MYP Design: Solving Real-World Problems with Creativity and Innovation

A student-friendly guide to the IB MYP Design Cycle and how it turns ideas into solutions.

Introduction to MYP Design

The **IB Middle Years Programme (MYP) Design** class is all about learning how to solve real-world problems in creative ways. In MYP Design, you are challenged to think like a designer or engineer – identifying needs, brainstorming ideas, making prototypes, and testing solutions. The focus isn't just on making a cool final product; it's on the process you follow to get there. This process of solving problems is called the **Design Cycle**, and it helps you **structure your work** step by step. By working through the design cycle, you'll practice skills like research, planning, creating, and reflecting – the same skills real designers use in fields like technology, engineering, and architecture. MYP Design shows you that with the right process, **your ideas can become innovative solutions** in the real world.

The MYP Design Cycle at a Glance

The IB MYP Design Cycle is a visual loop divided into four phases (A, B, C, D). Each phase corresponds to a criterion used to guide students from an initial problem to an evaluated solution. **In MYP Design, every project goes through four main stages:**

- **Criterion A: Inquiring & Analyzing** – You start by *investigating the problem*. This means explaining why a solution is needed and who the solution is for. You'll research the problem, explore existing products or solutions, and learn from them. By the end of this stage, you create a clear **design brief** that summarizes the problem and your research findings. *Example:* If redesigning a lunchbox, you'd interview classmates about lunchbox issues and analyze current lunchbox designs.
- **Criterion B: Developing Ideas** – Next, you *come up with creative ideas* for a solution. You establish **design specifications** (list of requirements your solution should meet), then brainstorm and sketch different possibilities. You might make drawings or diagrams of each idea. After comparing your ideas to the specs, you choose the best one and develop it further with detailed plans or blueprints. This stage is about planning and communicating your design clearly. *Example:* For the lunchbox, you might sketch several eco-friendly designs and then pick one final concept, detailing its size, materials, and features.

- **Criterion C: Creating the Solution** – Now it's time to *turn your idea into reality*. You follow a plan to **build a prototype** or model of your chosen design. This could involve using tools, software, or crafting materials, depending on the project. You should document each step as you create, including any changes you have to make along the way. The goal is to produce a functioning solution that can be tested. *Example:* For the lunchbox project, you gather sustainable materials (like recycled plastic or bamboo) and construct a working prototype of your new lunchbox design.

In the "Creating the Solution" stage, a student operates machinery to fabricate parts of a prototype. Hands-on making is a core part of Criterion C. As you build, you might encounter challenges – maybe a material is harder to cut than expected, or the initial design doesn't fit together perfectly. **Problem-solving during making** is encouraged: you can adjust your plan and make improvements on the fly. This flexibility teaches you to adapt like real engineers do when facing unexpected issues. Throughout Criterion C, you also pay attention to quality and safety, ensuring your solution is made as accurately as possible.

- **Criterion D: Evaluating** – The cycle ends with you *testing and reflecting* on your solution. You design tests to see if your prototype meets the **design specifications** and works for the intended user. This could mean gathering user feedback, measuring performance, or comparing it against criteria you set. You then **analyze the results** and determine how successful your solution is and in what ways it could be improved. Finally, you consider the impact: How does your solution affect the user or the environment? Could it be made better or used in a broader context? *Example:* For the lunchbox, you might have a classmate use it for a week and survey them on its insulation, durability, and convenience. If the lid leaked one day, you'd note that as an area to improve. If all went well, you'd explain what worked and why the design succeeded.

Students showcase a prototype (in this case, custom-built drones) and discuss its features and performance with others. In Criterion D, sharing your results and getting feedback is key. **Evaluation isn't about criticizing yourself – it's about learning.** Even if a prototype fails some tests, that's okay. You identify what can be better and suggest changes. Sometimes you might loop back into earlier stages – for instance, go back to developing ideas or creating a second version based on what you learned. This *iterative process* of test and improve is exactly how professional designers make products better over time. By thoughtfully evaluating, you become more aware of your learning and progress as a young designer.

Design Cycle Checklists – Are You Covering All the Steps?

After each stage, use these quick checklists to ensure you've done everything needed:

✅ Criterion A: Inquiring & Analyzing – Checklist

- Did I **explain the problem** and why a solution is needed (who will benefit)?
- Did I **research existing solutions** or similar products to learn from them?
- Did I gather information about the **target user** or audience?
- Did I write a clear **design brief** summarizing the problem, research insights, and what my solution needs to achieve?

✅ Criterion B: Developing Ideas – Checklist

- Did I establish **design specifications** (list of requirements for success)?
- Did I **brainstorm multiple ideas** and sketch or outline each one?
- Did I evaluate my ideas against the specifications and **choose the best idea**?
- Did I develop the chosen idea with a **detailed drawing or plan** (including measurements, materials, etc.)?

✅ Criterion C: Creating the Solution – Checklist

- Did I make a step-by-step **plan** or list of tasks before building?
- Did I **follow the plan and build** a prototype of my solution?
- Did I document the process with photos or notes, including any **changes** I had to make and why?
- Did I work **safely and carefully**, demonstrating skills in using tools or technology?
- Is my prototype **functional** and ready for testing?

✅ Criterion D: Evaluating – Checklist

- Did I design **tests** to check if my solution meets the specifications (e.g. trials, surveys, measurements)?
- Did I **carry out the tests** and collect honest feedback or data about my solution's performance?
- Did I **analyze the results** and objectively conclude how successful the solution is?
- Did I identify **areas for improvement** and suggest what could be changed in the next version?

