

MYP *by Concept*
4&5

Design

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Sample



 **HODDER**
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How to use this book

Welcome to Hodder Education's *MYP by Concept* Series! Each chapter is designed to lead you through an *inquiry* into the concepts of design, and how they interact in real-life global contexts.

The *Statement of Inquiry* provides the framework for this inquiry, and the *Inquiry questions* then lead us through the exploration as they are developed through each chapter.

KEY WORDS

Key words are included to give you access to vocabulary for the topic. **Glossary terms** are highlighted, **search terms** are given to encourage independent learning and research skills and, where applicable, **visible thinking routines** are given to encourage their use.


As you explore, activities suggest ways to learn through *action*.

■ ATL

Activities are designed to develop your *Approaches to Learning* (ATL) skills.

◆ Assessment opportunities in this chapter:

Some activities are *formative* as they allow you to practise certain parts of the MYP Design Assessment Objectives. Other activities can be used by you or your teachers to assess your achievement *summatively* against all parts of an assessment objective.

 **Key Approaches to Learning** skills for MYP Design are highlighted whenever we encounter them.

Each chapter is framed with a *key concept*, *related concept* and set in a *global context*.



i Definitions are included for important terms and information boxes are included to give background information, more detail and explanation.

EXTENSION

Extension activities allow you to explore a topic further.

Design situation

You are presented with a design situation, from which you identify a problem that needs to be solved. You analyse the need for a solution and conduct an inquiry into the nature of the problem.

We will reflect on this learner profile attribute:

Inquirers

In this unit you will have a lot of freedom to explore a UN Global Goal of your choosing. Questioning will help you to dig deep to really understand the problems related to that goal.

Assessment opportunities in this chapter:

- Criterion A: Inquiring and analysing
- Criterion B: Developing ideas
- Criterion C: Creating the solution
- Criterion D: Evaluating

Links to: Individuals and societies

In your Individuals and societies class you might explore the history and purpose of the United Nations and may even focus on the UN's Global Goals for Sustainable Development. Your Individuals and societies teachers might even choose to connect with this chapter to make an interdisciplinary unit.

In 2015, the United Nations launched 17 interconnected goals, which it wants all nations and all people to work towards achieving by the year 2030. These goals replaced their Millennium Development Goals and are called the UN's Sustainable Development Goals, usually just named the UN's 'Global Goals'. They are quite broad and include 'No Poverty', 'Zero Hunger', 'Gender Equality' and 'Life Below Water'. Each goal is broken down into 8–12 smaller targets; for example, 'Gender Equality' has nine targets, including 'end discrimination against women and girls', 'eliminate forced marriages and genital mutilation' and 'end violence and exploitation of women and girls'.

At first glance it might look like these goals are aimed at, and need to be tackled by, large organizations and governments. However, we all play a role, including designers. In this chapter you will pick a goal that you are passionate about and use your design skills to do something about that goal.

This chapter provides many flexible options for you to choose from. You might end up designing anything from an app to a necklace. Make sure you consider your skills and the materials available to you.

1 How can designers help us achieve the UN's Global Goals?

You are prompted to consider your conceptual understanding in a variety of activities throughout each chapter.

We have incorporated Visible Thinking – ideas, framework, protocol and thinking routines – from Project Zero at the Harvard Graduate School of Education into many of our activities.

Links to:

Like any other subject, Design is just one part of our bigger picture of the world. Links to other subjects are discussed.

We will reflect on this learner profile attribute ...

- Each chapter has an *IB learner profile* attribute as its theme, and you are encouraged to reflect on these too.

Take action

Guidance is given throughout the book about how to apply your knowledge of the design process to real-life situations. While the book provides many opportunities to apply the knowledge you have learnt in practical ways, you must be an active part in this process. Activities help you to explain the ways in which design can be applied and used, and also to discuss and evaluate the implications of using the principles of design to address specific issues. This should give you a better understanding of the issues facing designers in the twenty-first century. By engaging in these activities, you will also learn the value of communicating clearly and precisely.

MEET THE DESIGNER

These boxes will introduce you to significant people in the field of design, providing background and short biographies.

Finally, at the end of the chapter you are asked to reflect back on what you have learnt with our *Reflection table*, maybe to think of new questions brought to light by your learning.

Use this table to reflect on your own learning in this chapter.

Questions we asked	Answers we found	Any further questions now?			
Factual					
Conceptual					
Debatable					
Approaches to learning you used in this chapter	Description – what new skills did you learn?	How well did you master the skills?			
		Novice	Learner	Practitioner	Expert
Learner profile attribute	Reflect on the importance of the attribute for your learning in this chapter.				

1

How can designers help us achieve the UN's Global Goals?

- What role can designers play in helping us reach the UN's **Global Goals** for **sustainable development**?

We need to make **changes** to become more sustainable.

CONSIDER THESE QUESTIONS:

Factual:

What are the United Nations' Global Goals?
What are the aims of the UN's Global Goals?
What can I do? What do you want the world to look like in 2030?

