

MITA International School Syllabus 2019

三田国際学園中学校・高等学校 2019年度 シラバス

Grade Level / Course 学年 / コース	S2 ICA	Subject Area / Class 教科 / 科目	Chemistry Practicum	Class hours 時間数	3時間/週
----------------------------------	--------	---------------------------------	---------------------	--------------------	-------

1学期 中間試験 Term 1 Midterm

Name of Unit, Project 単元名	Gases Solutions	Textbooks / Materials 使用教科書 / 教材	Modern Chemistry
------------------------------	--------------------	-------------------------------------	------------------

Unit Description 単元の概要	Gas laws and pressure, mixtures and solutions.
---------------------------	--

Unit Standards 本単元の内容と評価規準			Others 備考
察	<b>A3</b>	<b>B3</b>	<ICT・Creation> Utilize iPads, related technology and laboratory equipment in tandem with one another in relation with concepts from class. Various models will be created to communicate concepts. Experiments will be created to explore concepts.
好	<b>A2</b>	<b>B2</b> Understand how to utilize gas laws. Understand different types of mixtures.	
知	<b>A1</b>	<b>B1</b> Know that gas laws can be rearranged and utilized to solve problems. Recognize there are different types of mixtures	
	<b>Recognition</b>	<b>Logical Thinking</b>	<b>Creative Thinking</b>

**C3**  
 Be able to communicate lab results in the form cohesive lab report, explain procedure and results, and field questions in a way that shows comprehension of the concepts experienced in the lab.

**C2**  
 Be able to rearrange gas laws to solve different problems.

**C1**

MITA International School Syllabus 2019

三田国際学園中学校・高等学校 2019年度 シラバス

Grade Level / Course 学年 / コース	S2 ICA	Subject Area / Class 教科 / 科目	Chemistry Practicum	Class hours 時間数	3時間/週
<b>1学期 期末試験 Term1 Final</b>					
Name of Unit, Project 単元名	Ions in Aqueous Solutions Acids and Bases	Textbooks / Materials 使用教科書 / 教材	Modern Chemistry		
Unit Description 単元の概要	Understand the relationship between acids and bases. Understand acid-base reactions.				
Unit Standards 本単元の内容と評価規準				Others 備考	
察	<b>A3</b>	<b>B3</b>	<b>C3</b> Be able to communicate lab results in the form of a presentation or cohesive lab report, explain procedure and results, and field questions in a way that shows comprehension of the concepts experienced in the lab.	< ICT・Creation > Utilize iPads, related technology and laboratory equipment in tandem with one another in relation with concepts from class. Various models will be created to communicate concepts. Experiments will be created to explore concepts.	
好	<b>A2</b> Understand diffusion and effusion, different types of mixtures and the role of an ion in an aqueous solution.	<b>B2</b> Recognize relationship between acids and bases in terms of reaching equilibrium.	<b>C2</b>		
知	<b>A1</b> Understand basic properties of acids and bases and their interactions. Understand pH levels and how it correlates to acidity and basicity. Understand equilibrium.	<b>B1</b>	<b>C1</b>		
	<b>Recognition</b>	<b>Logical Thinking</b>	<b>Creative Thinking</b>		

MITA International School Syllabus 2019

三田国際学園中学校・高等学校 2019年度 シラバス

Grade Level / Course 学年 / コース	S2 ICA	Subject Area / Class 教科 / 科目	Chemistry Practicum	Class hours 時間数	3時間/週
<b>2学期 中間試験 Term 2 Midterm</b>					
Name of Unit, Project 単元名	Acid-Base Titration and pH Reaction Energy & Kinetics	Textbooks / Materials 使用教科書 / 教材	Modern Chemistry		
Unit Description 単元の概要	Expansion on acids and bases, pH and titrations. Energy and rate of reactions.				
Unit Standards 本単元の内容と評価規準				Others 備考	
楽	<b>A3</b>	<b>B3</b> Successfully design and implement an experiment to alter the rate of a reaction.	<b>C3</b> Perform a titration in the laboratory, record and communicate results in a cohesive way.	< ICT・Creation > Utilize iPads, related technology and laboratory equipment in tandem with one another in relation with concepts from class. Various models will be created to communicate concepts. Experiments will be created to explore concepts.	
好	<b>A2</b>	<b>B2</b>	<b>C2</b>		
知	<b>A1</b> Understand pH levels and how it correlates to acidity and basicity. Understand equilibrium	<b>B1</b>	<b>C1</b>		
	<b>Recognition</b>	<b>Logical Thinking</b>	<b>Creative Thinking</b>		

MITA International School Syllabus 2019

三田国際学園中学校・高等学校 2019年度 シラバス

Grade Level / Course 学年 / コース	S2 ICA	Subject Area / Class 教科 / 科目	Chemistry Practicum	Class hours 時間数	3時間/週
----------------------------------	--------	------------------------------------	---------------------	--------------------	-------

2学期 期末試験 Term 2 Final

Name of Unit, Project 単元名	Chemical Equilibrium Oxidation Reduction	Textbooks / Materials 使用教科書 / 教材	Modern Chemistry
------------------------------	---	-------------------------------------	------------------

Unit Description 単元の概要	Nature of chemical equilibrium, shifting chemical equilibrium, equilibria of acids, bases and salts. Oxidation & reduction, balancing redox equations, oxidizing and reducing agents.
---------------------------	--

Unit Standards 本単元の内容と評価規準			Others 備考
楽	<b>A3</b>	<b>B3</b>	<ICT・Creation> Utilize iPads, related technology and laboratory equipment in tandem with one another in relation with concepts from class. Various models will be created to communicate concepts. Experiments will be created to explore concepts.
好	<b>A2</b>	<b>B2</b> Ability to determine equilibrium constants.	
知	<b>A1</b> Recognize components which can shift equilibrium.	<b>B1</b>	
	<b>Recognition</b>	<b>Logical Thinking</b>	<b>Creative Thinking</b>

**C3**  
Develop a project or procedure to *Fix the Global Nitrogen Problem*, and communicate ideas and experimental data through a cohesive lab report.

**C2**

**C1**

MITA International School Syllabus 2019

三田国際学園中学校・高等学校 2019年度 シラバス

Grade Level / Course 学年 / コース	S2 ICA	Subject Area / Class 教科 / 科目	Chemistry Practicum	Class hours 時間数	3時間/週
<b>3学期 期末試験 Term 3 Final</b>					
Name of Unit, Project 単元名	Branches of Chemistry		Textbooks / Materials 使用教科書 / 教材	Modern Chemistry	
Unit Description 単元の概要	Electrochemistry, Nuclear Chemistry, Organic Chemistry, Biological Chemistry				
Unit Standards 本単元の内容と評価規準				Others 備考	
察	<b>A3</b> Interpret the genetic code. Interpret how the body uses macromolecules and the relationship between biology and chemistry.	<b>B3</b>	<b>C3</b> Synthesize organic compounds which can be used for artificial scent or flavoring.	< ICT・Creation > Utilize iPads, related technology and laboratory equipment in tandem with one another in relation with concepts from class. Various models will be created to communicate concepts. Experiments will be created to explore concepts.	
好	<b>A2</b> Recognize the utilization of chemistry in different aspects of life and the difference between various branches.  Determine the use of different esters synthesized in lab.	<b>B2</b>	<b>C2</b>		
知	<b>A1</b>	<b>B1</b> Determine use of types of cells in battery technology.	<b>C1</b> Simulate radioactive decay with a model.		
<b>Recognition</b>		<b>Logical Thinking</b>		<b>Creative Thinking</b>	