



Course syllabus

Class: MS 2/4 (IEP)

Science Department

Semester: 1 School Year: 2016

Subject: Science 3

Code: SC 22101

Period 3/Week

Credit: 1.5 unit

Science Department

Wimutayarampittayakorn School

Semester: 1

School Year: 2016

Teacher: Miss Pilaiwan Thongmak

Course Description

Study, analyze separation techniques of mixtures, compound and elements; properties of metals, non-metals, semi-metals and radioactive substances; Chemical reactions and chemical equations, chemical substances, chemical reactions for life and the environment; soil formation, soil profile, factors affecting formation of soil, soil property, the use and soil improvement; the formation, character and property of soil, source and the usefulness of rocks, rock cycle, character and property of minerals, types, sources and the usefulness of minerals; the formation of minerals and sources of mineral in Thailand; the use of petroleum, coal and natural gas; formation of surface water, ground water, the use and local water source conservation, disasters from water; Earth's structure, the relationship of the Earth's system, geological changes on the Earth; study forces exerted on an object, magnitude and direction of a force, resultant force and net force; By scientific methods, searching, discovering and testing data and discussing, to create knowledge, ideas and, understanding. Student can communicate, make decisions and bringing the knowledge to use in everyday life; Scientific mind, ethic, moral and suitable attitudes.

Indicator codes

Sc. 3.1 M. 2/1, M. 2/2, M. 2/3

Sc. 3.2 M. 2/1, M. 2/2, M. 2/3, M. 2/4

Sc. 4.1 M. 2/1, M. 2.2

Sc. 6.1 M. 2/1, M. 2/2, M. 2/3, M. 2/4, M. 2/5, M. 2/6, M. 2/7, M. 2/8, M. 2/9, M. 2/10

Total 19 Indicator codes

Course Outline

Science Department

Subject: Science 3

Code: SC21101

Teacher: Miss Pilaiwan Thongmak

Time: 60 hours

Credit: 1.5 unit

Class: MS 2/4 (IEP)

Semester: 1

School Year: 2016

Week & Topic	Learning Objectives & Content	Hrs	Materials & Activities	Remarks
Week 1 <i>Chapter 1:</i> <i>Matter and</i> Changing of Matter	1. Element, Compounds and mixture	3	Teaching Materials: <ul style="list-style-type: none"> • Computer & Projector • Worksheets • Teacher Website Activities <ul style="list-style-type: none"> • Exercises • Presentation (PPT) • Experiments Assessment Participation <ul style="list-style-type: none"> • Exercises 	
Week 2 <i>Chapter 1 Matter</i> <i>and</i> Changing of Matter	2. States of Matter - What is Matter Made of? - The Properties of Matter	3	Teaching Materials: <ul style="list-style-type: none"> • Computer & Projector • Worksheets • Teacher Website Activities <ul style="list-style-type: none"> • Exercises • Presentation (PPT) • Experiments 	
Week 3 <i>Chapter 1 Matter</i> <i>and</i> Changing of Matter	3. The Changes of State	3	Teaching Materials: <ul style="list-style-type: none"> • Computer & Projector • Worksheet • Power point Activities <ul style="list-style-type: none"> • Seat work with Worksheets 	

			<ul style="list-style-type: none"> Experiments Assessment	
Week 4 & 5 & 6 <i>Chapter 1 Matter and</i>	The separation of mixtures - filtration - Extraction - Chromatography - distillation	9	Teaching Materials: <ul style="list-style-type: none"> Computer & Projector Worksheets Teacher Website Activities <ul style="list-style-type: none"> Exercises Presentation (PPT) Experiments <ul style="list-style-type: none"> - <u>Lab 1</u> Separation from all parts of the plant. - <u>Lab 2</u>. The composition of colors extracted from plants. - <u>Lab 3</u> Distillation - <u>Lab 4</u> Splitting water by electrolysis Assessment Participation Exercises	
Week 7 <i>Chapter 2 Matter and</i> Changing of Matter (II)	1. Type of Change - What types of changes are there? (Physical Change and Chemical Change)	3	Teaching Materials: <ul style="list-style-type: none"> Computer & Projector Worksheet Power point Activities <ul style="list-style-type: none"> Experiment Assessment	
Week 8, 9 <i>Chapter 2 Matter and</i> Changing of Matter (II)	2. Chemical Equation	6	Teaching Materials: <ul style="list-style-type: none"> Computer & Projector Worksheet Power point Activities	