Conceptual:

How can designers help us meet the UN's Global Goals? Other than designers, who else plays an important role in helping us meet the UN's Global Goals?

Debatable:

Can we fulfil any of the goals without the support of all governments/countries? How might sustainability limit change?

Now **share** and **compare** your thoughts and ideas with your partner or with the whole class.

KEY WORDS

Global Goals United Nations sustainability



Figure 1.1 The UN's Global Goals for Sustainable Development

IN THIS CHAPTER, WE WILL ...

- find out** about the United Nations' Global Goals for sustainable development
- explore** how different people and organizations are working towards these goals
- take action** by choosing a meaningful goal.

These Approaches to Learning (ATL) skills will be useful ...

- Communication skills
- Collaboration skills
- Organization skills
- Reflection skills
- Information literacy skills
- Critical-thinking skills
- Creative-thinking skills



● We will reflect on this learner profile attribute:

● Inquirers

In this unit you will have a lot of freedom to explore a UN Global Goal of your choosing. Questioning will help you to dig deep to really understand the problems related to that goal.

◆ Assessment opportunities in this chapter:

- ◆ Criterion A: Inquiring and analysing
- ◆ Criterion B: Developing ideas
- ◆ Criterion C: Creating the solution
- ◆ Criterion D: Evaluating

▼ Links to: Individuals and societies

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This chapter provides many flexible options for you to choose from. You might end up designing anything from an app to a necklace. Make sure you consider your skills and the materials available to you.

What are the UN's Global Goals?

To learn more about the global goals visit the official website here:

www.globalgoals.org

You can then test your knowledge by playing the Global Goals game on FreeRice. As you play, you see some advertisements, which allows the sponsors to then donate rice to people.

<https://freerice.com/categories/global-goals>



■ **Figure 1.2** FreeRice

ACTIVITY: Exploring the goals

■ ATL

- Information literacy skills: Use critical literacy skills to analyse and interpret media communications



- **Figure 1.3** You may want to watch the video on one device and use another device to record your reflections

UN's Sustainable Development Goals – Overview

www.youtube.com/watch?v=M-iJM02m_Hg&ab_channel=UNICEFGeorgia

Discuss before watching: What do you know about the UN's Global Goals?

Discuss after watching: What else do you know about the UN's Global Goals?

What is sustainable development?

<https://youtu.be/7V8oFI4GYMY>

Discuss before watching: What is sustainability? How do the goals relate to sustainability?

Discuss after watching: What are the three things we need to keep in mind when thinking about sustainability? Re-discuss 'What is sustainability?' and 'How do the goals relate to sustainability?'

No point going halfway

<https://youtu.be/DdLqiTvFwJk>

Discuss before watching: What is the risk of only going 'halfway' – surely any progress is good progress?

Discuss after watching: How does the video use analogies to inspire you? Can you think of another analogy to deliver the same message?

Now answer the following questions in your process journal:

- What are the UN's Global Goals?
- What are the aims of the UN's Global Goals?
- What can I do? (As a teenager? As a designer?)
- What do you want the world to look like in 2030?

◆ Assessment opportunities

- ◆ Some of your answers may be useful in Criterion A i: Explain and justify the need.

ACTIVITY: Research

Many excellent videos have been produced to raise awareness of the UN's Global Goals. These are aimed at different audiences and some are about the goals in general or about the specific goals. Have a look on YouTube and see what you can find. If you find a particularly inspiring video, share it with a family member, friend, teacher or even have it shown in assembly!

DISCUSS

People from many professions work together to reach the UN's Global Goals, including everyone from scientists to politicians, and even artists. No matter your profession, the design cycle can help when solving a problem. Designers often work hand in hand with other professionals to find solutions to big problems. Thinking about this unit and the problem you want to solve, are there any other MYP subjects that could help you? How could interdisciplinary work and understanding help you with your solution?

Command terms and MYP 4–5 Assessment

Terms	Definition
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.)
Construct	Display information in a diagrammatic or logical form.
Create	To evolve from one's own thought or imagination, as a work or an invention.
Define	Give the precise meaning of a word, phrase, concept or physical quantity.
Demonstrate	Make clear by reasoning or evidence, illustrating with examples or practical application.
Describe	Give a detailed account or picture of a situation, event, pattern or process.
Design	Produce a plan, simulation or model.
Develop	To improve incrementally, elaborate or expand in detail. Evolve to a more advanced or effective state.
Evaluate	Make an appraisal by weighing up the strengths and limitations.
Explain	Give a detailed account including reasons or causes (see also 'Justify').
Identify	Provide an answer from a number of possibilities. Recognize and state briefly a distinguishing fact or feature.
Justify	Give valid reasons or evidence to support an answer or conclusion (see also 'Explain').
List	Give a sequence of brief answers with no explanation.
Outline	Give a brief account or summary.
Present	Offer for display, observation, examination or consideration.
Prioritize	Give relative importance to, or put in an order of, preference.
State	Give a specific name, value or other brief answer without explanation or calculation.
Summarize	Abstract a general theme or major point(s).

