

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	J3/ Physical Science	Subject Area / Class 教科 / 科目	Science	Class hours 時間数	5 時間/週
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1学期 中間試験 Term 1 Midterm

Name of Unit, Project 単元名	Unit 1: Motion and Forces	Textbooks / Materials 使用教科書 / 教材	Glencoe, Mc Graw Hill Education – Physical IScience
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Unit Description 単元の概要	Unit 1 Describes the concept of position and motion, by means of reference points. Students will learn how to describe speed, and velocity, and describe what is occurring to objects on distance-time graphs. Students will learn about the laws of motion and how they govern the physical universe, when certain conditions are met. Students will also learn work, simple machines, and forces. They will describe what phenomena affects mechanical movement and forces involved in fluids.
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Unit Standards 本単元の内容と評価規準			Others 備考
楽	A3	B3 Students can describe what is the physical phenomena occurring with an object is in motion, and deduce possible outcomes on the objects trajectory.	C3 <評価方法> Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit
好	A2 Understand the ties of events from simple phenomenon to more complex phenomenon. Follow a known test method.	B2	C2 Can predict missing variables from the contradiction of known rules. <ICT・Creation> Students will carry out laboratory experiments with motion calculating time/distance. They will
知	A1 Know basic terms, the names and roles of laboratory instruments and chemicals. Write and organize information.	B1 Accurately diagram information. Compare, classify, and analyze experiment results. Find patterns in experimental results.	C1 Able to find exceptions to rules and discuss why it is an exception. Critically evaluate the hypothesis and discover new issues. also perform Newton`s 3 rd law experiments.
	Recognition	Logical Thinking	Creative Thinking

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1学期 期末試験 Term 1 Final					
Name of Unit, Project 単元名	Unit 2: Energy and Matter	Textbooks / Materials 使用教科書 / 教材	Glencoe, Mc Graw Hill Education – Physical IScience		
Unit Description 単元の概要	Students will understand the concept of energy, and the different forms of energy. This unit discusses the foundations of chemistry, matter, and its classification. This unit also emphasizes on the various states of matter seen in natural and in the laboratory.				
Unit Standards 本単元の内容と評価規準					Others 備考
察	A3	B3 Students can describe what is energy, and its different forms. They can determine what output will come about from a certain amount of input of energy.	C3	<評価方法> Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit. <ICT・Creation> Students will perform experiments with kinetic and potential energy of objects in particular positions and motion.	
好	A2 Understand the ties of events from simple phenomenon to more complex phenomenon. Follow a known test method.	B2	C2		
知	A1 Know basic terms, the names and roles of laboratory instruments and chemicals. Write and organize information.	B1 Accurately diagram information. Compare, classify and analyze experiment results. Find patterns in experimental results.	C1 Able to find exceptions to rules and discuss why it is an exception. Critically evaluate the hypothesis and discover new issues.		
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2学期 中間試験 Term 2 Midterm

Name of Unit, Project 単元名	Unit 3: Properties of Matter	Textbooks / Materials 使用教科書 / 教材	Glencoe, Mc Graw Hill Education – Physical IScience
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Unit Description 単元の概要	This unit describes the properties of matter, beginning from the properties of atoms, to the types of bonds and their chemical reactions.
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Unit Standards 本単元の内容と評価規準				Others 備考
察	A3 Able to explain the phenomenon in one's own words.	B3 Students can identify the different properties of matter and the states of change it can undergo.	C3 Able to construct new concepts. Able to create an original experimental method, design and able to execute it.	<評価方法> Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit. <ICT・Creation> Students will perform lab on, chemical reactions describing the reactants, and the products, observing the types of chemical and physical changes that can occur.
好	A2 Understand the ties of events from simple phenomenon to more complex phenomenon. Follow a known test method.	B2 Can generalize and comprehend the connections by comparing the ties of knowledge. It is possible to consider factors that cause various phenomena.	C2 Can predict missing variables from the contradiction of known rules.	
知	A1 Know basic terms, the names and roles of laboratory instruments and chemicals. Write and organize information.	B1 Accurately diagram information. Compare, classify, and analyze experiment results. Find patterns in experimental results.	C1 Able to find exceptions to rules and discuss why it is an exception. Critically evaluate the hypothesis and discover new issues.	
	Recognition	Logical Thinking	Creative Thinking	

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2学期 期末試験 Term 2 Final

Name of Unit, Project 単元名	Unit 4: Interactions in Matter	Textbooks / Materials 使用教科書 / 教材	Glencoe, Mc Graw Hill Education – Physical IScience
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Unit Description 単元の概要	This unit continues on the concept of matter, emphasizing on chemical reactions and equations, mixtures, solubility, and acid/base solutions, and organic chemistry.
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Unit Standards 本単元の内容と評価規準			Others 備考
<p>知</p> <p>A3 Able to explain the phenomenon in one's own words.</p>	<p>B3 Students can interpret and understand the resulting reaction from analyzing the different reactants involved.</p>	<p>C3 Able to construct new concepts. Able to create an original experimental method, design and able to execute it.</p>	<p><評価方法> Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit</p> <p><ICT・Creation> Students will perform experiments on the solubilities of different substances and their capacities to mix.</p>
<p>好</p> <p>A2 Understand the ties of events from simple phenomenon to more complex phenomenon. Follow a known test method.</p>	<p>B2 Can generalize and comprehend the connections by comparing the ties of knowledge. It is possible to consider factors that cause various phenomena</p>	<p>C2 Can predict missing variables from the contradiction of known rules.</p>	
<p>知</p> <p>A1 Know basic terms, the names and roles of laboratory instruments and chemicals. Write and organize information.</p>	<p>B1 Accurately diagram information. Compare, classify, and analyze experiment results. Find patterns in experimental results.</p>	<p>C1 Able to find exceptions to rules and discuss why it is an exception. Critically evaluate the hypothesis and discover new issues.</p>	
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3学期 期末試験 Term 3 Final

Name of Unit, Project	Unit 5: Waves, electricity, and Magnetism	Textbooks / Materials	Glencoe, Mc Graw Hill Education – Physical IScience
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Unit Description 単元の概要	This unit describe what are waves, and the different kinds of waves on the electromagnetic spectrum. There is particular emphasis on visible light, and its behavior with mirrors and lenses. The unit concludes with electricity, and magnetism, and how these two forces interact to produce currents.
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Unit Standards 本単元の内容と評価規準	Others 備考
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知	A1 Know basic terms, the names and roles of laboratory instruments and chemicals. Write and organize information.	B1 Accurately diagram information. Compare, classify, and analyze experiment results. Find patterns in experimental results.	C1 Able to find exceptions to rules and discuss why it is an exception. Critically evaluate the hypothesis and discover new issues.	<評価方法> Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit. <ICT・Creation> Students will perform experiments on waves, observing the different kinds of waves and their components. They will also observe how light reflects and refracts with mirrors and lenses. Lastly students will develop a small generator by understanding the concept electromagnetism.
	A2 Understand the ties of events from simple phenomenon to more complex phenomenon. Follow a known test method.	B2 Can generalize and comprehend the connections by comparing the ties of knowledge. It is possible to consider factors that cause various phenomena	C2 Can predict missing variables from the contradiction of known rules.	
	A3 Able to explain the phenomenon in one's own words.	B3 Able to predict unknown results. Based on the working hypothesis, able to design an experiment.	C3 Able to construct new concepts. Able to create an original experimental method, design and able to execute it.	
	Recognition	Logical Thinking	Creative Thinking	