Interdisciplinary inquiry A

Student resource pack – MYP 5

Based on pre-release material for the **November 2016** Interdisciplinary on-screen examination.

The pre-release material can be found at <http://idprm.ibo.org/n16.html#/English>

*Teachers should review ‘support’ sections of task overviews before issuing to students.*

# Interdisciplinary inquiry A – Overview

The statement of inquiry and inquiry questions for this interdisciplinary project are below. See the flow chart below to see how it is structures. Your teacher may provide you with further guidance on how they might like you to approach the tasks.

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| **Pre-release material sources** | <http://idprm.ibo.org/n16.html#/English> | November 2016 |
| **Statement of inquiry** | Individuals, communities and governments, with their different perspectives, all have a role to play in promoting environmental sustainability. |
| **Global context**  | Globalization and sustainability |
| **Key/ related concepts that may be explored** | Perspective; Change; Systems; CommunitiesGovernance; Environment; Choice; Cause and consequence; Adaptations |
| **Inquiry questions** | **Factual**What is sustainability?What are the benefits of sustainability?What measures can communities and/or individuals take to help protect the environment?**Conceptual**In what ways do our individual choices contribute to global issues?How do humans interrupt natural environmental processes?How can designers balance the needs of the environment with the needs of stakeholders?How can data inform individuals?How can evidence be used to change perspectives?**Debatable**Do governments and communities/individuals have equal responsibility to protect the environment?Are all perspectives equally valid?Are systems essential for a sustainable future?*Please note that some questions may be factual or conceptual, based on the discipline through which it is being explored or the stage of a student’s education.* |

# Tasks

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| **Task** | A | **Subject** | Integrated sciences | **Pre-release material sources**  | 1 |
| **Relevant inquiry questions** | How do humans interrupt natural environmental processes?Do governments, communities and individuals have equal responsibility to protect the environment?What measures can communities and/or individuals take to help protect the environment? |
| **Task description** | You are a scientist tasked with providing a report for a politician about to go through an election campaign. Your report must brief the politician about human impacts on the environment, particularly those related to carbon emissions. The politician and their team need enough information to help them decide what their environmental policy should include; the report should also give them enough information to be able to answer scientific questions during the campaign.Before beginning to collect information for your report, you should decide which area you would like to focus on. This could be the area in which you live, it could be an area you have visited, it could be an area you have studied or it could be an area that interests you.In a brief introduction, you need to specify the area you have chosen and present information about:* How carbon is transported around the environment, and which processes are caused/impacted by human activity
* How, in your chosen area, human activities cause harm to the environment (particularly carbon emissions) and what the consequences are

The report should:* Give an opinion about which causes and consequences are the most significant
* Recommend changes/ alternative methods the politician should support, and why they would be beneficial

*\* Use at least one source from the materials provided and at least one other source.* |
| **Support** | *Teachers may add additional support here:* |
| **Relevant objective strands** | Ai. explain scientific knowledgeAiii. analyse and evaluate information to make scientifically supported judgments.Di. explain the ways in which science is applied and used to address a specific problem or issue |

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| **Task** | B | **Subject** | Individuals and societies | **Pre-release material sources**  | 5, 6, 7 |
| **Relevant inquiry questions** | Do governments, communities and individuals have equal responsibility to protect the environment?What measures can communities and/or individuals take to help protect the environment? Are all perspectives equally valid? |
| **Task description** | You are a research assistant working for the mayor of a coastal city. This city has a fishing port, and a beach that is responsible for its high level of tourism. Your task is to prepare the mayor for a ‘town hall’ meeting where he/she will answer questions and listen to views from the community on possible changes to the law that the government is proposing. The new law will require that fishermen use only sustainable fishing methods.The mayor has asked for a briefing that includes information on the following:1. **Perspectives.** What different stakeholders think about more sustainable fishing methods, and why.
* Fishers
* Marine biologist
* Supermarket chain CEO
* Politician
* Corporate fishing organization CEO
* Consumer
1. **Argument.** Present the advantages and disadvantages of different fishing methods; their impact in moving towards a more sustainable environmental policy; and which factors are the most significant.
2. **Source evaluation.** Which sources are you basing your briefing on, and how confident you are in their relevance and reliability? They would like to know how you have evaluated these sources.