			<ul style="list-style-type: none"> Experiment <p><u>Lab 5</u> Chemical reaction</p> <p><u>Lab 6</u> The type of material with a chemical reaction .</p> <p><u>Lab 7</u> The concentration of the chemical reaction</p> <p><u>Lab 8</u> The temperature of the material with a chemical reaction</p> <p>Assessment</p>	
Week 10 <i>Chapter 2 Matter and Changing of Matter (II)</i>	3. Use of Chemicals and Consequences 4. The affects of Chemical reaction	3	Teaching Materials: <ul style="list-style-type: none"> Computer & Projector Worksheet Power point Activities <ul style="list-style-type: none"> Experiment Assessment	
Week 11		3	Midterm Exam	
Week 12 Chapter 3 Geology	1. Soil, Rock and Mineral	3	Teaching Materials: <ul style="list-style-type: none"> Computer & Projector Worksheet Power point Activities <ul style="list-style-type: none"> Soil survey Reproduce sedimentary rocks Reproduce creeks Assessment	
Week 13 Chapter 3 Geology	2. Water 3. Petroleum and Its Properties	3	Teaching Materials: <ul style="list-style-type: none"> Computer & Projector Worksheet Power point 	

			Activities <ul style="list-style-type: none"> • Game Assessment	
Week 14 2. Changing of the Earth	1. Structure and Components of the Earth	3	Teaching Materials: <ul style="list-style-type: none"> • Computer & Projector • Worksheet • Power point Activities Assessment	
Week 15 & 16 2. Changing of the Earth	2. Changing of the Earth	6	Teaching Materials: <ul style="list-style-type: none"> • Computer & Projector • Worksheet • Power point • VDO Activities Assessment	
Week 17 Chapter 5 force	1. The force acting on the object	6	Teaching Materials: <ul style="list-style-type: none"> • Computer & Projector • Worksheet • Power point Activities Assessment	
Week 18 Chapter 5 force	2. Vector of force		Teaching Materials: <ul style="list-style-type: none"> • Computer & Projector • Worksheet • Power point Activities Assessment	
Week 19	Summary	3		
Week 20		3	Final Exam	Paper Exam
Total		60		

Learning Outcome Criteria

Science 1 (SC21101)

Description	Weight (%)	Note
1. Behavior	10	Participation, Punctuality
2. Skills and Knowledge	40	Sheetwork, exercise, quiz, assignment, homework
3. Midterms	20	
4. Finals	20	
5. Learning Development	5	
6. Desirable Characteristics	5	
Total	100	

Rubric for Skills and Knowledge Assessment

Science 3 (SC 21101)

Note: This rubric is designed to grade all subjective-type activities/assessment and development.

Score / items	Excellent ≥ 85%	Good ≥ 75%	Fair ≥ 60%	Pass ≥ 50%	Fail < 50%
Problem Solving	Every step in problem solving is followed and the answer is correct	Every step in problem solving is followed and the answer is incorrect	Some steps in problem solving are missing / incomplete and the answer is correct	Some steps in problem solving are missing / incomplete and the answer is incorrect	Does not attempt to solve the problem; incorrect solution; cheating / copying
Recitation, Participation	Actively and regularly participates in all group or individual work/activities; Speaks out ideas during discussions	Regularly participates in all group or individual work/activities; Speaks out ideas sometimes	Sometimes participates in group or individual work/activities; Speaks out ideas sometimes	Very seldom participates in group or individual work/activities; Seldom speaks out ideas	Does not attempt to participate in all group or individual work/activities; Does not speak out ideas during discussions
Project, Research	Produces a unique project/ research with excellence and on time; Follows instructions and presents the	Produces a project/ research (or an improvement of one) with excellence; on time; Follows	Produces a too common or too easy project / research on time ; Follows instructions and presents	Produces a too common or too easy project / research but not on	Does not attempt to produce the project; No creativity; Cheating,

