

2年 Science Math Inquiry Skills (MYP3 Interdisciplinary Unit)

【理数探究スキル：1単位】

科目のねらい

The aims of the MYP interdisciplinary units are to encourage students to:

- Develop a deeper understanding of learning skills and apply them in meaningful contexts.
- Integrate conceptual learning, ways of knowing, and methods of inquiring from math and science.
- Inquire into compelling issues, ideas and challenges by creating and designing their own experiment and writing their own science report.
- Reflect on and communicate understanding of the interdisciplinary learning process.

Experience the excitement of intellectual discovery - including insights into how disciplines complement and challenge one another.

目標および評価基準

MYP 評価観点

A: Science/Math (Inquiring and Designing)	ii. outline a testable hypothesis and explain it using scientific reasoning
	iii. describe how to manipulate the variables, and describe how data will be collected.
	iv. design scientific investigations
A : Math (Communicating)	i. use appropriate mathematical language in both oral and written explanations
	ii. use different forms of mathematical representation
B: Synthesizing	Synthesizes disciplinary math and science knowledge to demonstrate interdisciplinary understanding by using mean, median, and mode, box whisker plot graph and another form of data of the student's choice. The student uses the data to provide an analysis and conclusion. The students uses their experimental data and observations to discuss errors in their experiment.
C: Communication	Applies communication skills in interdisciplinary learning. Uses diagrams to help explain their scientific procedure and method. Documents sources using APA style referencing.

Concepts and Related Concepts

Evidence	Consequences	Logic	Validity
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年間計画

時期	ユニット	1. 重要概念 2. グローバルな文脈 3. ATL	学習内容・教材等	総括的評価課題のMYP評価観点（【】内） および課題概要と評価方法	1. 学習指導要領観点との対応
All year	1	1. Logic 2. Scientific and Technical Innovation 3. Critical Thinking Skills Research Skills Self-Management	Learning the scientific method and ways to calculate different averages.	<p>Criteria A: Science Students will learn about the scientific method by conducting their own experiment. Students will design their own experiment by studying the dynamics of paper airplanes and decide on their own hypothesis, decide on materials needed for their experiment and to write down and plan their own procedure. Students will gather experimental data.</p> <p>Criteria A : Math Students will learn about mean, median and mode and using their experimental data. Students will learn how create a box whisker plot graph.</p>	We will use all criteria from above for this unit.

		<p>Skills</p> <p>Communication</p>		<p>Criteria B: Synthesizing Students will then synthesize their data to write and analysis and conclusion about their experiment. Were students able to support their hypothesis using evidence?</p> <p>Criteria C: Communication Students will create their science report that will focus on the structure and clarity of their report.</p> <p>Criteria D: Reflection Students will think about the advantages and disadvantages of math and science. They will also consider how math and science are synthesized and reflect back on their learning in math science skills.</p>	
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3年 Communication Design Skills (MYP4 Interdisciplinary Unit) 【コミュニケーションデザインスキル：1単位】

科目のねらい

- The aims of the MYP interdisciplinary units are to encourage students to:
- Develop a deeper understanding of learning skills and apply them in meaningful contexts.
 - Integrate conceptual learning, ways of knowing, and methods of inquiring from Language Acquisition and Science.
 - Inquire into environmental issues, ideas and challenges through research and creation of their convenience store.
 - Reflect on and communicate understanding of the interdisciplinary learning process.

目標および評価基準

MYP 評価観点

A: Evaluating	<ul style="list-style-type: none"> ・ analyse disciplinary knowledge from Science and Language Acquisition through research ・ evaluate interdisciplinary perspectives
B: Synthesizing	<p>In order to address real-world and contextual issues and ideas, students will be able to:</p> <ul style="list-style-type: none"> ・ create a product that communicates a purposeful interdisciplinary understanding ・ justify how their product communicates interdisciplinary understanding.
C: Reflecting	<p>In order to address real-world and contextual issues and ideas, students will be able to:</p> <ul style="list-style-type: none"> ・ discuss the development of their own interdisciplinary learning ・ discuss how new interdisciplinary understanding enables action.

Concepts and Related Concepts

Message	Audience	Balance	Consequences
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年間計画

時期	ユニット	1. 重要概念 2. グローバルな文脈 3. ATL	学習内容・教材等	総括的評価課題の MYP 評価観点 (【 】内) および課題概要と評価方法	1. 学習指導要領観点との対応
All year	1	1. 変化 2. グローバル化と持続可能性 3. コミュニケーション	環境に配慮したコンビニエンスストアを設計し、発表する。 そのデザインを発表する。 1. 理科（因果関係の理解）と言語習得（説得力のあるコミュニケーションの理解）の学習を活かしてください。 2. 学際的な理解をいかにして実現したかを説明しなさい。	Criteria A: 自然界における因果関係を理解する。この知識を使って、なぜ環境が変化するのか、どのように環境を変えることができるのかを説明することができる。環境はなぜ変化するのか、どのように変化させることができるのかを説明することができる。 聴衆を説得して行動を起こさせるためのポイントを理解する。 Criteria B: 環境に配慮したコンビニエンスストアを設計し、発表する。 Criteria C: Reflection この単元での学際的な学習について振り返りする。	1. ①知識・技能-A/B ②思考・判断・表現-C ③主体的に学習に取り組む態度-D