

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 Biology	Subject Area / Class 教科 / 科目	Science/ 5(ICA)	Class hours 時間数	3 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 4: Evolution	Textbooks / Materials 使用教科書 / 教材	Biology by Stephen Nowicki; Houghton Mifflin Harcourt Lab Handouts/Worksheets/Lab equipment
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Unit Description 単元の概要	Unit 4 Discusses the basic principles of evolution and natural selection, how populations evolve, and the history of life on Earth. This unit emphasizes on the factors that characterize evolution, Darwin's observations, evolutionary biology today, genetic variation within populations, and speciation, among other concepts. Standards: HS-LS4.B.1. HS-LS4.B.2, HS-LS4.C.1. HS-LS4.C.2. A4, HS-LS1.C.2
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Unit Standards 本単元の内容と評価規準			Others 備考
楽	A3 Able to explain the phenomenon in one's own words.	B3 Students will be able to explain, and interpret the ideas of evolution, describe it in their own words.	C3 Students can explain evolution using their own examples.
好	A2	B2 Can generalize and comprehend the connections by comparing the ties of knowledge. It is possible to consider factors that cause various phenomena.	C2
知	A1 Know basic terms, the names and roles of concepts in evolution	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

<評価方法>

Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit

<ICT・Creation>

Student will execute labs based on the characteristics of Darwin's finches of the Galapagos Islands.

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1学期 期末試験 Term 1 Final

Name of Unit, Project 単元名	Unit 4: Evolution	Textbooks / Materials 使用教科書 / 教材	Biology by Stephen Nowicki: Houghton Mifflin Harcourt Lab Handouts/Worksheets/Lab equipment
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Unit Description 単元の概要	Unit 4 Discusses the basic principles of evolution and natural selection, how populations evolve, and the history of life on Earth. This unit emphasizes on the factors that characterize evolution, Darwin`s observations, evolutionary biology today, genetic variation within populations, and speciation, among other concepts. Standards: HS-LS4.B.1. HS-LS4.B.2, HS-LS4.C.1. HS-LS4.C.2. A4, HS-LS1.C.2
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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 will be able to explain, and interpret the ideas of evolution, describe it in their own words.	C3 Students can explain evolution using their own examples.
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

<評価方法>
Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit

<ICT・Creation>
Students will create a project presentation on the history of life on earth.

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2学期 中間試験 Term 2 Midterm

Name of Unit, Project 単元名	Unit 5: Ecology	Textbooks / Materials 使用教科書 / 教材	Biology by Stephen Nowicki: Houghton Mifflin Harcourt Lab Handouts/Worksheets/Lab equipment
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Unit Description 単元の概要	Students learn the discipline of ecology, the levels of organization in an ecosystem, and the ecological research methods. Relationships between niche and resources/ abiotic and biotic resources/ and human impact on ecosystems. Standards: HSL3.A.1, HSL1.A.2, HSL3.B.1, HSL.B.2, HSL4.B.1, HSL4.B.2, HSL4.C.1, HSL4.C.2, HSL4.A.1
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Unit Standards 本単元の内容と評価規準			Others 備考
察	<p>A3 Able to explain the phenomenon in one's own words.</p> <p>B3 Students can observe and analysis what are tampering with ecological systems, and their sensitivity to internal changes coming from an external source.</p> <p>C3</p>		<p><評価方法> Students will make a survey of the local flora and fauna that constitute Japan`s biomes, and investigate their evolutionary background.</p> <p><ICT・Creation> Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit</p>
好	<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>		
知	<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>		
	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 5: Ecology	Textbooks / Materials 使用教科書 / 教材	Biology by Stephen Nowicki: Houghton Mifflin Harcourt Lab Handouts/Worksheets/Lab equipment
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Unit Description 単元の概要	Students learn the discipline of ecology, the levels of organization in an ecosystem, and the ecological research methods. Relationships between niche and resources/ abiotic and biotic resources/ and human impact on ecosystems. Standards: HSL3.A1, HSL1.A.2, HSL3.B.1, HSL.B.2, HSL4.B.1, HSL4.B.2, HSL4.C.1, HSL4.C.2, HSL4.A.1
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Unit Standards 本単元の内容と評価規準			Others 備考	
楽	A3 Able to explain the phenomenon in one's own words.	B3	<評価方法> Students will investigate how human activity has influenced biological systems in positive and negative ways within the last 10 years. <ICT・Creation> 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 Can generalize and comprehend the connections by comparing the ties of knowledge. It is possible to consider factors that cause various phenomena		
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.		
	C3 Able to construct new concepts. Able to create an original experimental method, design and able to execute it.	C2		
	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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3学期 期末試験 Term 3 Final

Name of Unit, Project 単元名	Unit 6: Diversity of life	Textbooks / Materials 使用教科書 / 教材	Biology by Stephen Nowicki: Houghton Mifflin Harcourt Lab Handouts/Worksheets/Lab equipment
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Unit Description 単元の概要	Students will understand and recognize the different kinds of organisms that exist in the world, how we can classify them, and what are the defining features of each organism group. Lastly they will Identify and describe the various kinds of organ systems are constitute the human body.
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Unit Standards 本単元の内容と評価規準	Others 備考
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察 好 知	A3 Able to explain the phenomenon in one's own words.	B3 Students can identify the general characteristics of all animal groups, even when observing an unknown organism.	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 investigate the DNA molecular similarities of various organisms from different kingdoms, phyla, and classes; to see how all life is related. <ICT・Creation> Students will be given worksheets, quizzes and lab experiments to practice key concepts of the unit
	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.	
	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	