	project with creativity and order. Credits where credit is due.	instructions and presents the project orderly. Credits where credit is due.	project/ research showing very little effort.	time ; Instructions are not all followed and presents project/ research in an unorderly manner	copying, plagiarizing content/ideas. No credit where credit is due.
Presentation	Have a clear understanding of the subject/idea and presents / delivers it with confidence, enthusiasm and creativity and clarity. Voice is enough to be heard by everyone; Credits where credit is due; Polite	Have some understanding of the subject/idea and presents / delivers it with enthusiasm and clarity; Voice is enough to be heard by everyone; Credits where credit is due; Polite	Have some understanding of the subject/idea and presents / delivers it with clarity; Voice is enough to be heard by some; Credits where credit is due; Polite	Have a little understanding of the subject/idea; Unable to present / deliver it with clarity; Voice is enough to be heard by few;	Does not attempt to deliver / present the presentation. Plagiarizing content / ideas. Impolite or rude.
Experiment	Every step/procedure in experimentation is followed and the conclusion jives with the	Some steps/procedures are not followed and the conclusion jives with the	Some steps/procedures are not followed, some objectives are not achieved	Majority of the steps/procedures in experimentation are	All the steps/procedures in experimentation are not

	objectives and result. Manuscript properly/neatly submitted on time.	objectives and results result. Manuscript submitted on time.	and the conclusion based on the result is not clear. Manuscript submitted on time.	not followed; most objectives not achieved, manuscript not clear, and not submitted on time	followed. No objective is achieved ; Manuscript not submitted. Cheating or copying
Development	All scores for homework, seat-in exercises, projects and any other assignments are consistent and there is an overall improvement each time.	All scores for homework, seat-in exercises, projects and any other assignments are consistent but improving only in a lot of aspects	All scores for homework, seat-in exercises, projects and any other assignments are not consistent but there is a general upward improvement.	All scores for homework, seat-in exercises, projects and any other assignments are inconsistent and no improvement registered.	No scores for homework, seat-in exercises, projects and any other assignments or are very inconsistent; There is a general decline in the achievements

Rubric for Behavior Assessment

Mathematics 1 (MA21101)

Score / items	4	3	2	1	0
1. Punctuality, Full Time, and participate in all activities	Shows interest and aims to learn, share, participate 100% of the time	Shows interest and aims to learn, share, participate 75% of the time	Shows interest and aims to learn, share, participate 50% of the time	Shows interest and aims to learn, share, participate 25% of the time	Shows no interest and does not aim to learn, share, participate
2. Preparedness	Prepares all study materials, prepared to study, uses free time efficiently without being told	Prepares most of study materials, prepared to study, uses free time efficiently as the teacher assigns / instructs	Prepares study materials but not prepared to study or do work as the teacher assigns / instructs	Prepares study materials but does not complete the work the teacher assigns / instructs	Does not prepares study materials, does not concentrate on learning and plays games
3. Achievement / Completion	Achieves all tasks with good quality at low a cost, on time and shows creativity	Achieves tasks with good quality at low a cost but not time-efficient	Achieves tasks at low a cost but not time-efficient	Achieves tasks but lack creativity and quality of work is fair	Does not achieve/complete any tasks
4. Desirable Characteristics according to subject	Honest, highly creative, respectful, obedient, and does not plagiarize	Honest, creative, respectful, obedient, and does not plagiarize	Honest, respectful, obedient, and does not plagiarize	Honest, very uncreative, and disrespectful	Dishonest, does not do anything, and disrespectful