*\* You should use sources 3-7 provided in the pre-release material, but you should research further and cite the sources you have used.* |
| **Support** | *Teachers may add additional support here:* |
| **Relevant objective strands** | Dii. synthesize information to make valid argumentsDiii. analyse and evaluate a range of sources/data in terms of origin and purpose, examining value and limitationsDiv. interpret different perspectives and their implications |

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| **Task** | C | **Subject** | Design | **Pre-release material sources**  | 4, 6, 8, 9 |
| **Relevant inquiry questions** | What measures can communities and/or individuals take to help protect the environment?How can effective design balance the needs of the environment with the needs of stakeholders? |
| **Task description** | Inspired by United Nations Sustainable Development Goal 11: Sustainable Cities and Communities, a local community is looking for ways to become more sustainable. The local authorities are therefore seeking proposals for projects that will make the community more sustainable.You will select a community; this may be the community in which you live, or it could be a community with which you are familiar or in which you are interested. You must include relevant information about the community in your design brief.You have been hired by a client to develop a plan for an **aquaponics system** for the community, (pre-release materials 8 and 9.) The client wants the aquaponic system to be attractive as well as functional. You must choose one of the following scenarios which specify both the client and what they want to achieve (their problem):* A group of students that wants to supply fruit and/or vegetables to the school canteen
* A marine biologist interested in educating as well as feeding the public
* The owner of a chain of local supermarkets who wants to supply the stores with more locally-grown produce
* A local politician interested in protecting the environment
* A consumer group interested in sustainable fish for local restaurants

You must develop a *design brief* for one of the clients in the list above. You must concisely summarize the useful and relevant information you have found in the pre-release materials 4,6,8 and through your research in your *design brief*. You will develop a *design specification* that includes a range of feasible design ideas, a final chosen design (with justification of why this is the best option), detailed planning drawings/diagrams and an outline of the requirements for the creation of the chosen solution. |
| **Support** | *Teachers may add additional support here:* |
| **Relevant objective strands** | Ai. explain and justify the need for a solution to a problem for a specified client/target audienceAiii. analyse a range of existing products that inspire a solution to the problem Aiv. develop a detailed *design brief*, which summarizes the analysis of relevant research.Bi. develop a design specification which clearly states the success criteria for the design of a solution Bii. develop a range of feasible design ideas which can be correctly interpreted by others Biii. present the final chosen design and justify its selection Biv. develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution. |

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| **Task** | D | **Subject**  | Mathematics | **Pre-release material sources**  |

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| 5, 7 (& additional resource ‘[*Tuna fish farming*](https://www.ibo.org/contentassets/c509c4de3811435093a423eca09d5e78/infographic-on-bluefin-tuna-fish-farming-in-japan.pdf)’) |

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| **Relevant inquiry questions** | Do governments, communities and individuals have equal responsibility to protect the environment?How do humans interrupt natural environmental processes?Can individuals really effect global change? |
| **Task description** | You are the owner of a bluefin tuna farm. Your farm is positioned at sea inside a circular space with diameter 280 metres and you have 80 000 juvenile bluefin tuna ready to move to the farm. Your task is to plan the layout of the farm and ensure you make the best use of the available space to maximize profits.Note the following information:* the average weight of a juvenile bluefin tuna 20 kg
* bluefin tuna gain approximately 10 kg in weight per year
* you will sell when the average weight reaches 70 kg.

Your plan should include the following:* **Technical information –** How you can make the best use of the available space for your juvenile fish?
* **Bluefin tuna characteristics –** How many fish you can keep in the pen, and what are the feeding requirements?
* **Sales and profits of farmed bluefin tuna –** Make calculations for the sales and profit when the fish are sold.

