralph D. Lim and Glent Ian T. Delima
4	Photo documentation	Elvira I. Peñas, Alden Rhee A. Degamo, and Jhobelle P. Racho
5	Presentation of Curricula of STE Regular and Elective Subjects	Rogan G. Adanza, Gary M. Nugas, Veronica T. Delima, Jouy Hope A. Silabay, Cathelene N. Cabras, and other Master Teachers
6	Preparation of the Terminal Activity Report	Jouy Hope A. Silabay, R-jhon C. Alag, Iris Josette H. Duldulao, and Jesmarie S. Peñol



Republic of the Philippines

Department of Education region XI schools division of digos city

OFFICE OF THE SCHOOLS DIVISION SUPERINTENDENT

DIVISION MEMORANDUM No. 417, s. 2020

September 14, 2020

MELCS FOR THE SPECIAL SCIENCE PROGRAM AND ITS SUGGESTED CURRICULUM FOR UNIFORMITY

To: Education Program Supervisors
Public Schools District Supervisors
School Principals
Digos City National High School
Digos City Central Elementary School

- 1. In reference to Regional Memorandum titled "MELCs for the Special Science Program and its Suggested Curriculum for Uniformity", this Office advises all SSES and STE implementing schools to use the most essential learning competencies and the suggested subject offerings with time allotment effective this SY 2020-2021. This is aimed to have uniform implementation of the Special Science Programs in the region while waiting for the issuance of the guidelines from the central office.
- 2. Enclosed are the lists of the SSES and STE MELCs and the suggested subject offerings per grade level.
- 3. For information, guidance and compliance.

CRISTY C. EPE Schools Division Superintendent

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RECORDS SECTION

20-62183

DATE: 5 SEP 2020 TIME: 1:46 pm





Republic of the Philippines

Department of Education

DAVAO REGION

Office of the Regional Director

MEMORANDUM

To

Schools Division Superintendents

Subject:

MELCs FOR THE SPECIAL SCIENCE PROGRAM

AND ITS SUGGESTED CURRICULUM FOR

UNIFORMITY

Date :

September 11, 2020

Relative to the uniform implementation of the Special Science Program such as Special Science for the Elementary School (SSES) and Science, Technology and Engineering (STE) for the elementary and secondary respectively, this Office advises all SSES and STE implementing schools to use the most essential learning competencies and the suggested subject offerings with time allotment effective this SY 2020-2021 while waiting for the issuance of the guidelines from the central office.

Enclosed are the lists of the SSES and STE MELCs and the suggested subject offerings per grade level.

Immediate and wide dissemination of this Memorandum is desired.

EVELYN R. FETALVERO, CESO IV
Assistant Regional Director

Officer-In-Charge Office of the Regional Director

Enclosed: As stated

ROC6/mlib

MORANTHEENT OF EDITION ROAD

9-14-21

11:00

0920 - 32EV



Address: F. Torres St., Davao City (8000) **Telephone Nos.**: (082) 291-1665; (082) 221-6147



Enhanced Science Curriculum

Regional Conference of Selected Science Teachers for the Most Essential Learning Competencies of Special . Science Program held at Tagum City National High School, Tagum City on August 3, 2020 and Comara T. Manuel Elementary School, Lupon, Davao Oriental on August 4, 2020.

rade Level	Suggested Curriculum of STE for Unifo	Time allotment / Week
	Subjects	6 hours
Grade 7	Science	6 hours
	Mathematics	
	Research I	4 hours
	Elective Science I – Environmental Science	3 hours
	Elective Mathematics I – Introduction to Algebra	3 hours
	English	4 hours
	Filipino	4 hours
-	Aral-Pan	3 hours
	Edukasyon sa Pagpapakatao	2 hours
<u></u>	МАРЕН	4 hours
	TOTAL HOURS	39 hours / week
Grade 8	Science	6 hours
Grade o	Mathematics	6 hours
	Research II	4 hours
	Elective Science II – Microbiology	3 hours
	Elective Mathematics II - Advanced Geometry	3 hours
<u> </u>	English	4 hours
-	Filipino	4 hours
-	Aral-Pan	3 hours
-	Edukasyon sa Pagpapakatao	2 hours
-	MAPEH	4 hours
-	TOTAL HOURS	39 hours / week
Grade 9	Science	6 hours
Grade 9	Mathematics	6 hours
ļ	Research III	4 hours
ŀ	Elective Science III – Robotics	3 hours
	Elective Mathematics III – Advanced Trigonometry	3 hours
	English	4 hours
	Filipino	4 hours
	Aral-Pan	3 hours
	Edukasyon sa Pagpapakatao	2 hours
	MAPEH	4 hours
:	TOTAL HOURS	39 hours / week
0 1 10	Science	6 hours
Grade 10	Mathematics	6 hours
	Research IV	4 hours
	Elective Science IV – Advanced Chemistry	3 hours
	Elective Mathematics IV – Basic Calculus	3 hours
	Elective Mathematics IV – Basic Carefulds English	4 hours
		4 hours
	Filipino	3 hours
	Aral-Pan	2 hours
Grade 10	Edukasyon sa Pagpapakatao MAPEH	4 hours
	TOTAL HOURS	39 hours / week

Grade Level	Suggested Curriculum of SSES for Unife	Time allotment / Week
	Subjects	250 minutes
Grade 3	Science	250 minutes
	Mathematics	250 minutes
	English	200 minutes
	Aral-Pan Aral-Pan	250 minutes
	EPP	200 minutes
	МАРЕН	250 minutes
	Filipino	250 minutes
	Edukasyon sa Pagpapakatao	1900 minutes / week
	TOTAL HOURS	250 minutes
Grade 4	Science	250 minutes
	Mathematics	
	English	250 minutes
	Aral-Pan	200 minutes
	EPP	250 minutes
	MAPEH	200 minutes
Grade 4	Filipino	250 minutes
	Edukasyon sa Pagpapakatao	250 minutes
	TOTAL HOURS	1900 minutes / week
Grade 5	Science	250 minutes
Grade 5	Mathematics	250 minutes
	English	250 minutes
	Aral-Pan	200 minutes
	EPP	250 minutes
	МАРЕН	200 minutes
	Filipino	250 minutes
	Edukasyon sa Pagpapakatao	250 minutes
	TOTAL HOURS	1900 minutes / weel
Grade 6	Science	250 minutes
Grade 0	Mathematics	250 minutes
	English	250 minutes
<u> </u>	Aral-Pan	200 minutes
ļ	EPP	250 minutes
-	MAPEH	200 minutes
	Filipino	250 minutes
<u> </u>	Edukasyon sa Pagpapakatao	250 minutes
<u> </u>	TOTAL HOURS	1900 minutes / wee

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4

Conveners:

Jim Boy P. Pasia

Daniel R. Aaguinaldo NHS

Napdeo Natka E. Natad

Daniel R. Aaguinaldo NHS

Suzette A. Bermejo

Daniel R. Aaguinaldo NHS

Brady S. Nave

Davao City NHS

Henry P. Haranay

Tagum City NHS

Ronalp A. Apao

Tagum City NHS

Brylee A. Cadigal

Teofiolo V. Fernandez NHS EPS - Tagum City

Darly D. Lamentac

Magallanes ES

Honey Lynne A. Boyles, PhD

Juhainaliza Sam Jawadin, PhD

Comara T. Manuel ES

Anna Kristine N. Osorio

Sta. Ana Central ES

June Elias V. Patalinghug Merlyn M. Lasaca

Baliok ES

EPS – Davao Oriental

Reviewed:

EPS – RO XI

Renato C/Pacpakin, EdD

JANÉTTE G. VELOSO, CESE

Chief CLMD

APPROME

EVELYN R. FETALVERO, CESO IV

Assistant Regional Director

Officer-In-Charge

Office of the Regional Director



TAHANOED SOITHOR TOR

SCHOOL (SSES) PROGRAM

Prepared by:

Juhainaliza S. Jawadin Anna Kristine N. Osorio June Elias V. Patalinghug Darly D. Lamentac

Reviewed by:

MARIA LIZA I. BERANDOY, EdD EPS-Science, ROXI CLMD

Recommended by:

JANETTE G. VELOSO, CESE
Chief, CLMD

APPROVED:

EVELYN R. FETALVERO, CESO IV
Assistant Regional Director
Officer-In-Charge

Office of the Regional Director

GUIDELINES ON THE USE OF THE SSES ENHANCED SCIENCE CURRICULUM

I. Rationale

The current global health crisis poses a profound impact on the basic education system as approximately 87% of the world's student population, or about 1.5 billion learners, have been affected by school closures (UNESCO, 2020). While interim distance and remote learning programs are being put in place in many locations, the most marginalized, poverty-stricken, and vulnerable children are expected to be put at a disadvantage.

times is essential to achieving SDG4 (UNESCO, 2017). UNESCO reiterates its stand: "Education cannot wait. If learning stops, we will lose human capital." Meeting the needs of the most vulnerable populations in these In the Philippines, ensuring the welfare of more than 27 million learners in basic education alone requires indomitable commitment amidst this crisis. However, as

accessible, relevant and liberating Philippine basic education services anchored on the Sulong EduKalidad framework. It will continue to strive to produce holistic The Department echoes UNESCO's belief that educational quality, access, and system strengthening cannot be compromised in times of crisis(UNESCO,2017), and that doing the opposite will negatively affect human capital. Thus, the Department of Education affirms its commitment to sustaining the delivery of quality, the complex, disruptive, volatile, and ambiguous impact of COVID-19 in the Philippines particularly in the basic education sector. Filipino learners with 21st century skills. Consequently, the Bureau of Curriculum Development ensures that learning standards are relevant and flexible to address

order thinking skills among learners of Basic Education in an environment supportive of their nurturance is the primary responsibility of the Department of Education nationalism, development, invention, innovation and their utilization. Providing opportunities for the development of scientific attitudes, technological skills and higher nationalism, accelerate social programs and promote total human development. Section 10, Article XIV further states that Science and Technology are essential for a review, Section 17, Article II of the Philippine Constitution mandates the State to give priority to Education, Science and Technology to foster patriotism and

Working on the said premises, the Department of Education – Region XI, hereby releases the Most Essential Learning Competencies (MELCs) for the Special Science Elementary Schools (SSES) to be used by the field implementers in the whole Davao Region for SY 2020-2021 only. The Department emphasizes that the review of the K to 12 curriculum in the new normal remains ongoing, and the experience with MELCs for this school year will be used to inform and enrich the curriculum review

mechanism to ensure education continuity through the curriculum dimension. termresponsetothecallofSDG4todevelopresilienteducationsystems, most especially during emergencies. Thus, it can be used under certain circumstances as a The release of the SSES-MELCs is not just a response to addressing the challenges of the current pandemic but is alsopartoftheDepartment'slong-

acquire, as we anticipate challenges in learning delivery. The SSES-MELCs will enable the Department to focus instruction to the most essential and indispensable competencies that our special science learners must