■ **Table 1.1** Common terms you may find helpful



In every subject in MYP you have slightly different objectives in MYP 1, MYP 2–3 and MYP 4–5. It is important that you look at your new objectives for each subject as you join MYP 4, so you know exactly what is required of you. Familiarizing yourself with the command terms will also help you navigate these documents, as they will help you know what is required of you for different achievement levels.

If you look at Criterion A strand i, this is how you can achieve the following grades:

- 1–2: **states** the need for a solution to a problem for a specified client/target audience
- 3–4: **outlines** the need for a solution to a problem for a specified client/target audience
- 5–6: **explains** the need for a solution to a problem for a specified client/target audience
- 7–8: **explains and justifies** the need for a solution to a problem for a client/target audience

At first glance, these descriptions might all seem very similar. The key here is to look at the command terms (**states**, **outlines**, **explains** and **justifies**) so that you know what is required of you.

You can practise using the command terms to answer simple questions at different levels, for example: ‘Why should we ban plastic cutlery in our school cafeteria?’

- 1–2 (**STATES**): In our cafeteria, students are given plastic cutlery, which is then thrown away every day.
- 3–4 (**OUTLINES**): In our cafeteria, students are given plastic cutlery, which is then thrown away every day. Plastic waste is a big problem, which impacts the environment, so as a school we are contributing to this issue.

- 5–6 (**EXPLAINS**): In our cafeteria, students are given plastic cutlery, which is then thrown away every day. Plastic waste is a really big problem, which impacts the environment, because the plastic takes many years to decompose. It fills landfills and often finds its way into other environments, which can damage wildlife, including fish and birds.
- 7–8 (**EXPLAINS AND JUSTIFIES**): In our cafeteria, students are given plastic cutlery, which is then thrown away every day. Plastic waste is a big problem, which impacts the environment, because the plastic takes many years to decompose. It fills landfills and often finds its way into other environments, which can damage wildlife, including fish and birds. The *National Geographic* article by Tik Roon in 2019, ‘Why carrying your own fork and spoon helps solve the plastic crisis’, states that plastic cutlery is one of the deadliest forms of waste in our ocean, killing many fish, birds and other animals. As a school, we are contributing to this issue.

Although in this example you can see the answers getting longer and longer, you could easily accidentally just **outline** or **explain**, while writing a lot. The key here is in the definition for **justify**, which says you must provide ‘valid reasons or evidence’. Use **justify** as an excuse to show off your research.

Other questions you could consider to practise using the different command terms for Criterion A i, include:

- Should all schools teach Design?
- Should homework be banned?
- Should school lunches be free?

You can also practise with the debatable questions from any of your units.

Design situation

You are going to appear on a reality TV show where you will **pitch** an idea for a product to a small group of investors. You must show why your product is novel, realistic and, most importantly, the **impact** you think your product could make. The theme of the reality TV show is 'working towards the UN's Global Goals' and your product can be linked to any goal of your choosing.

This is inspired by real reality shows where entrepreneurs pitch their products to a group of potential investors. The investors decide on the spot if they will support the products financially or not. You may know it as Dragons' Den, Shark Tank, *manē no tora* (The Tigers of Money), Lions' Den, *Fikr wa Talash* (Dream and Achieve), *Dans l'œil du dragon* (In the Dragon's Eye), *Die Höhle der Löwen* (The Lions' Cave) or even *Tu Oportunidad* (Your Opportunity).



■ Figure 1.4 The Fairphone

ACTIVITY: Selecting your goal

■ ATL

- Information literacy skills: Collect and analyse data to identify solutions and make informed decisions

You might already be drawn to one particular goal. If you are stuck, here are two suggestions to help you select a goal that has meaning to you.

- 1 **Think of all the big news stories that have happened over the last year. Which has had the biggest emotional impact on you? Does this link to a UN Global Goal?**
- 2 **Think about the things that make you excited or angry. You might also think about previous Service as Action projects you have enjoyed taking part in. Do these link to any UN Global Goals?**

If you are still stuck, have a classmate pick a goal for you to explore. Every goal is interesting, important and meaningful – sometimes having someone pick a goal that you would not have selected makes you think a bit differently and brings you more inspiration and new ideas.

Once you have picked your goal, look at the targets associated with that goal. You can do this by visiting

www.globalgoals.org, clicking on the goal you are interested in and then scrolling down to see the targets.

Now brainstorm around that goal, with the aim of answering 'My goal is important because ...'. Alongside your own ideas, try to find facts and quotes to show why it is important (this will help you **justify** why you have chosen this goal).

You might also want to think about the following: How does the goal affect you, your local community, the wider world? Who else is impacted by the goal? This will help you later when you really **define** your goal and your target audience.

Imagine you have selected Global Goal 14, Life below water, Target: Sustainable fishing. How much easier would it be to **describe** the problems, your product, your target audience and the impact, if you are focusing on a specific area, for example the Coral Triangle, than just sustainable fishing in general?

Use your answers to **summarize** the goal and target you have selected and why.

◆ Assessment opportunities

- ◆ This activity can be assessed using Criterion A i: Explain and justify the need.