Design a farm with multiple cylindrical pens and make calculations for the relevant factors.*\* You should use the additional source supplementary to the pre-release material ‘*[***Infographic on bluefin tuna farms in Japan***](https://www.ibo.org/contentassets/c509c4de3811435093a423eca09d5e78/infographic-on-bluefin-tuna-fish-farming-in-japan.pdf)*’, and you may use any other clearly-referenced sources to help you as well.*  |
| **Support** | *Teachers may add additional support here:* |
| **Relevant objective strands** | Ciii. move between different forms of mathematical representationDi. identify relevant elements of authentic real-life situationsDii. select appropriate mathematical strategies when solving authentic real-life situationsDiii. apply the selected mathematical strategies successfully to reach a solutionDiv. justify the degree of accuracy of a solutionDv. justify whether a solution makes sense in the context of the authentic real-life situation  |

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| **Final interdisciplinary task – addressing the SOI using findings from subject-grounded tasks** |
| **Statement of inquiry** | Individuals, communities and governments, with their different perspectives, all have a role to play in promoting environmental sustainability. |
| **Inquiry questions** | **Factual**What is sustainability?What are the benefits of sustainability?What measures can communities and/or individuals take to help protect the environment?**Conceptual**In what ways do our individual choices contribute to global issues?How do humans interrupt natural environmental processes?How can designers balance the needs of the environment with the needs of stakeholders?How can data inform individuals?How can evidence be used to change perspectives?**Debatable**Do governments and communities/individuals have equal responsibility to protect the environment?Are all perspectives equally valid?Are systems essential for a sustainable future?*Please note that some questions may be factual or conceptual, based on the discipline through which it is being explored or the stage of a student’s education.* |
| **Task description** | You are an environmental influencer; your task is to raise awareness of one of the issues highlighted by the subject grounded tasks and/or the pre-release material. You should produce an awareness \*campaign that will attract a large number of followers and mobilize people to make a difference on a global scale. You must draw on what you have learned in the subject grounded tasks.In your \*campaign you should raise awareness by:* combining knowledge from at least two subjects
* considering the perspectives of your target audiences
* discrediting fake news and presenting evidence-based information
* citing the pre-release material used (eg pre-release material Nov 2016 Source 2 Animal Welfare)
* citing other sources.

To attract a large number of followers, you must identify different target audiences for your campaign, (for example, you may consider different age groups). For each identified target audience, you should consider which form(s) of communication would be most effective, (for example blogs, presentations, podcasts, adverts, social media posts, three-dimensional structures, infographics, debates, videos, musical compositions, calls to action). \*Campaign: a planned series of actions. (In this case, it will be several different communications. These can be all the same form – such as a series of blogs – or they can be in different forms).You should specify the target audience for each of the communications you produce. You may also wish to include a brief overview of the entire campaign. |
| **Support** | *Teachers may add additional support here:*Your awareness campaign **could** be in the form of blogs, presentations, podcasts, adverts, social media posts, three-dimensional structures, infographics, debates, videos, musical compositions, calls to action or a combination of any of these. |
| **Relevant objective strands** | Bi. Synthesize disciplinary knowledge to demonstrate interdisciplinary understanding Ci. Use appropriate strategies to communicate interdisciplinary understanding effectively Cii. Document sources using recognized conventions |

# Assessment materials

## Task A – Integrated sciences

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| **MYP 5 – Task A** |
| **Level** | **Level descriptor** | **Task-specific clarification** |
| **7-8** | Ai. **explain** scientific knowledgeAiii**. analyse and evaluate** information to make **scientifically supported** judgmentsDi. **explain** the ways in which science is applied and used to address a specific problem or issue | The student:Ai* **Explains** the full journey of carbon in the carbon cycle, linking to how steps are influenced by humans and how carbon compounds change
* **Explains** a range of human activities that damage the environment (examples that are and are not due to carbon emissions), linking them to and **explaining** the consequences and their impact