It will also lighten the burden of converting classroom-oriented learning resources into learning resources adapted to distance learning

the instructional needs of learners while ensuring that curriculum standards are maintained and achieved Releasing the SSES-MELCsdoesnotdiminishthestandardssetbythefullKto12curriculumguides.Rather,these serve as one of the guides for teachers as they address

standards Thecontentandperformancestandardsareindicatedintheattacheddocumentsforfieldimplementers, to demonstrate how the MELCs are anchored on the prescribed

II. Background

determining these competencies. In line with this the DepEd Region Office XI initiated the enhancement of the MELCs that would meet the needs of the Special review of the intended curriculum. Bureau specialists, academic experts and field implementers worked to reach a consensus regarding the criteria to be used in and Technology Research Centre (ACTRC), started working on the identification of essential learning competencies in the middle of 2019 as part of its ongoing Science Curriculum. The Department, through the Bureau of Curriculum Development - Curriculum Standards Development Division, in collaboration with the Assessment Curriculum

and decisions regarding applications of scientific knowledge that may have social, health, or environmental impacts Science education aims to develop scientific literacy among learners that will prepare them to be informed and participative citizens who are able to make judgments

our country's cultural heritage. personal and ethical aspects of life. The science curriculum promotes a strong link between science and technology, including indigenous technology, thus preserving The science curriculum recognizes the place of science and technology in everyday human affairs. It integrates science and technology in the social, economic,

curriculum, but is also part of her commitment to ensure quality, relevant and liberating education for all. After the four phases of curriculum review are completed, the Secretary will convene the Curriculum Consultative Committee to present the findings as provided for in Section 6 of the same Republic Act Initiated by Secretary Leonor Magtolis-Briones, the K to 12 curriculum review is not just meant to fulfill one of the provisions of Republic Act (RA) 105333 to review the

The review focuses on articulation within and across learning areas to identify gaps, issues, and concerns across learning areas and grade levels

Specifically, the review covers the following:

- Mapping of the essential and desirable Science learning competencies within the curriculum;
- Identification of prerequisite knowledge and skills needed to prepare students for essential Science learning competencies; and
- Analysis of the interconnectedness of prerequisite knowledge and skills among the learning competencies for each subject area

education but may not be necessary in building foundational skills. Essential learning competencies are defined as what the students need, considered indispensable, in the teaching-learning process to building skills to equip for subsequent grade levels and subsequently, forlifelonglearning.Ontheotherhand,desirablelearningcompetenciesweredefinedaswhatmayenhance

develop learners' interest and let them become active learners learn and appreciate science as relevant and useful. Rather than relying solely on textbooks, varied hands-on, minds-on, and hearts-on activities will be used to these processes are best learned in context. Organizing the curriculum around situations and problems that challenge and arouse learners' curiosity motivates them to Science content and science processes are intertwined in the K to 12 Curriculum. Without the content, learners will have difficulty utilizing science process skills since

A list of characteristics of essential learning competencies was provided to help reviewers decide which among the learning competencies are deemed most

Characteristics of an Essential Learning Competency

	_	1. It is aligned with national and/or local standards/frameworks
		(eg: "scientifically literate Filipinos").
Learning	Ŋ	It connects the content to higher concepts across content
competency is		areas.
ESSENTIAL IT	ယ	It is applicable to real-life situations.
:	4.	4. If students leave school, it would still be important for them to
		have this competency above many others.
	Çī	It would not be expected for most students to learn this in
		settings other than through formal education.

of quality and comparability across schools (New HampshireDepartmentofEducation,2012),although adaptations were made for relevance in the Philippine context. These characteristics are based on a US-developed competency validation rubric, which is intended to assure that learning competencies can reach the highest level

With the challenges on learning delivery posed by COVID-19, the Bureau of Curriculum Development accelerated the identification of the essential learning competencies, and streamlined these further into the **Most Essential Learning Competencies(MELCs)**.

III. Guide for Teachers in Use of SSES Enhanced Science Curriculum

demonstrate in every lesson or learning activity. content standards. These standards are further represented as learning competencies which are the knowledge, skills and attitudes that students need to understanding that must be learned. The performance standards describe the abilities and skills that the learners are expected to demonstrate in relation to the The Kto12 Basic Education Curriculum is standards-based. The content standards cover a specified scope of topics which sets the essential knowledge and

To ensure continuity of the learning progression of our learners, it is important to make sure that learning competencies needed in the understanding of succeeding concepts in the next grade level are prioritized. Overall, the resulting list still captures the objective of the science program which is the development of scientifically, innovative and creative citizens, informed decision makers, and effective communicators technologically, and environmentally literate and productive members of society who manifest skills as critical problem solvers, responsible stewards of nature

Below is the set of grade level standards for the K to 12 curriculum. It emphasizes how Science curriculum presented with increasing levels of complexity from grade one to another in spiral progression, thus paving the way to a deeper understanding of the concepts. It is presented as well in the enhanced curriculum the added competencies which will help in understanding the concepts clearly.

Grade4	Grade3 m	Grade2 so	Grade1 di	H Kindergarten tt	GRADE/LEVEL
At the end of Grade 4, learners can investigate changes in some observable properties of materials when mixed with other materials or when force is applied on them. They can identify materials that do not decay and use this knowledge to help minimize waste at home, school, and in the community. Learners can describe the functions of the different internal parts of the body in order to practice ways to maintain good health. They can classify plants and animals according to where they live and observe interactions among living things and their environment. They can infer that plants and animals have traits that help them survive in their environment. Learners can investigate the effects of push or pull on the size, shape, and movement of an object. Learners can investigate which type of soil is best for certain plants and infer the importance of water in daily activities. They learned about what makes up weather and apply their knowledge of weather conditions in making decisions for the day. They can infer the importance of the conditions in the conditions in making decisions for the day. They can infer the importance of the conditions in making decisions for the day.	At the end of Grade 3, learners can describe the functions of the different parts of the body and things that make up their surroundings— rocks and soil, plants and animals, the Sun, Moon and stars. They can also classify these things as solid, liquid or gas. They can describe how objects move and what makes them move. They can also identify sources and describe uses of light, heat, sound, and electricity. Learners can describe changes in the conditions of their surroundings. These would lead learners to become more curious about their surroundings, appreciate nature, and practice health and safety measures.	At the end of Grade 2, learners will use their senses to explore and describe the functions of their senses, compare two or more objects and using two or more properties, sort things in different ways and give a reason for doing so, describe the kind of weather or certain events in the home or school and express how these are affecting them, do simple measurements of length, tell why some things around them are important, decide if what they do is safe or dangerous; give suggestions on how to prevent accidents at home, practice electricity, water, and paper conservation, help take care of pets or of plants, and tell short stories about what they do, what they have seen, or what they feel.	At the end of Grade1, learners will use their senses to locate and describe the external parts of their body; to identify, external parts of animals and plants; to tell the shape, color, texture, taste, and size of things around them; to describe similarities and differences given two objects; to differentiate sounds produced by animals, vehicles, cars, and musical instruments; to illustrate how things move; to describe the weather and what to do in different situations; to use appropriate terms or vocabulary to describe these features; to collect, sort, count, draw, take things apart, or make something out of the things; to practice healthy habits (e.g., washing hands properly, choosing nutritious food) and safety measures (e.g., helping to clean or pack away toys, asking questions and giving simple answers/descriptions to probing questions).	The learners will demonstrate an emerging understanding of the parts of their body and their general functions; plants, animals and varied materials in their environment and their observable characteristics; general weather conditions and how these influence what they wear; and other things in their environment. Understanding of their bodies and what is around them is acquired through exploration, questioning, and careful observation as they infer patterns, similarities, and differences that will allow them to make sound conclusions.	Grade-Level Standards

*	
Grade6	Grade5
At the end of Grade 6, learners recognize that when mixed together, materials may not form new ones thus these materials may be recovered using different separation techniques. They can prepare useful mixtures such as food, drinks and herbal medicines. Learners understand how the different organ systems of the human body work together. They can classify plants based on reproductive structures, and animals based on the presence or lack of backbone. They can design and conduct an investigation on plant propagation. They can describe larger ecosystems such as rainforests, coral reefs, and mangrove swamps. Learners can infer that friction and gravity affect how people and objects move. They have found out that heat, light, sound, electricity, and motion studied earlier are forms of energy and these undergo transformation. Learners can describe what happens during earthquakes and volcanic eruptions and demonstrate what to do when they occur. They can infer that the weather follows a pattern in the course of a year. They have learned about the solar system, with emphasis on the motions of the Earth as prerequisite to the study of seasons in another grade level.	At the end of Grade 5, learners can decide whether materials are safe and useful by investigating about some of their properties. They can infer that new materials may form when there are changes in properties due to certain conditions. Learners have developed healthful and hygienic practices related to the reproductive system after describing changes that accompany puberty. They can compare different modes of reproduction among plant and animal groups and conduct an investigation on pollination. They have become aware of the importance of estuaries and intertidal zones and help in their preservation. Learners can describe the movement of objects in terms of distance and time travelled. Learners recognize that different materials react differently with heat, light, and sound. They can relate these abilities of materials to their specific uses. Learners can describe the changes that earth materials undergo. They can make emergency plans with their families in preparation for typhoons. They can observe patterns in the natural events by observing the appearance of the Moon.

The Science curriculum guide lists the LCs together with the code, which was set to guide the teachers the time at which a certain competency is to be delivered. However, since the learning competencies have been reduced to the most essential, the code will not be of much use. For this reason, the proposed length of time the time allocation as long as the LCs are delivered and developed among the learners. for each of the competency is also included. It should be noted that the time allocation for the competencies is not a hard and fast rule. Teachers may deviate from

into the content and performance standards. Below is an example of learning objectives for Matter under Grade 6 level which is taught in the first quarter. The identified MELCS are broad statements and should be unpacked into learning objectives. In translating the LC into a specific learning objective, it is best to look

heterogeneous mixtures.			
uses between homogenous and			
 Differentiate the appearance and 	article and		
heterogeneous mixtures.			
 Classify homogenous and 	mixtures.	as drinks, food, and herbal medicines.	characteristics.
heterogeneous mixtures.	of homogeneous and heterogeneous	beneficial and useful mixtures such	different types of mixtures and their
 Identify homogeneous and 	Describe the appearance and uses	Learners should be able to prepare	Demonstrate understanding of
Learning Objectives	Learning Competency	Performance Standard	Content Standard

Grade Level: Grade 1
Subject: Science

4 th things found surroundings		produced by animals, vehicle cars, and music instruments	sources and us of heat energy	describi solids, li	3 rd ways of sorting materials and	basic needs and uses of plants	how plants grow and change		2nd parts and of animals		1 st Parts an of the hu	er
things found in the surroundings	motion of objects	produced by animals, vehicle cars, and musical instruments	sources and uses of heat energy	describing them as solids, liquid or gas	sorting s and	eds and plants	nts grow nge		parts and functions of animals		Parts and functions of the human body	Content Standard The learners demonstrate understanding of
show care and concern for the environment	observe, describe, and investigate the position and movement of things around them		enumerate the importance of heat energy and sound in our daily life	in school	practice proper handling solid, liquid and gas materials found at home and		practice proper ways of handling plants	show love and care to animals	enumerate ways of grouping animals based on their characteristics		practice healthful habits in taking care of the different parts of the body	Performance Standard The learners should be able to
Describe the different landforms and bodies of water Describe the living and nonliving things in the surroundings Explain the importance of surroundings to people and other	Explain how motion and force work Give examples of motion in everyday life	Discover and describe now sound is produced	Identify sources and uses of heat energy	Investigate how matter changes in state, size, color and shape	Sort and compare the three states of matter	Identify the needs and uses of plants Perform simple experiments to find out the needs of plants to live	Group the plants based on their characteristics Describe the plant in each stage in a plant's life cycle	Describe the different habitats of different animals Explain how animals live	Classify animals based on their characteristics Describe different movements that different animals make	Describe similarities and differences of any given 2 objects seen using the senses Practice healthful habits to take care of the body	Describe the external parts of the body Discuss how each body part works	Most Essential Learning Competencies
Week 1 Week 2 Week 3	Week 5-6 Week 7	W GG	Week 3	Week 2	Week 1	Week 7	Week 5 Week 6	Week 3 Week 4	Week 1 Week 2	Week 5-6 Week 7	Week 3-4	Duration

			,	٦.
	Objects in the exy	chiects in the sky	kinds of weather	
			practice safety measures during	
Determine what particular time do objects in the sky appear	Identify the objects in the sky	Gather data about different weather conditions	different situations	Describe the different binds of weather and what to do in
Week 7	Week 6	Week 5		Week 4

Grade Level: Grade 2 Subject: Science

											- 1									_			
3 rd											2 nd								,	181			Quarter
ways of sorting materials and describing them as	SU VIVO	animals, and numbers to	basic needs of plants,	change	how plants grow and	importance to humans	their functions and	external parts of plants and		animals	parts and functions of		healthy food habits	hasic food groups and	change	how people grow and	£ (hody	sense organs of the human	Parts and functions of the	understandingof	The learners demonstrate	Content Standard
practice proper handling solid, liquid and gas materials found		COSTORER OF A LIGHT COSTORER	practice ways to protect and				handling plants	practice proper ways of	structure and importance	animals based on their	enumerate ways of grouping			practice good eating habits			G .	organs	taking care of the sense	practice healthful habits in	able to	The learners should be	Performance Standard
Classify objects and materials as solid, liquid or gas based on some observable characteristics	environment	Enumerate ways to protect and conserve the	Explain how living things depend on the environment to meet their basic needs		Explain the life cycle of a plant		Explain the importance of plants to humans	Compare two or more kinds of plants	Explain ways of proper handling of animals	the food they eat	Classify animals according to body parts and use, and	Explain the importance of practicing good eating habits	Enumerate good eating habits	Classify and describe basic food groups	different stages of life	Compare how humans are alike and different at	Enumerate healthy habits to protect the sense organs	what they feel	Tell short stories about what they do, what they see, or	Describe the functions of different senses			Most Essential Learning Competencies
Week 1		Week 7	VVeek o	Wank C	AAAAA O	W Sala	Week 4	Week 3	Week 2		Week 1	Week 7	Week 6	Week 5		Week 4	Week 3		Week 2	Week 1			Duration

solids, liquid or gas based on observable properties effects of temperature on materials light and heat energy one how shadows are formed by vibrations motion of objects things found in different surroundings 4 th things found in different surroundings kinds of weather properties effects of temperature on materials as affected by temperature. Iguid and gas materials found at home and in school investigate and describe the different changes in materials as affected by temperature. Diskinguish luminous and non-luminous objects Explain how one's shadow looks like in different times. Week 3 Explain how one's shadow looks like in different times. Week 4 Explain how forces and uses of sounds week 5 movement of things around them Explain how forces make objects move such as people, wind, water, magnets, gravity, electricity and machines. Explain the importance of preserving the resources of the Earth Enumerate ways on electricity, water, and paper week 4 different types of weather agont time. Communicate how different types of weather agont to the proper use and handling solid. Investigate found at home and in school investigate and describe the different changes in how forces affected by temperature. Describe and concern to the dealing with our deality life. In the day work of	Week 7	Enumerate safety precautionary measures in dealing with different types of weather			
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at home and in school Describe ways on the proper use and handling solid, liquid and gas materials found at home and in school levestrate and describe the different changes in		materials as affected by temperature		materials	
at home and in school Describe ways on the proper use and handling solid,		Investigate and describe the different changes in		on observable properties	
	Week 2	Describe ways on the proper use and handling solid,	at home and in school	solids, liquid or gas based	

↑ Grade Level: Grade 3 Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	Duration	K to 12 CG
	understanding of	able to			1
451	ways of sorting materials and	group common objects found at	Describe different objects based on their	Week 1-3	
	describing them as solid,	home and in	characteristics (i.e. shape, weight, volume,		
	liquid or gas based on	school according to solids,	ease of flow, texture, ability to float or sink);		
	observable properties	liquids and gas	Describe changes in materials based on	Week 4-7	S3MT-Ih-J-4
			the effect of temperature:		
			1 solid to liquid		
			2 liquid to solid		
			3 liquid to gas		
			4 solid to gas		
2 nd	parts, and functions of the	practice healthful habits in	Describe the parts and functions of the	Week 1	S3LT-lla-b-1
	sense organs of the human	taking care of the sense	sense organs of the human body		
	body;	organs;			
	parts and functions of	enumerate ways of grouping	Describe animals in their immediate	Week 2	S3LT-IIc-d-3
	animals and importance to	animals based on their	surroundings		
	humans	structure and importance	Identify the external parts and functions	Week 2	S3LT-IIc-d-4
			of animals		
			Classify animals according to body parts	Week 3	S3LT-IIc-d-5
			and use		
			State the importance of animals to	Week 3	S3LT-IIc-d-6
***************************************			Humans		
	external parts of plants and	demonstrate the proper ways of	Describe the parts of different kinds of	Week 4	S3LT-ile-f-8
	their functions, and	handling plants	plants		
•	importance to humans		State the importance of plants to humans	Week 4	S3LT-lle-f-9
	characteristics of living and	illustrates the difference	Compare living with nonliving things	Week 5	S3LT-lle-f-11
	nonliving mings	things	Identify observable characteristics that are	Week 5	S3LT-llg-h13
•		i i i i i i i i i i i i i i i i i i i	passed on from parents to offspring (e.g.,		
	basic needs of plants,	list down activities which they	Explain how living things depend on the	Week 6	S3LT-III-J-15
	animals and humans	can perform at home, in school,	environment to meet their basic needs		
		or in their neighborhood to keep	Recognize that there is a need to protect	Week 7	S3LT-III-J-16
		the environment clean	and conserve the environment		

		in the sky during daytime and nighttime	their daily activities	affect one's daily activities	
S3ES-IVg-h-6	Week 7	Describe the natural objects that are found	list down activities which affect	natural objects in the sky	
		different types of weather			
		precautionary measures in dealing with	(through artwork, poem, song		
S3ES-IVg-h-5	Week 5-6	Enumerate and practice safety and	weather conditions creatively	activities, health and safety	
		affect the weather condition	measures during different	as they relate to daily	
	Week 3-4	Analyze how the different elements can	express ideas about safety	types and effects of weather	
			The state of the s	importance	
			directed activities	landforms, and their	
			teacher-guided and self -	mountains, and other	
		people and other living things	their surroundings through	lakes, rivers, streams, hills,	
S3ES-IVc-d-2	Week 1-2	Relate the importance of surroundings to	express their concerns about	people, animals, plants,	4 th
		energy;	sound, heat, and electricity		
		sound, thermal energy, and electrical	sources and uses of light,	sound, heat and electricity	
	Week 4- 7	Identify and describe sources of light,	apply the knowledge of the	sources and uses of light,	
		is in the second	them		
		such as chair, door, another person	movement of things around		
		object in relation to a reference point	investigate the position and		
S3FE-IIIa-b-1	Week 1-3	Describe the position of a person or an	observe, describe, and	motion of objects	ц a

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SSP_S4MT-lc- d-3	Week 2	Demonstrate proper waste disposal according to the properties of materials			
		decay and biddegradability			
_		absorb or repel and its tendency to undergo	handling of products	based on their properties	
SSP_S4MT-la-	Week 1	Classify materials based on the ability to	Recognize and practice proper	grouping different materials	181
			able to	understanding of	
Code			The learners should be	The learners demonstrate	
K to 12 CG	Duration	Most Essential Learning Competencies	Performance Standard	Content Standard	Quarter