Aiii* **Analyses** how a wide range of these consequences may affect future generations and how they may link to each other, then makes a **scientifically-supported** judgement about which are the most significant
* **Analyses** the effectiveness of alternatives/ changes by detailing their advantages and disadvantages, and making a **scientifically-supported** recommendation
* **Evaluates** the validity of the information used

Di* **Explains** how a range of alternatives/ changes would reduce damage to the environment (including the current activity each would replace, **explaining** why the alternative/change does not cause the same harm)
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| **5-6** | Ai. **describe** scientific knowledgeAiii. **analyse** information to make **scientifically supported** judgments.Di. **describe** the ways in which science is applied and used to address a specific problem or issue | The student:Ai* **Describes** the full journey of carbon in the carbon cycle, including which steps are influenced by humans or **describing** how carbon compounds change
* **Describes** human activities that damage the environment (examples that are and are not due to carbon emissions), with a **description** of what the direct consequences are

Aiii* **Analyses** how several of these consequences may affect future generations and how they may link to each other, then makes a **scientifically-supported** judgement about which are the most significant
* **Analyses** the effectiveness of the alternatives/ changes by detailing their advantages and disadvantages, and making a **scientifically-supported** recommendation

Di* **Describes** a range of alternatives/ changes that would reduce damage to the environment (including the current activity each would replace)
 |
| **3-4** | Ai. **outline** scientific knowledgeAiii. **interpret** information to make **scientifically** **supported** judgments.Di. **summarize** the ways in which science is applied and used to address a specific problem or issue | The student:Ai* **Outlines** details of most of the steps in the carbon cycle
* **Outlines** details of human activities that damage the environment (including examples that are due to carbon emissions), with an **outline** of some consequences

Aiii* **Interprets** how some of these consequences may affect future generations, and makes a **scientifically-supported** judgement about which are the most significant
* **Interprets** the effectiveness of the changes by detailing how they would help, and making a **scientifically-supported** recommendation

Di* **Summarizes** some general and specific changes that individuals/ governments could make that would reduce damage to the environment
 |
| **1-2** | Ai. **state** scientific knowledgeAiii. **interpret** information to make judgments.Di. **outline** the ways in which science is used to address a specific problem or issue | The student:Ai* **States** a range of steps in the carbon cycle
* **States** human activities that damage the environment, and **states** some future consequences

Aiii* **Interprets** information to make a judgement about which consequences are the most significant, but without giving details about how it was decided
* **Interprets** information to make a recommendation about which change(s) should take priority, but without giving details about how it was decided

Di* **Outlines** details of some general changes that individuals/ governments could make that would reduce damage to the environment
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## Task B – Individuals and societies

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| **MYP 5 – Task B** |
| **Level** | **Level descriptor** | **Task-specific clarification** |
| **7-8** | Dii. **synthesizes** information to make valid, well-supported argumentsDiii. effectively **analyses and evaluates** a range of sources/data in terms of origin and purpose, consistently recognizing value and limitations Div. **thoroughly** **interprets** a range of different perspectives **and** their implications. | The student: Dii* **Synthesizes** information about the advantages and disadvantages of at least 5 fishing methods, and links these to the wellbeing of the environment **and** the city. Comparisons between the methods are made
* Gives a **valid** conclusion that is **well-supported** by highlighting the deciding factors in their argument

Diii* **Analyses and evaluates** the origin and purpose of all relevant provided sources and at least 3 additional sources, and consistently uses this to recognize their value and limitations

Div* **Interprets** at least 4 different stakeholder perspectives on sustainable fishing, including why they hold that viewpoint. The implications of the law changes on all these stakeholders are given, **and** some possible solutions may be suggested if they are negative
 |
| **5-6** | Dii. **synthesizes** information to make valid argumentsDiii. effectively **analyses and evaluates** a range of sources/data in terms of origin and purpose, usually recognizing value and limitationsDiv. **interprets** different perspectives and their implications. | The student: Dii* **Synthesizes** information about the advantages and disadvantages of at least 4 fishing methods, and links these to the wellbeing of the environment. Comparisons between some of the methods are made
* Gives a **valid** conclusion based on the factors detailed in their argument

Diii* **Analyses and evaluates** the origin and purpose of most relevant provided sources and at least 2 additional sources, and usually uses this to recognize their value and limitations

Div* **Interprets** at least 3 different stakeholder perspectives on sustainable fishing, including why they hold that viewpoint. The implications of the law changes on all these stakeholders are given
 |
| **3-4** | Dii. **summarizes** information to make argumentsDiii. **analyses and/or evaluates** sources/data in terms of origin and purpose, recognizing some value and limitationsDiv. **interprets** different perspectives and some of their implications. | The student: Dii* **Summarizes** information about the advantages and disadvantages of at least 3 fishing methods, with some inconsistent links to the wellbeing of the environment. Each method is **summarized** in isolation, with little comparison between them
* Gives a conclusion, but it may not clearly reflect the factors detailed in their argument

Diii* **Analyses and/or evaluates** the origin and purpose of some relevant provided sources and at least 1 additional source, and sometimes uses this to recognize their value and limitations

Div* **Interprets** at least 3 different stakeholder perspectives on sustainable fishing including why they hold that viewpoint. The implications of the law changes on some of these stakeholders are given
 |
| **1-2** | Dii. **summarizes** information to a limited extent to make argumentsDiii. **describes** a limited number of sources/ data in terms of origin and purpose and recognizes nominal value and limitations Div. **identifies** different perspectives and minimal implications. | The student: Dii* **Summarizes** information about some advantages and/or disadvantages of at least 2 fishing methods, but without linking to the wellbeing of the environment. No comparisons are made
* Does not provide a conclusion

Diii* Uses information from provided sources only, and **describes** the origin and purpose of one source, but does not use it to recognize value and limitations

Div* **Identifies** at least 3 different stakeholder perspectives on sustainable fishing. The implications of the law changes on at least 1 of these stakeholders are given, but may be unclear or incorrect
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## Task C – Design