					·
	undergo when exposed to	materials are useful or harmful	they are bent, pressed, hammered, or cut	Week J-4	C-1-91-11M4C
	certain conditions.	ť	Describe changes in properties of materials	Week 5-6	S4MT-lg-h-6
			materials Identify changes in materials whether useful	Week 7	S4MT-li-i-7
			or harmful to one's environment.		
2nd	how the major internal	construct a model of a major	Describe the main function of the	Week 1	S4LT-lla-b-1
	organs such as the brain,	organ of the human body to	major organs		
	heart, lungs, liver,	show how it works	Communicate by using a model that the	Week 1	S4LT-lla-b-2
	stomach, intestines,		major organs work together to make the		
	muscles keep the body		Infer that body structures help animals	Week 2	S4LT-lla-b-4
	healthy		adapt and survive in their particular		
	animals have body parts that make them adapt to		habitat		
	land or		Compare body movements of animals in		SSP_S4LT-IIc-
				Week 2	d-6
	plants have body parts		Identify the specialized structures of	Week 3	S4LT-lie-f-9
	that make them adapt to land or water		terrestrial and aquatic plants		
			Conduct investigation on the growth and		SSP_S4LT-lie-
			development of plants with specialized		1-10
			structures given different environmental		
			Collections (light, water, temp. son)	147	211
	different organisms go through life cycle which can be affected by their environment		Compare the stages in the life cycle of organisms	Week 4	S4LT-llg-h-13
	beneficial and harmful		Describe the effect of the environment	Week 5	S4LT-Ilg-h-14
	interactions occur among		on the life cycle of organisms		
	living things and their		Describe some types of beneficial and	Week 6	
	environment as they		harmful interactions among living		
			Describe the effects of interactions	Week 7	S4LT-III-i-18
			among organism in their environment		
	force that can change the		Differentiate contact and non-contact forces	Week 1	SSP_S4FE-IIIa-

	source o		compo using :		consumption	the dif	4 th the dif				how ligi travel u objects		objects.	shape
S - Language Pagnage C - P - T	the Sun as the main source of heat and light on Earth		components of weather using simple instruments		water suitable for human consumption	the different sources of	the different types of soil				how light, heat and sound travel using various objects			shape, size or movement of
			practice precautionary measures in planning activities							of light, heat and sound	demonstrate conceptual understanding of properties/characteristics			
human activities	Describe the changes in the position and length of shadows in the surroundings as the position of the Sun change	different weather conditions	Use weather instruments to measure the different weather components. Make simple interpretations about the	Illustrate and describe the importance of the water cycle	activities	Investigate the different uses of water from	Compare and contrast the characteristics of different types of soil	Describe properties and characteristics of heat, light and sound energy.	Investigate how thermal energy travels through different materials	Investigate how sound travels through different media;	Investigate how light interacts with objects and determine whether an object is opaque, translucent and transparent;	Investigate the forces exerted by magnets	Explain the effects of force when applied to an object	
Week /	Week 6		Week 4 Week 5	Week 3		Week 2	Week 1	Week 7	Week 6	Week 5	Week 4	Week 3	Week 2	
	04E3-14D-9	S4ES-IVg-8	SSP_S4ES-IVf			S4ES-IVb-2	S4ES-IVa-1	S4FE-IIIh-5	SSP_S4FE-Ilig-	SSP_S4FE-IIIf-	SSP_S4FE-IIIe-	SSP_S4FE-Ille	S4FE-Illa-1	12

Grade Level: Grade 5 Subject: Science

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rate The learners should be able to o uses local, recyclable solid are and/or liquid materials in making useful products ges products The learners should be Evaluate the condition of materials whether they are useful or potentially harmful materials under the following conditions: 1 presence or lack of oxygen			2 application of heat			
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The learners should be able to uses local, recyclable solid and/or liquid materials in making useful Evaluate the condition of materials whether Week 1-2 they are useful or potentially harmful	S5MT-lc-d-2	Week 3-5	Investigate changes that happen in	products	materials undergo changes	
The learners should be able to uses local, recyclable solid Evaluate the condition of materials whether Week 1-2 and/or liquid they are useful or potentially harmful				materials in making useful	useful or harmful	
ate The learners should be able to uses local, recyclable solid Evaluate the condition of materials whether Week 1-2			they are useful or potentially harmful	and/or liquid	determine whether they are	
The learners should be able to		Week 1-2	Evaluate the condition of materials whether	uses local, recyclable solid	properties of materials to	181
The learners should be				able to	understanding of	
			•	The learners should be	The learners demonstrate	
Performance Standard Most Essential Learning Competencies Duration	K to 12 CG Code	Duration	Most Essential Learning Competencies	Performance Standard	Content Standard	Quarter

				their location in the sky.	
		particular times of the year		information derived from	
S5FE-IVI-J-9	Week 6-7	Identify star patterns that can be seen at	community folks	constellations and the	• •
			evidence to convince the	it associated with	
		appearance of the Moon	about the Moon and the Stars	the beliefs and practices	
S5FE-IVg-h-7	Week 5	Infer the pattern in the changes in the	debug local myths and folklore	the phases of the Moon and	
		daily life		environment.	
		Philippines and describe their effects to	Kit.	their effects on the	•
	Week 3-4	Characterize weather disturbances in the	prepares individual emergency	weather disturbances and	
		and the environment		things and the environment	
-		community and its effects on living things	community	and affect living	
S5FE-IVb-2	Week 2	Investigate extent of soil erosion in the	reduce soil erosion in the	shape the Earth's surface	
S5FE-JVa-1	Week 1	Describe how rocks turn into soil	participate in projects that	weathering and soil erosion	4 #
		electricity and magnetism in electromagnets			
	Week 7	Investigate the relationship between			
		number or type of components in a circuit	community	electromagnets	
S5FE-Ilig-7	Week 6	Determine the effects of changing the	useful for home school or	electricity and magnetism in	
		bulb light up	electromagnet that is	relationship between	
SSFE-IIIF-6	Week 5	Infer the conditions necessary to make a	propose device using	a simple DC circuit and the	
				on people and objects	
				electricity, light and sound	
				the effects of heat and	
		the object to absorb heat.			
S5FE-IIIe-5	Week 4	Investigate how colors affect the ability of		sound, heat;	
		interact with light, heat and electricity		interact with light and	
	Week 3	Explain how different types of materials		how different objects	\$
				•	

Grade Level: Grade 6 Subject: Science

induid be Describe the appearance and usesof h as has homogeneous and heterogeneous has homogeneous and heterogeneous has homogeneous and heterogeneous homogeneous homogeneous and heterogeneous homogeneous mixtures Describe techniques in separating mixtures such as decantation, evaporation, filtering, sieving and using magnet Explain how the organs of each organ usculo- tary, ns Explain how the different organ systems work together y, ns Determine the distinguishing re characteristics of vertebrates and invertebrates he Discuss the interactions among living olving trainforests, coral reefs and mangrove swamps Explain the need to protect and conserve tropical rainforests, coral reefs and mangrove swamps Explain the need to protect and conserve tropical rainforests, coral reefs and mangrove swamps		>	J. Common Otanian	_	Duration	K to 12 CG Code
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different types of mixtures such as drinks, food, and herbal different techniques to separate desired materials from common and local products. In make a chart showing the human body work together to form organ system system of vertebrates and invertebrates and i		understanding of	able to			
and their characteristics diriks, food, and herbal medicines. different techniques to separate desired medicines. separate mixtures and local products. separate mixtures and local products. how the major organs of the human body work together to form organ system system system system in the different characteristics of vertebrates and invertebrates and invertebrates and invertebrates and invertebrates and invertebrates in proposed as nursenies, coral reefs, and mangrove swamps and non-living places, and habitats for economically important plants and mirrors. separate desired medicines. different techniques to materials from common materials from	181	different types of mixtures	prepare beneficial and	Describe the appearance and usesof	Week 1-3	
different techniques to separate desired separate desired materials from common from organs of materials from common materials from common from organs of materials from common fiverebriates and inventory of community seen in the common fiving and non-living things that take place in protection and conservation of econystems in tal serve aconomically important plants and animals process, and habitats for economically important plants and animals places, and habitats for economically important plants and animals in the common materials from common filtering, sieving and using magnet matures such has desired mangrove swamps Describe techniques in separating. Describe techniques in separating. Describe techniques in separating. Explain how the organs of each organ work together departs of each organ using magnet. Explain how the organs of each organ systems. Week 1-2 system work together describers of each organ systems. Explain how the organs of each organ using magnet. Explain how the organs of each organ using magnet. Explain how the organs of each organ using magnet. Explain how the different organ systems. Week 4-5 work together describers of each organ work together. Explain how the different organ systems. Week 4-5 work together describers of each organ using magnet. Explain how the different organ systems. Week 4-5 work together describers of each organ using magnet. Explain how the different organ systems. Week 4-5 work together describers of vertebrates and invertebrates of vertebrates of vertebrates and invertebrates.		and their characteristics	useful mixtures such as	homogeneous and heterogeneous		
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r to form organ promote proper functioning of the musculo-skeletal, integumentary, digestive, circulatory, excretory, respiratory, and nervous systems 1. make an inventory of vertebrates and invertebrates that are community brates and invertebrates that are community 2. practice ways of caring and protecting animals living and non-living to tackle issues involving rainforests, coral reefs and mangrove as nursenes, breeding places, and habitats for economically important plants and animals To form organ systems Explain how the different organ systems Week 3 Explain how the different organ systems Week 4-5 work together work together braining the different organ systems Week 4-5 characteristics of vertebrates and invertebrates Invertebrates Determine the distinguishing work together betarions, and mervous systems Week 4-5 Invertebrates and invertebrates Determine the distinguishing work together Week 4-5 Invertebrates Determine the distinguishing Invertebrates Invertebrate		the human body work	healthful habits that	system work together		
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conservation of swamps ecosystems that serve ecosystems that serve as nurseries, breeding places, and habitats for economically important plants and animals		things that take place in	protection and	rainforests, coral reefs and mangrove		
ecosystems that serve as nurseries, breeding tropical rainforests, coral reefs places, and habitats for economically important plants and animals		tropical rainforests, coral	conservation of	swamps		
as nurseries, breeding places, and habitats for economically important plants and animals		reefs, and mangrove	ecosystems that serve	Explain the need to protect and conserve	Week 7	S6MI-III-J-6
places, and habitats for economically important plants and animals		swamps	as nurseries, breeding	tropical rainforests, coral reefs		
economically important plants and animals			places, and habitats for	and mangrove swamps		
plants and animals	•		economically important			
	•		plants and animals			

	•				
ع ص	gravity and friction affect movement of objects	produce an advertisement demonstrates road	Explainhow friction and gravity affect movements of different objects	Week 1-2	
		safety	Investigate different ways to reduce or increase friction on various types of surfaces	Week 3-4	
	how energy is transformed	create a marketing	Explain how potential energy and kinetic	Week 5-7	
	in simple machines	strategy for a new	energy are transformed in simple machines		
		product on electrical or			
411	the effects of earthquakes	design an emergency	Describe the changes on the Earth's	Week 1	S6ES-IVa-1
	and volcanic eruptions	and preparedness plan	surface as a result of earthquakes and volcanic eruptions		
			Enumerate what to do before, during	Week 2	S6ES-IVb-2
			and after earthquake and volcanic		
•			eruptions		
•	weather patterns and		Describe the different seasons in the	Week 3	S6ES-IVc-3
	seasons in the Philippines:		Philippines		
11	the earth's rotation and		Differentiate between rotation and	Week 4	
•	revolution		revolution and describe the effects of		
			the Earth's motions		
	11-1		Compare the planets in the solar system	Week 5-6	S6ES-IVg-h-6
			Construct a model of the solar system	Week 7	S6ES-IVI-j-7
			showing the relative sizes of the planets		
			and their relative distances from the Sun		

Source:

K to 12 Science Curriculum Guide, 2016 MELCs Guidelines, 2020 SSES Science Curriculum Guide, 2017

K to 12 Most Essential Learning Competencies



Prepared by:

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Grade 10 MELCs 1st Quarter 2nd Quarter 3rd Quarter 4th Quarter	Grade 9 MELCs 1st Quarter 2nd Quarter 3nd Quarter 4th Quarter	1st Quarter 2nd Quarter 3rd Quarter 4th Quarter Grade 8 MELCs 1st Quarter 2nd Quarter 2nd Quarter 3rd Quarter 4th Quarter 4th Quarter	Guidelines on the use of the Most Essential Learning Competencies (MELCs) for Science, Technology, and Engineering Program I. Rationale II. Background on the Identification of the Most Essential Learning Competencies III. III. Guide in Using the Enhanced MELC for Science, Technology, and Engineering (STE) Program
18 18-19 19 19-20	15 15-16 16-17 17	9-10 10 10-11 12-13 13-14	PAGE 3

GUIDELINES ON THE USE OF THE MOST ESSENTIAL LEARNING COMPETENCIES (MELCs) FOR SCIENCE, TECHNOLOGY, AND ENGINEERING PROGRAM

I. Rationale

global health crisis poses a profound impact on the basic education system as approximately 87% of the world's student population, that is 1.5 billion learners, have been affected by school closures (UNESCO, 2020). While interim distance and remote learning programs are being put in place in many locations, the most marginalized, poverty-stricken, and vulnerable children are also the most disadvantaged. As the COVID19 pandemic continues to impact various governments and economies around the world, even schools are not spared from its crippling effects. The current

vulnerable populations in these times is essential in achieving SDG4 (UNESCO, 2017). However, as UNESCO reiterates its stand in spite of the circumstances, 'Education cannot wait. If learning stops, we will lose human capital,' Thus, meeting the needs of the most As for the Philippines, ensuring the welfare of more than 27 million learners in the basic education alone requires indomitable commitment especially amidst this crisis.

strategic actions to address the issues and challenges in the education sector. DepEd stands with its basic principles that education must continue despite the pandemic. Thus, DepEd Along with its continued efforts to produce holistic Filipino learners equipped with 21st century skills, the Bureau of Curriculum Development released the Most Essential Learning affirms its commitment to sustaining the delivery of quality, accessible, relevant, and liberating Philippine basic education services anchored on the Sulong Edukalidad framework. constitution and in consideration to the present health crisis, the Department of Education developed the basic learning continuity plan to mobilize all stakeholders in engaging on is among the heavily affected sectors as schools and community learning centers have ceased operations for the conduct of physical classes. As a response to the mandate of the steps to make such education accessible to all. Whereas, the COVID-19 pandemic posed challenges to various sectors, especially in responding to basic rights. The education sector Competencies (MELCs) to implement throughout the country for the School Year 2020-2021. The release of MELCs is not just a response to the present pandemic but also a part of the long-term response to develop resilient educational systems most especially during emergencies. It is the mandate of the Philippine Constitution that the state shall protect and promote the right of all Filipinos to quality education at all levels, and shall take appropriate

continuity (curriculum dimension). However, releasing the MELCs does not downplay the standards set by the K to 12 curriculum guides. Rather, these serve as guide to teachers as the call of SDG 4 to develop resilient education systems, most especially during emergencies. Thus, it can be used under certain circumstances as a mechanism to ensure education SY 2020-2021 only. The release of the MELCs is not just a response to addressing the challenges of the current pandemic but is also part of the Department's long-term response to they address the instructional needs of learners while ensuring that curriculum standards are maintained and achieved. The content and performance standards are indicated in the attached documents for field implementers to recognize that the MELCs are anchored on the prescribed standards. Working on the said premise, the Department hereby releases the Most Essential Learning Competencies (MELCs) to be used nationwide by STE implementing schools for

they serve as guides for teachers as they address the instructional needs of learners while keeping and achieving the curriculum standards. converting classroom-oriented learning resources adapted to distance learning. Moreover, the MELCs do not diminish the standards set by the full K to 12 curriculum guides. Rather, instructional space. It also enables DepEd to focus instruction to the most essential and indispensable competencies that the learners must acquire and will lighten the burden of Furthermore, the MELCS intend to assist the schools in navigating the limited number of school days as they employ multiple delivery schemes by providing them ample

II. Background on the Identification of the Most Essential Learning Competencies

most essential competencies and skills fit to their chosen career paths in science, technology, engineering, and mathematics. learners in science and mathematics and the alignment of elementary, high school, and senior high school subjects (SSES, STE, and STEM). In this way, learners will develop the On the part of Science, Technology, and Engineering Program, these basic and most essential learning competencies were enhanced to address the needs of high aptitude

competencies. Initiated by Secretary Leonor Magtolis-Briones, the K to 12 curriculum review is not just meant to fulfill one of the provisions of Republic Act (RA) 105333 to review curriculum. Bureau specialists, academic experts and field implementers worked to reach a consensus regarding the criteria to be used and mechanism to adopt in determining these convene the Curriculum Consultative Committee to present the findings as provided for in Section 6 of the same Republic Act. Technology Research Centre (ACTRC), started working on the identification of essential learning competencies in the middle of 2019 as part of its initiative in reviewing the intended the curriculum but is her continuing commitment to ensure quality, relevant and liberating education. After the four phases of curriculum review are completed, the Secretary will The Department, through the Bureau of Curriculum Development - Curriculum Standards Development Division in collaboration with the Assessment Curriculum and

Moreover, areas for improvement that would enhance the learning engagement, experience and outcomes were recommended The review focused on articulation within and across learning areas which led to the identification of gaps, issues, and concerns across learning areas and grade levels.

Results of the review from the workshop series provided an overview of the articulation of learning competencies in each learning area. Specifically, the review covered the

- mapping of the essential and desirable learning competencies within the curriculum;
- identification of prerequisite knowledge and skills needed to prepare students for essential learning competencies; and
- analysis of the interconnectedness of prerequisite knowledge and skills among the learning competencies for each subject area

subsequent grade levels and consequently, for lifelong learning. On the other hand, desirable learning competencies were defined as what may enhance education but may not be necessary in building foundational skills, Essential learning competencies were defined as what the students need, considered indispensable, in the teaching-learning process to building skills to equip learners for

A list of characteristics of essential learning competencies was provided to help participants decide which among the learning competencies are deemed most important,

		ESSENTIAL II	Learning competency is			Charact
them to have this competence above many others.	4. If students left school after this grade, it would be important for	it is applicable to real-life situations.	it connects the content to higher concepts across content areas.	frameworks (eg. 'scientifically literate Filipinos').	1. it is aligned with national, state, and/or local standards/	Characteristics of an Essential Learning Competency

These characteristics are based on a US-developed competency validation rubric, which is intended to assure that learning competencies can reach the highest level of quality and comparability across schools (New Hampshire Department of Education, 2012); adaptations were made for relevance in the Philippine context. As the Department anticipates further reduced, thus, the term most essential learning competencies (MELCs). the challenges in employing various schemes in the delivery of the learning standards due to COVID19, the number of the identified essential learning competencies per quarter were

completed or if it is useful beyond a single test or unit of study. Examples of such learning competencies include research skills, reading comprehension, writing, map reading, and ENDURANCE - was considered the primary determining factor. A learning competency is considered enduring if it remains with learners long after a test or unit of study is application of these understandings. hypothesis testing, which are essential in many professions and in everyday life (Reeves, 2002; Many & Horrell, 2014). The Department then identified the MELCs through the In determining the criteria for the selection of the most essential learning competencies, the Department in consultation with stakeholders, during which the descriptor -

significant number of learning competencies is removed/dropped due to the following reasons: competencies are merged or clustered if they have the same objective or learning intention; and thus, can be combined into one comprehensive learning competency. In addition, a retained if it satisfies the endurance criterion which greatly contributes to life-long learning and is a pre-requisite skill to the next grade level. On the other hand, two or more learning Necessary in the above process is the decision whether a learning competency is to be retained, merged, dropped, or rephrased. As a general rule, a learning competency is

- they are too specific (and the articulation is similar to that of a learning objective)
- they are deemed appropriate to be introduced in an earlier quarter or grade level or moved to a later quarter or grade level
- they are recurring
- they are subsumed in another learning competency.

Finally, a learning competency is rephrased to be more concise.

content and performance standards as well as enhanced competencies are directly lifted from the 2014 enhanced curriculum guide and 2016 Training for STE in Cebu City. Its Schools in Region XI as a response to the status quo of the STE Curriculum. This will ensure that all STE implementing schools in the region are following the same MELCs. The teachers are encouraged to refer to the 2016 Curriculum Guides in unpacking the MELCs. inclusion is to emphasize that the identification of MELCs is anchored on the prescribed standards and not a departure from the standards-based basic education curriculum. Thus, The Department of Education, Regional Office XI through the Curriculum and Learning Management Division developed the Enhanced MELCs for the STE Implementing

even in this pandemic. It is noted that, by principle, the time allocated per subject on a daily basis did not change. This means that schools need to consider this aspect in employing concepts and skills in the MELCs through meaningful activities and scenarios relatable to them and within the context of the students' own environment. The MELCs are contexts of learners, teachers, learning environment and support structures considering both the content and performance standards. It is advantageous for students to learn the various delivery schemes. STE implementing schools in Region XI are encouraged to contextualize the most essential learning competencies in order to accommodate the varying learners are guaranteed relevant and quality basic education despite the current health crisis. implementable as long as the designed activities also teach the procedures and processes on how and when to apply those knowledge and skills in a given context. With these, Filipino All learning areas will still be taken up by the learners in all grade levels, albeit with streamlined competencies. This is to ensure that the learning outcomes are still achieved

ongoing review of the K to 12 curriculum. internal and external partners and stakeholders in the implementation of these guidelines in order to further enhance its provisions and findings which will serve as inputs to the The Department of Education, through the Office of the Undersecretary for Curriculum and Instruction, shall gather relevant feedback on a regular basis from all concerned

III. Guide in Using the Enhanced MELC for Science, Technology, and Engineering (STE) Program

enhanced to meet the standards of the STE program. In using the eMELCs, teachers are enjoined to observe the following guidelines: The enhanced most essential learning competencies (eMELCs) for the STE program is primarily anchored on the MELCs of the basic science education but were purposefully

- The eMELCs are the same MELCs in the basic science education, however, with additional learning competencies. These additional learning competencies are aligned on the content-standards and performance standards of the K to 12 basic science education curricula in consonance with the minimum MELCs.
- The eMELCs are broad statements that need to be unpacked by teachers. However, in some instances, the eMELCs may be used as standalone learning objectives whenever applicable.
- In delivering instruction, the time frame allotted to teach an eMELC is flexible in consideration to the learning difficulties that learners may experience in the new normal