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| **MYP 5 – Task C** |
| **Level**  | **Level descriptor** | **Additional notes and definitions of command terms**  |
| 7-8 | Ai. **explains** and **justifies** the need for a solution to a problem for a client/ target audienceAiii. **analyses a range** of existing products that inspire a solution to the problem in detailAiv. **develops** detailed design brief, which **summarizes** the **analysis** of relevant research.Bi. **develops detailed** design specifications, which **explain** the success criteria for the design of a solution based on the analysis of the research Bii. **develops a range** of feasible design ideas, using an appropriate medium(s) and **detailed** annotation, which can be **correctly** interpreted by others Biii. **presents** the chosen design and **justifies fully and critically** its selection with **detailed** reference to the design specification Biv. **develops accurate and detailed** planning drawings/diagrams and **outlines** requirements for the creation of the chosen solution. | **Additional notes****Criterion A**When developing the design brief, students should concisely summarize only the useful and relevant information they have found through their \*research. They will present this information in their own words. Students should not copy and paste information from sources without analysis or indicating relevance.\*Research is more than simply using the pre-release materials; students are required to do independent research on the community, the client and the solution.**Criterion B**• For this task, a feasible idea (Bii) is one that could be created in the community specified by the student. To evidence that an idea is feasible, the annotations would need to include approximate cost, location and dimensions. • Examples of “planning drawings/diagrams” for digital design solutions include website navigation maps, interface layout—aesthetic considerations (websites), detailed sketches (graphic design), detailed storyboards (video editing and animations), and so on. • Examples of “planning drawings/diagrams” for product design solutions include scale drawing with measurements (orthographic), part and assembly drawings, exploded drawings, recipes, cutting plans, and so on.**Definitions of command terms****Explain:** Give a detailed account including reasons or causes. (See also “Justify”.)**Justify:** Give valid reasons or evidence to support an answer or conclusion. (See also “Explain”.)**Analyse:** Break down in order to bring out the essential elements or structure. (To identify parts and relationships, and to interpret information to reach conclusions.)**Develop:** To improve incrementally, elaborate or expand in detail. Evolve to a more advanced or effective state.**Summarize:** Abstract a general theme or major point(s)**Present:** Offer for display, observation, examination or consideration.**Outline:** Give a brief account or summary.**List:** Give a sequence of brief answers with no explanation**State:** Give a specific name, value or other brief answer without explanation or calculation.**Create:** To evolve from one’s own thought or imagination, as a work or an invention. |
| **5-6** | Ai. **explains** the need for a solution to a problem for a specified client/target audience.Aiii. **analyses a range** of existing products that inspire a solution to the problemAiv. **develops** a design brief, which **explains** the analysis of relevant research.Bi. **develops** design specifications, which **outline** the success criteria for the design of a solution Bii**. develops a range of** feasible design ideas, using an appropriate medium(s) **and** annotation, which can be interpreted by others Biii**. presents** the chosen design and **justifies** its selection with reference to the design specification Biv. **develops accurate** planning drawings/diagrams and **lists** requirements for the creation of the chosen solution. |
| **3-4** | Ai. **outlines** the need for a solution to a problem for a specified client/target audience.Aiii. **analyses one** existing product that inspire a solution to the problemAiv. **develops** a design brief, which **outlines** the analysis of relevant research.Bi. **lists some** design specifications, which relate to the success criteria for the design of a solution Bii. **presents a few** feasible designs, using an appropriate medium(s) **or** annotation, which can be interpreted by others Biii**. justifies** the selection of the chosen design with reference to the design specification Biv**. creates** planning drawings/diagrams or **lists** requirements for the creation of the chosen solution. |
| **1-2** | Ai. **states** the need for a solution to a problem for a specified client/target audience.Aii. **develops** a basic design brief, which **states** the **findings** of relevant researchBi. **lists some basic** design specifications for the design of a solution Bii. **presents one** design, which can be interpreted by others Biii. **creates incomplete** planning drawings/diagrams. |

## Task D – Mathematics *(please see Task D teacher notes for further examples)*

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| **MYP 5 – Task D** |
| **Level** | **Level descriptor** | **Task-specific clarification** |
| **7-8** | Ciii. move effectively between different forms of mathematical representation.Di. **identify** the relevant elements of the authentic real-life situationDii. **select** appropriate mathematical strategies to model the authentic real-life situationDiii. **apply** the selected mathematical strategies to reach a correct solution to the authentic real-life situationDiv. **justify** the degree of accuracy of the solutionDv. **justify** whether the solution makes sense in the context of the authentic real-life situation. | The student:Ciii* demonstrates the ability to move between **all** the information provided in the infographic to the scenario

Di* **identifies** at least three relevant factors

Dii * has **selected** at least three correct mathematical strategies

Diii* has supporting calculations, that are fully correct, for the geometrical shapes, characteristics of the fish **and** sales and profit

Div* **justifies** the degree of accuracy by considering the averages and by rounding values

Dv* **justifies** if their calculations make sense by referring to the constraints.
 |
| **5-6** | Ciii. usually move between different forms of mathematical representationDi. **identify** the relevant elements of the authentic real-life situationDii. **select** adequate mathematical strategies to model the authentic real-life situationDiii. **apply** the selected mathematical strategies to reach a valid solution to the authentic real-life situationDiv. **explain** the degree of accuracy of the solutionDv. **explain** whether the solution makes sense in the context of the authentic real-life situation. | The student:Ciii* demonstrates the ability to move between **most** of the information provided in the infographic to the scenario