Subject:

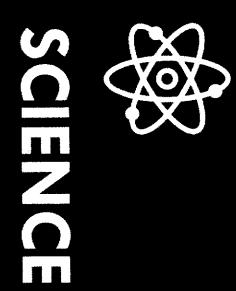
Selence

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	D. K.) 10.7	77012 ()
					Code
	knowledge [25] (111)2 (4)11		Describe the components of a scientific investigation	Week I	S7MT-la-1
		ocally available materials.	s using Theseribe how to manipulate common laboratory apparatus (balance, beaker, graduated extinder)	Week I	
			apparates manace reason graduated comments		
	classify and	Cdn:	Recognize that substances are classified into		S7MT-lg-h-5
	or continue of the second second	A Cincuts	elements and compounds		mananta a francisco mananta de la completa de la caleda.
		The state of the s	Recognize uses of elements and compoundy		
			Recognize u		
<u> </u>	the propert	To some of the particular to the sound of th	ics of Distinguish		S7MT-1e-6-4
	distinguish them from maximes.	naxures of varying concentrations set of proper	set of proper		
		using available materials in the	Determine F. F. C.		
		community for specific purposes.	natural ind		
			Manipulate 🗡 💮 👺 💮		
			(balance, beaker, graduated cylinder, meter		!
			stick, thermometer).		THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, THE PERSON NAMED IN COLUMN TWO IS NOT THE OWNER, T
	some important properties of	Prepare different concentrations of	hivestigate properties of unsaturated or saturated	Week o	SIMP4c-2
	solutions.	mixtures according to uses and	solutions.		
		availability of materials.	Express concentrations of solutions quantitatively	Meck 1	STMT-Id-3
			by preparing different concentrations of anxieres		
			according to uses and availability of materials		

Sale

irade level: 8 Subject: 8	Science	1 1 1 1 1 1	Howaval, in some libranical visua		
Quarter	Content Standard	Performance Standa		CRAIRON	Carle
	The learners demonstrate	The learners should			
7	Newton's three laws of motion.	develop a written		Week !	SNEE-La-15
			an equal amount of force tyes.	West -	Port College
			Solve problems involving force,	Week 2	
			linear acceleration.	K	
	The second secon		Relate Newton's laws of motion to bodies in	<i>"</i>	
			1		
	work using constant force, power,		factors that affect	Week 2-3	
	gravitational patential energy.				
	Sinctic energy, and classic potential		rand	Week 2-3	
	CHETTAN TO THE TANK T		energy conceptually and mathematically.		
	the propagation of sound through		Calculate the speed of sound in reference to	Week 4	
	solid liquid and gas		temperature.		
			•		





Week 1 Ty Week 1 Er, Week 2-3 Ito Week 2-3 Week 2-3 Week 4-5 In Week 4-5 Fer Week 4-5 Fer Week 6 Week 4 Ind Week 2 Ind Week 3 Ito Week 4 Week 4 Week 4 Ito Week 4	1		f	M Tomatical I country Compatantias	DITRATION	Kto12 CG
scientific ways of acquiring perform in groups in guided knowledge and solving problems. classifying substances as elements or compounds. classifying substances as elements or common elements elements elements elements and compounds. classifying substances as elements or common elements elements elements and compounds. classifying substances as elements or common elements elements elements and compounds. classifying substances as elements make a chart, poster, or multimedia Recognize uses of elements and compounds. commonly for specific purposes. distinguish them from mixtures. community for specific purposes. mixtures or cording to sees and solutions. solutions. are rick, thermoneter). classified into Week 2-3 meter tick, thermoneter). Recognize uses of elements and compounds. Rec	Quarter	Content Standard	reflormance Stauparu	MOST ESSERTIAL ECALITIES COMPETENCES		Code
knowledge and solving problems. classifying substances as elements or compounds. classifying substances as elements or compounds. classifying substances as elements and compounds. classifying substances as elements or compounds. classifying substances as elements or compounds. classifying substances as elements or compounds. classifying substances as elements and compounds. classifying substances as elements or common elements elements and compounds. compounds. classifying substances as elements or common elements elements and compounds. compounds. classifying substances as elements and compounds. compounds. compounds. compounds. compounds. common poperties of poperties of Distinguish mixtures from substances based on a Recognize uses of elements and non-metals. community for specific purposes. community for specific purposes. common iaboratory week 2-3 mixtures of varying concentrations set of properties of poperties of partial indicators. common iaboratory week 2-3 mixtures of common elements and compounds. common iaboratory week 2-3 mixtures of substances are classified into Week 4-5 mixtures of substance of substance of substance of substance of subs		The learners demonstrate	The learners should be able to			
community-based problems using Describe how to manipulate common laboratory locally available materials. Collastifying substances as elements or compounds Collastifying substances as elements Collastifying substances as elements Collastifying substances as elements Collastifying substances as elements Community for common elements Community for common elements Community for specific purposes Community of materials Compound microscope Community of materials Community of materials Community of the compound Community for specific purposes Community f	St	ways of	groups in	Describe the components of a scientific investigation	Week 1	S7MT-Ia-1
classifying substances as elements make a chart, poster, or multimedia or compounds. or compounds. or compounds. or compounds. or compounds. the properties of substances that distinguish them from mixtures. uses. the properties of substances that investigate the properties of varying concentrations uses. Investigate the properties of Distinguish mixtures from substances based on a wilable materials in the part and functions of the using the compound microscope. the different levels of biological organization the different cells. organization from mixtures of varying concentrations of presence or absence of certain organizatios. Investigate properties of Distinguish mixtures from substances based on a Week 4-5 natural indicators. Optimization functions of lavestigate properties of unsaturated or saturated week 4-5 hadance, beaker, gradiated cylinder, meter stick, thermoneter). Some important properties of mixtures according to uses and availability of materials. The properties of unitions of the using the compound microscope to unsaturated or saturated week 6 using the compound microscope to unsaturated or saturated using the compound of uncitons. Identify parts of the microscope and their week 1 using the compound microscope. Incroscope. Differentiate plant and animal cells according to week 4-5 presence or absence of certain organizes.			community-based problems using locally available materials.	Describe how to manipulate common laboratory apparatus (balance, beaker, graduated cylinder, meter stick, thermometer).	Week 1	
the properties of substances that distinguish them from mixtures. the properties of substances that distinguish them from mixtures. the properties of substances that distinguish them from mixtures. the properties of substances that mixtures of varying concentrations adistinguish them from mixtures. Some important properties of solutions. solutions. The parts and functions of the ompound microscope. The different levels of biological plant cells. The difference between animal and plant cells. The difference different cancentration and functions of substances based on a wilability of materials in the community for specific purposes. The parts and functions of the different concentrations of the different levels of biological organization. The difference between animal and plant cells. The difference different cancentration and functional unit of all organizations. The parts and functions of the different levels of biological organizations. The parts and functions of the different levels of biological organization from cell to biosphere. The difference between animal and plant cells. The difference betwe		classifying substances as elements	make a chart, poster, or multimedia presentation of common elements	es are	Week 2-3	S7MT-Ig-h-5
the properties of substances that distinguish them from mixtures of varying concentrations set of properties and substances based on a week 4-5 using available materials in the community for specific purposes. some important properties of solutions. solutions. The different levels of biological plant and plant cells. The difference between animal and plant and animal cells according to the cell accord		oi compounds.	showing their names, symbols, and	Recognize uses of elements and compounds.	Week 2-3	
the properties of substances that distinguish them from mixtures. distinguish them from mixtures. distinguish them from mixtures of varying concentrations with the properties of mixtures of varying concentrations of using available materials in the community for specific purposes. some important properties of solutions. solutions. The parts and functions of the parts and functions of the different levels of biological organization. The different levels of biological plant cells. Differentiate plant and animal cells according to uses and plant cells. Differentiate plant and animal cells according to Week 4.5 Differentiate plant and animal cells according to Week 4.5 Differentiate plant and animal cells according to Week 4.5 Differentiate plant and functional unit of all organizans. Differentiate plant and functional unit of all organisms.			uses.	Recognize uses of metals and non-metals.	Week 2-3	
using available materials in the common laborators. Determine basic and acidic mixtures using week 4-5		the properties of substances that	investigate the properties of	Distinguish mixtures from substances based on a set of properties	Week 4-5	S7MT-le-f-4
some important properties of solutions. Some important properties of solutions. The different levels of biological plant cells. The difference between animal and plant cells. Some important properties of solutions. Some important properties of solutions of investigate properties of uses and solutions. Solutions. Some important properties of mixtures according to uses and solutions. Solutions. Some important properties of mixtures according to uses and solutions of mixtures according to uses and solutions of solutions of solutions of mixtures according to uses and availability of materials. Express concentrations of solutions quantitatively week 7 Express concentrations of the microscope and their functions. Some important properties of uses and solutions. Express concentrations of the microscope and their week 1 Some important properties of uses and solutions. Subtions. Subtions. Subtions. Subtions. Specimens using the compound Week 2 Manipulate common laboratory apparatus Week 6 Solutions. Subtions. Specimens using the compound Week 2 Meek 1 Different levels of biological organization from cell to biosphere. Differentiate plant and animal cells according to week 4 Specimens using the compound Week 2 Differentiate plant and animal cells according to week 4 Specimens using the compound Week 2 Differentiate plant and animal cells according to week 4 Specimens using the compound Week 2 Differentiate plant and animal cells according to week 4 Specimens are according to biological week 4 Specimens are according to be week 4 Specimens are according to be according to biological week 4 Specimens are according to be accor		O	using available materials in the community for specific purposes.	Determine basic and acidic mixtures using natural indicators.	Week 4-5	
some important properties of solutions. Prepare different concentrations of Investigate properties of uses and solutions. Express concentrations of solutions of mixtures according to uses and availability of materials. the parts and functions of the compound microscope. the different levels of biological organization. the different levels of biological plant cells. The difference between animal and plant cells. The difference of certain organization organisms. Structural and functions. Structural and functions of Investigate properties of uses and solutions quantitatively week 7 Explain why the cell is considered the basic week 4 Structural and functions. Structural and functions. Structural and functions of Investigate properties of uses and solutions quantitatively week 7 Explain why the cell is considered the basic week 4				Manipulate common laboratory apparatus (balance, beaker, graduated cylinder, meter	Week 4-5	
some important properties of solutions. Prepare different concentrations of solutions. Solutions. Prepare different concentrations of investigate properties of unsaturated or saturated solutions. Solutions. Solutions. Prepare different concentrations of solutions. Express concentrations of solutions quantitatively by preparing different concentrations of mixtures according to uses and availability of materials. He parts and functions of the employ appropriate techniques compound microscope to functions. The different levels of biological organization. The difference between animal and plant cells. Prepare different concentrations of solutions quantitatively by preparing different concentrations of mixtures according to uses and availability of materials. Focus specimens using the compound Week 2 microscope. Differentiate plant and animal cells according to presence or absence of certain organization. Explain why the cell is considered the basic week 4 structural and functional unit of all organisms.				stick, thermometer).	***	27.7
the parts and functions of the compound microscope. the different levels of biological organization. the difference between animal and plant cells. availability of materials. the parts and functions of the employ appropriate techniques different to specimens using the compound microscope to gather data about very small objects. The difference between animal and plant cells. The different levels of biological week 2 organization from cell to biosphere. The difference between animal and plant cells according to week 3 organization from cell is considered the basic week 4 structural and functional unit of all organisms.		some important properties of solutions.	tration	Investigate properties of unsaturated or saturated solutions.	Week 6	S/M1-1c-2
the parts and functions of the compound microscope. compound microscope. the different levels of biological organization. the difference between animal and plant cells. The difference of the employ appropriate techniques functions. gather data about very small objects. Describe the different levels of biological organization from cell to biosphere. Differentiate plant and animal cells according to week 4 presence or absence of certain organisms. Explain why the cell is considered the basic week 4 structural and functional unit of all organisms.			•	Express concentrations of solutions quantitatively by preparing different concentrations of mixtures according to uses and availability of materials.	Week 7	S7MT-Id-3
gather data about very small objects. Focus specimens using the compound Week 2 microscope. Describe the different levels of biological week 3 organization from cell to biosphere. Differentiate plant and animal cells according to presence or absence of certain organelles. Explain why the cell is considered the basic structural and functional unit of all organisms.	2 nd	parts and functions of	employ appropriate techniques using the compound microscope to	Identify parts of the microscope and their functions.	Week 1	S7LT-IIa-1
different levels of biological anization. Describe the different levels of biological organization from cell to biosphere. Differentiate plant and animal cells according to presence or absence of certain organelles. Explain why the cell is considered the basic structural and functional unit of all organisms.		compound unaconope.	gather data about very small objects.	specimens using the cope.	Week 2	S7LT-IIb-2
nce between animal and Differentiate plant and animal cells according to presence or absence of certain organelles. Explain why the cell is considered the basic structural and functional unit of all organisms.		different levels of		e different levels of from cell to biosphere	Week 3	S7LT-IIc-3
Explain why the cell is considered the basic Week 4 structural and functional unit of all organisms.		the difference between animal and			Week 4	S7LT-IId-4
		DIMAR CÓLIO.		Explain why the cell is considered the basic structural and functional unit of all organisms.	Week 4	S7LT-IIe-5

	4 th			3 <u>2</u>		
the different phenomena that occur in the atmosphere.	the relation of geographical location of the Philippines to its environment.	how heat is transferred. charges and the different charging processes.	the characteristics of light.	conduct a forum on mitigation and disaster risk reduction.	organisms interacting with each other and with their environment to survive.	reproduction being both asexual or sexual.
	analyze the advantage of the location of the Philippines in relation to the climate, weather, and seasons		suggest proper lighting in various activities.	conduct a forum on mitigation and disaster risk reduction.		
Discuss how energy from the Sun interacts with the layers of the atmosphere Account for the occurrence of land and sea breezes, monsoons, and intertropical convergence zone (ITCZ). Using models, relate: 1 the tilt of the Earth to the length of daytime 2 the length of daytime to the amount of energy received	Demonstrate how places on Earth may be located using a coordinate system. Cite and explain ways of using Earth's resources sustainably.	Infer the conditions necessary for heat transfer to occur. Describe the different types of charging processes.	Describe the characteristics of sound using the concepts of wavelength, velocity, and amplitude. Explain color and intensity of light in terms of its wave characteristics.	Calculate speed, velocity and acceleration. Determine the resultant vector using graphical method. Create and interpret visual representation of the motion of objects such as tape charts and motion graphs.	Differentiate biotic from abiotic components of an ecosystem. Describe the different ecological relationships found in an ecosystem. Predict the effect of changes in abiotic factors on the ecosystem.	Differentiate asexual from sexual reproduction in terms of: 1. Number of individuals involved; 2. Similarities of offspring to parents.
Week 3 Week 4-5	Week 1	Week 6 Week 7	Week 4 Week 5	Week 1-2 Week 3 Week 3	Week 6 Week 7	Week 5
S7ES-IVf-7 S7ES-IVh-9	S/ES-1 Va-1	S7LT-III-j-13	S7LT-III-d-7	S/FE-IIIb-3 S7FE-IIIb-3 S7I-T-III-c-4	S7LT-IIh-9 S7LT-IIh-10 S7LT-IIj-12	S7LT-IIg-7

		the occurrence of eclipses.					
Recognize that soil, water, rocks, coal, and other fossil fuels are Earth materials that people use as resources.	Describe the location of the Philippines with respect to the continents and oceans of the world.	Explain how solar and lunar eclipses occur using models.	Analyze and interpret patterns of tides and relate them to the position of the moon and the Sun with respect to the Earth.	the area receives 6 tilt of the Earth and the seasons.	energy received 5 the latitude of an area to the amount of energy	of the Sun in the sky 4 the height of the Sun in the sky to the amount of	3 the position of the Earth in its orbit to the height
Week 7	Week 7	Week 6	Week 4-5		1. a. arany		
S7ES-IVb-3	S7ES-IVa-2						

Grade level: 8
Subject: Science

}))) (4)	2			
Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	DURATION	Code
	The learners demonstrate understanding of	The learners should be able to	-		
181	Newton's three laws of motion.	develop a written plan and implement a "Newton's Olympics".	Investigate the relationship between the amount of force applied and the mass of the object to the amount of change in the object's motion	Week 1	S8FE-Ia-15
			Infer that when a body exerts a force on another, an equal amount of force is exerted back on it	Week 2	S8FE-Ia-16
			Solve problems involving force, mass and	Week 2	
			linear acceleration.		
			Relate Newton's laws of motion to bodies in		1
			uniform circular motion.		
	OI.		Identify and explain the factors that affect	Week 2-3	
	gravitational potential energy,		potential and kinetic energy		
	7		Describe how work is related to power and	Week 2-3	1
	energy:		energy conceptually and mathematically.		
	the propagation of sound through		Calculate the speed of sound in reference to	Week 4	
	solid, liquid, and gas.		temperature.		
	some properties and characteristics	discuss phenomena such as blue	Explain the hierarchy of colors in relation to the	Week 4	S8FE-If-27
	of visible light.	sky, rainbow, and red sunset using	energy of visible light		
		the concept of wavelength and frequency of visible light.			· · · · · · · · · · · · · · · · · · ·
	heat and temperature, and the effects		Differentiate between heat and temperature at the	Week 4	S8FE-Ig-29
	current- voltage-resistance		Infer the relationship between current and voltage	Week 5-6	
,	relationship, electric power, electric		Explain the advantages and disadvantages of	Week 7	S8FE-Ii-31
	energy; and home circuitry.		series and parallel connections in homes		
			Explain the functions of circuit breakers, fuses,	Week 7	S8FE-Ii-33
			earthing, double insulation, and other safety		
				111	
7	carthquakes.	where to build structures based on	movements along faults generate earthquakes	Week 1	38E3-118-14
		knowledge of the location of active	Differentiate the epicenter of an earthquake from	Week 1-2	S8ES-IIa-15
		faults in the community.	its focus.		

			(L)					
4 th			3 rd					
1. the digestive system and its interaction with the circulatory, respiratory, and excretory systems in providing the body with nutrients for energy	the identity of a substance according to its atomic structure. the periodic table of elements as an organizing tool to determine the chemical properties of elements.		the particle nature of matter as basis for explaining properties, physical	characteristics of comets, meteors, and asteroids.	movement within the PAK.	the formation of typhoons and their		
present an analysis of the data gathered on diseases resulting from nutrient deficiency.		cycle.	present how water behaves in its different states within the water	discuss whether or not beliefs and practices about comets and meteors have scientific basis.	typhoon, including following advisories, storm signals, and calls for evacuation given by government agencies in charge 2. participate in activities that lessen the risks brought by typhoons.	1. demonstrate precautionary	home and in school.	2. make an emergency plan and
Explain ingestion, absorption, assimilation, and excretion.	Determine the number of protons, neutrons, and electrons in a particular atom Use the periodic table to predict the chemical behavior of an element.	a compound Explain physical changes in terms of the arrangement and motion of atoms and molecules Trace the development of the electronic structure of the atom.	Explain the properties of solids, liquids, and gases based on the particle nature of matter	Compare and contrast comets, meteors, and asteroids.	Trace the path of typhoons that enter the Philippine Area of Responsibility (PAR) using a map and tracking data.	Discuss the different effects of typhoons such as	Explain how landmasses, bodies of water, sea surface temperature, wind shear and Coriolis	Explain how earthquake waves provide information about the interior of the earth.
Week 1	Week 7-8	Week 3-4 Week 5	Week 1-2	Week 6	Week 5		Week 4-5	Weck 3
S8LT-IVa-13	S8MT-IIIe-f-10 S8MT-IIIi-j-12	S8MT-IIIc-d-9	S8M1-111a-b-8	S8ES-IIg-22	S8ES-IIf-21			S8ES-IIc-17

		ecosystem.	the one-way flow of energy and the cycling of materials in an	classified into a hierarchical taxonomic system.	as being further	1. the concept of a species.		producing genetic variations of the Mende	2. meiosis as one of the processes	 how cells divide to produce new cells. 	2. diseases that result from nutrient deficiency and ingestion of harmful substances, and their prevention and treatment.
			make a poster comparing food choices based on the trophic levels.	endangered and economically important species.	on the activities that communities engage in to protect and conserve	report (e.g., through a travelogue)			,	report on the importance of variation in plant and animal breeding.	
Suggest ways to minimize human impact on the environment.	Explain how materials cycle in an ecosystem.	Analyze the roles of organisms in the cycling of materials.	Describe the transfer of energy through the trophic levels.		Classify organisms using the hierarchical taxonomic system.	Explain the concept of a species.	Apply understanding of biotechnology used in the livelihood, promotion of food production and health.	Predict phenotypic expressions of traits following simple patterns of inheritance.	Explain the significance of meiosis in maintaining the chromosome number.	Compare mitogis and meiosis, and their role in the cell-division cycle.	
Week 7	Week 6	Week 6	Week 5	Week 5	Week 4	Week 4	Week 3	Week 3	Week 2	Week 2	
S8LT-IVj-25	S8LT-IVi-24	S8LT-JVi-23	S8LT-IVi-22	S8LT-IVh-21	S8LT-IVh-20	S<-IVg-19	S8LT-IVf- 18	S8LT-IVf-18	S8LT-IVe-17	S8LT-IVd-16	