Di* **identifies** at least two relevant factors

Dii * has **selected** at least two correct mathematical strategies

Diii* has supporting calculations, at least two fully correct, for the geometrical shapes, characteristics of the fish **and** sales and profit

Div* **explains** the degree of accuracy by considering the averages or by rounding values

Dv* **explains** if their calculations make sense by referring to the constraints.
 |
| **3-4** | Di. **identify** the relevant elements of the authentic real-life situationDii. **select**, with **some** **success**, adequate mathematical strategies to model the authentic real-life situationDiii. **apply** mathematical strategies to reach a solution to the authentic real-life situationDiv. **discuss** whether the solution makes sense in the context of the authentic real-life situation. | The student:Di* **identifies** at least two relevant factors

Dii * has **selected** at least one correct mathematical strategy

Diii* has supporting calculations, at least one fully correct, for the geometrical shapes, characteristics of the fish **and** sales and profit

Div* **describes** if their calculations make sense by referring to the constraints.
 |
| **1-2** | Di. **identify** some of the elements of the authentic real-life situationDii. **apply** mathematical strategies to find a solution to the authentic real-life situation, with **limited** **success**. | The student:Di* **identifies** at least one relevant factor

Dii* has supporting calculations, at least one fully correct, for one of; the geometrical shapes, characteristics of the fish **or** sales and profit.
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## Interdisciplinary task

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| **Final interdisciplinary task – MYP 5** |
| **Level** | **Level descriptor** | **Task-specific clarification** |
| **7-8** | Bi. **synthesizes** disciplinary knowledge to demonstrate **consistent, thorough and insightful** interdisciplinary understanding Ci. applies communication skills in interdisciplinary learning that is **consistently** well structured, clear and coherent, using selected forms or media **effectively** Cii. **consistently documents well-chosen** sources using a recognized convention | The student:Bi* appropriately **and** correctly combines knowledge from at least two subjects to raise awareness
* addresses three aspects of the chosen issue
* presents ideas that are clear and engaging.

Ci * presents all information and ideas clearly
* organizes all information and ideas in a coherent and logical manner
* selects appropriate form(s) of communication for the identified target audiences
* effectively uses linguistic and/or visual devices to enhance impact on target audiences

 Cii* uses recognized citation for all sources
* uses relevant and reliable sources.
 |
| **5-6** | Bi. **synthesizes** disciplinary knowledge to demonstrate **consistent, thorough** interdisciplinary understanding Ci. applies communication skills in interdisciplinary learning that is **generally** organized, clear and coherent, **beginning** to use selected forms or media **effectively** Cii. **documents relevant** sources using a recognized convention | The student:Bi* appropriately **and** correctly combines knowledge from at least two subjects to raise awareness
* addresses three aspects of the chosen issue.

Ci* presents all information and ideas clearly
* organizes most information and ideas in a coherent and logical manner
* selects appropriate form(s) of communication for the identified target audiences
* uses some linguistic and/or visual devices, demonstrating awareness of how to enhance impact on an audience.

Cii* uses recognized citation for all sources
* uses relevant sources.
 |
| **3-4** | Bi. **demonstrates** disciplinary knowledge to achieve **adequate** understanding Ci. applies communication skills in interdisciplinary learning with **some** organization and coherence, **recognizing** appropriate forms or media Cii.  **lists** sources | The student:Bi* appropriately **or** correctly combines knowledge from at least two subjects to raise awareness
* addresses two aspects of the chosen issue.

Ci* organizes some information and ideas in a coherent and logical manner
* selects appropriate form(s) of communication for the identified target audiences.

Cii* lists sources.
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| **1-2** | Bi. identifies **few and/or superficial** connections between disciplines Ci. applies communication skills in interdisciplinary learning with **little structure, clarity or coherence** | The student:Bi* briefly states some connections between subjects.

Ci* presents information and ideas but these may be difficult to follow.
 |