Grade level: 9
Subject: Science

Quarter	Content Standard	Performance Standard	Most Essential Learning Competencies	DURATION
	The learners demonstrate understanding of	The learners should be able to		
St	 how the different structures of the circulatory and respiratory systems 	conduct an information dissemination activity on effective	Explain how the respiratory and circulatory systems work together to transport nutrients,	Week 1-2
	work together to transport oxygen-	ways of taking care of the	gases, and other molecules to and from the	
•	different parts of the body 2. the	based on data gathered from the	Infer how one's lifestyle can affect the	Week 2
	prevention, detection, and treatment	school or local health workers.	of respiratory and circul	
	of diseases affecting the circulatory			
	ratory systems.			
	organized in genes on chromosomes		Explain the different patterns of non-Mendelian inheritance.	Week 3-4
	inheritance.			
			Explain how modern biotechnology works.	Week 3-4
				Week 3-4
			addressing certain situations or solving some problems (e.g. crimes).	
	how changes in the environment	nultimedia presentation o		Week 5
	may affect species extinction.		populations of organisms to adapt to abrupt	
		representative microorganisms, plants, and animals	changes in the environment.	
	1. the structure and function of plant	design and conduct an investigation	Differentiate basic features and importance of	Week 6-7
	parts and organelles involved in photosynthesis.	to provide evidence that plants can manufacture their own food.	photosynthesis and respiration.	
	2. the structure and function of			
	as			
2 nd	1. the development of atomic		Explain how the Quantum Mechanical Model of	Week 1
	The second secon		are mount described and energy to my hoomstone or	

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the relationship between the visible constellations in the sky and Earth's position along its orbit.	to adapt accordingly.	factors that affect climate, and the effects of changing climate and how			voicances found in the ramppines.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	particies of matter.	measures the number of very small	the unit, mole, that quantitatively									Actification.	compounds	that result in the diversity of carbon	the type of hands that carbon forms	3. forces that hold metals together.	electrons	atoms by transferring or by sharing	There atoms combine with other	atoms.	the behavior of electrons within
discuss whether or not popular beliefs and practices with regard to	change.	participate in activities that reduce risks and lessen effects of climate					appropriate percentage composition.	products and decide on the products?	analyze the percentage composition																		
Show which constellations may be observed at different times of the year using models.	Describe certain climatic phenomena that occur on a global level.	Explain how different factors affect the climate of an area.	Illustrate how energy from volcanoes may be tapped for human use.	Explain what happens when volcanoes crupt.	volcanic eruption.		compound given its chemical formula and vice	Determine the nercentage composition of a	Use the mole concept to express mass of	organic compounds	Recognize the general classes and uses of	affects the type of bonds it forms	Explain how the structure of the carbon atom	Write and name simple inorganic compounds.	shape.	Describe important hybrid orbitals and their	Predict the geometry of the malecules using the VSEPR model.	and thermal conductivity	melting point, hardness, polarity, and electrical	or covalent) based on their properties such as	Recognize different types of compounds (ionic				bonding,	Illustrate Lewis theory of ionic and covalent	the electrons.
Week 8-9	Week 6-7	Week 5-6	Week 3-4	Week 2	17 COX. 1	West 1		Week 8	Week 7		Week 6		Week 4-5	Week 2-3		Week 2-3	Week 2-3				Week 1						
S9ES -IIIj-33	S9ES -IIIf-3 į	S9ES -IIIe-30	S9ES -IIIc-d-29	S9ES -IIIb-28			- L	S9MT-IIi-20	S9MT-IIi-19		S9MT-IIh-18		S9MT-IIg-17							-	S9MT-IIb-14						

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		from power plants (hydroelectric, geothermal, wind, nuclear) to home.	distribution of electrical energy	transmission		The relationship among heat, work, and efficiency.		conservation of mechanical energy.								linear momentum.	momentum, and conservation of	projectile motion, impulse and				i i i i i i i i i i i i i i i i i i i
						analyze how power plants generate and transmit electrical energy.	conservation of mechanical energy.	create a device that shows									related to projectile motion.	propose ways to enhance sports			scientific basis.	constellations and astrology have
device.	Explain the functions of resistor, capacitor, diode, semi-conductor and inductor in an electronic		transmitted, and distributed.	Fanlain how electrical energy is generated	Explain how heat transfer and energy	Construct a model to demonstrate that heat can do work	mechanical energy	Perform activities to demonstrate conservation of	collision is equal	Infer that the total momentum before and after	objects (e.g., vehicular collision)	Relate impulse and momentum to collision of	equations.	Predict projectile motion using kinematic	release and the height and range of the projectile	Investigate the relationship between the angle of	projectile	Describe the horizontal and vertical motions of a	galaxies.	Identify and compare the different types of		
	Week 7	Territor material resultant de la constitución de l	** CCM (0-7	Week 6-7	Week 6	Week 5		Week 4		Week 3		Week 3				Week 1-2		Week 1	i.	Week 8-9		
				S9FF-IVh-i-46	S9FE-IVg-45	S9FE-IVe-42		S9FE-IVd-40		S9FE-IVb-37		S9FE-IVb-36				S9FE-IVa-35		S9FE-IVa-34				

Grade level: 10 Science

						2 nd								1st		Quarter
the relationship between electricity and magnetism in electric motors		the images formed by the different types of mirrors and lenses.				the different regions of the electromagnetic spectrum.							(the relationship among the locations of volcanoes, earthquake epicenters, and mountain ranges.	The learners demonstrate understanding of	Content Standard
									erupuons.	earthquakes, tsunamis, and volcanic	e to government efforts	2. suggest ways by which he/she can	eruptions.	1. demonstrate ways to ensure disaster preparedness during earthquakes, tsunamis, and volcanic	The learners should be able to	Performance Standard
	Identify ways in which the properties of mirrors and lenses determine their use in optical instruments (e.g., cameras and binoculars)	Predict the qualitative characteristics (orientation, type, and magnification) of images formed by	Explain the effects of EM radiation on living things and the privironment	of radio waves in telecommunications	Cite examples of practical applications of the different regions of EM waves, such as the use	Compare the relative wavelengths of different forms of electromagnetic waves	Relate geologic processes that occur in the Philippines to its tectonic setting.	Analyze a simplified Philippine tectonic map.	Relate rock cycle to plate boundaries.	Enumerate the lines of evidence that support plate movement.	Describe the possible causes of plate movement.	Explain the different processes that occur along the plate boundaries.	Describe the different types of plate boundaries.	Describe and relate the distribution of active volcanoes, earthquake epicenters, and major mountain belts to Plate Tectonic Theory.		Most Essential Learning Competencies
Week 9	Week 8	Week 6-7	Week 5		Week 3-4	Week 1-2	Week 8	Week 8	Week 7	Week 7	Week 5-6	Week 5-6	Week 4	Week 1-3		DURATION
S10FE-IIj-54	S10FE-IIh-52	S10FE-IIg-50	S10FE-IIe-f-49		S10FE-IIc-d-48	S10FE-IIa-b-47	S9ES1a-j- 36.6			S10ES-Ia-j-36.6	S10ES-Ia-j-36.5	S10ESIa-j-36.3	S10ES-Ia-j-36.2			Kto12 CG Code

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			4									3rd	
		motion and relative distances between gas particles.	a limited num		I. the influence of biodiversity on the stability of ecosystems.	how evolution through natural selection can result in biodiversity.	3. mutations that occur in sex cells as being heritable.	2. how changes in a DNA molecule may cause changes in its product.	1. the information stored in DNA as being used to make proteins.	 how these feedback mechanisms help the organism maintain homeostasis to reproduce and survive. 	by the nervous and endocrine systems.	1. organisms as having feedback mechanisms, which are coordinated	and generators.
			5.			Write an essay on the importance of adaptation as a mechanism for the survival of a species.						,	
	a gas 3 explains these relationships using the kinetic molecular theory 4 volume of the gas and the amount of the gas	1 volume and pressure at constant temperature of a gas 2 volume and temperature at constant pressure of	Explain the telationship between population growth and carrying capacity.	Explain how species diversity increases the probability of adaptation and survival of organisms in changing environments.	Explain the occurrence of evolution.	Explain how fossil records, comparative anatomy, and genetic information provide evidence for evolution.	d with biotechnology,	structure and function of a protein Discuss some social and ethical issues	Explain how protein is made using information from DNA. Explain how mutations may cause changes in the	Describe how the nervous system coordinates and regulates these feedback mechanisms to maintain homeostasis.	Describe the feedback mechanisms involved in regulating processes in the female reproductive system (e.g., menstrual cycle).	Explain the role of hormones involved in the female and male reproductive systems.	
		Week 1-2	Week 7	Week 7	Week 6	Week 5		Week 4-5	Week 4	Week 3	Week 2	Week 1	
		2 - M. 1 - 11 - 20	S10LT-IIIi-42	S10LT-IIIh-41	S10LT-Iigb-40	S10LT-IIIf-39		S10LT-IIIe- 38	S10LT-111d-37	S10LT-IIIc-36	S10LT-IIIc-35	S10LT-IIIb-34	

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Region XI

the structure of biomolecules, which are made up mostly of a limited number of elements, such as carbon,		Recognize the major categories of biomolecules such as carbbhydrates, lipids, proteins, and nucleic acids	Week 3
hydrogen, oxygen, and nitrogen.		Determine the presence of specific. biomolecules in common food items and	Week 3-4
		organic materials	
		Represent the structures of biomolecules such as carbohydrates, lipids, proteins, and nucleic acids	Week 3-4
-	using any form of media, present	Discuss the different evidences of a chemical	Week 5
	chemical reactions involved in		
processes affecting life and the environment.	biological and industrial processes affecting life and the environment,	Apply the principles of conservation of mass to chemical reactions	Week 5
		State the factors that affect the reaction rate and how these factors affect the rate of reaction.	Week 6
		Explain how the factors affecting rates of	Week 6
		chemical reactions are applied in food	
		preservation and materials production, control of	
,		and corrosion	-
	,	Write and balance chemical equations by	Week 7-8
		inspection.	<i>i</i>
		Relate mass-mole-number-volume of reactants	Week 7-8
		and products in a chemical reaction.	,

Sources:

DepEd MELCs, 2020
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Curriculum Guide for Enhanced Science, 2014