- Did I reflect on how my solution **impacts the user or environment** (e.g. is it sustainable, helpful, user-friendly)?

Using these checklists will help you cover all the required parts of each criterion. In MYP Design, **skipping a step can weaken your project**, so it's good practice to ensure you've hit all the points above. It's like a roadmap to guide your project from start to finish.

ATL Skills in Each Stage of the Cycle

Approaches to Learning (ATL) skills are general skills that help you "learn how to learn," and MYP Design is a great place to develop them. Throughout the design cycle, you will use and strengthen a variety of ATL skills:

- **Research Skills** – In the Inquiring & Analyzing stage, you practice finding information from reliable sources and recording it properly. For example, you might use **information literacy** skills to cite sources or **media literacy** to find quality images and facts for your research. You learn to ask good questions and seek answers – a key research skill.
- **Thinking Skills** – All stages involve thinking, but particularly in Developing Ideas and Evaluating. You use **creative thinking** to brainstorm original ideas and **critical thinking** to compare options or analyze test results. In MYP Design, you're often thinking about how to solve problems (creative) and also judging how well your solution works (critical).
- **Communication Skills** – When you draw sketches, write design briefs, or present your final product, you're communicating. Explaining your ideas clearly (through diagrams, presentations, or writing) is an important skill practiced especially in Developing Ideas (to communicate your design) and Evaluating (to communicate your results and reflection). If you work in a team, **collaboration (social skills)** also come in – sharing tasks, listening to others' ideas, and giving feedback are all communication and social skills.
- **Self-Management Skills** – In the Creating stage, you need to manage your time and organize your materials – this uses **organization skills**. Following a plan, or adjusting it when things go wrong, requires **perseverance and adaptability**, which are part of self-management. You also use **reflection**, especially in the Evaluating stage, to think about what you learned and how you can improve next time.

These ATL skill categories – **Communication, Collaboration, Research, Thinking, and Self-Management** – are woven into each design project. For example, one IB educator notes that the design cycle naturally engages communication, thinking, and research skills at every phase. By being aware of these, you're not just designing a product – you're also **improving how you learn and work**. These skills will help you

in all subjects, not just design, and they're exactly the kinds of abilities that make for successful independent learners. So, as you prototype or code or craft in MYP Design, remember you're also practicing teamwork, organization, creativity, and more. This is why MYP Design is such a valuable class: it's training you to think and act like a problem-solver in any situation!

Typical Projects and Assignments in MYP Design

One of the exciting things about MYP Design is the **variety of projects** you might do. MYP Design can be taught as **digital design**, **product design**, or a mix of both. This means your assignments could involve computers and apps, or hands-on building (or sometimes both!). Here are some common types of design class projects:

- **Graphic Design and Branding:** You might create things like posters, logos, or brochures for a real or imaginary client. For example, designing a poster to promote recycling in your school or creating a logo for a student club. These tasks focus on visual communication and often involve software for drawing or editing images.
- **App Design and Coding:** Many MYP Design classes include **digital projects**. You could be asked to design a simple mobile app or a webpage. For instance, you might prototype a **mental health app for teens** or code a basic game. This develops your skills in user experience (UX) design and basic programming. Even if you're not a coding expert, you learn how to plan app screens or use block-coding to make an interactive product.
- **3D Modeling and Product Design:** This is a more hands-on category. You might use 3D design software (like Tinkercad or SketchUp) to design an object, which could then be 3D-printed or built with materials. Projects here include designing **everyday products** – for example, a more ergonomic chair, a water bottle that filters water, or a model bridge. You learn about materials, measurements, and how to make things sturdy and functional. Sometimes you actually build the item using cardboard, wood, plastic, or Lego – bringing your digital model into the real world.
- **Electronics and Robotics:** Some schools have design projects where you build and program a simple robot or gadget. For example, assembling a small robot that can follow a line on the floor, or designing a smart home device (like a mini automatic night-light). These projects teach you about circuits and programming hardware. They combine creativity with engineering – you might design the casing of the device (the "product design" aspect) and also code its behavior (the "digital design" aspect).

- **Engineering Challenges:** MYP Design often overlaps with STEM (science, tech, engineering, math). You could get a challenge like **"build the tallest tower using only paper"** or **"design a device that can launch a marble the farthest distance"**. For example, one class might build bridges out of spaghetti to learn about structural design. Another example is designing a **portable, eco-friendly phone charger**. These challenges make you apply scientific principles and the design cycle to solve a practical task. They're also a lot of fun, and you usually test everyone's solutions in a friendly competition!
- **Community and Sustainability Projects:** Some design tasks connect to real community issues or global problems. You might be asked to design something to help people in need or to improve the environment. For instance, designing an **accessible public park layout** for people with disabilities, or creating a prototype of a device that reduces plastic waste. In these projects, you learn to be empathetic – understanding the users – and you see how design can make a positive impact. (For example, students might create campaigns to reduce single-use plastics at school, combining graphic design with social action.)

No matter what the specific assignment is, you will always be using the design cycle: **researching the background**, **brainstorming ideas**, **creating a model or prototype**, and **evaluating its success**. And importantly, MYP Design emphasizes that **the process is more important than the final product.** Whether your app or gadget works perfectly or not, what really matters is how you went about solving the problem. That's why documentation and following the cycle steps is so emphasized in every project. By trying different kinds of projects – from coding to crafting – you become a **well-rounded designer** with experience in many areas.

Documenting Your Design: The Design Folder & Journal

When you take MYP Design, you'll hear your teacher talk a lot about your **"design folder"** or **design journal**. This is where you **document every stage** of your design cycle. Think of it like a diary of your project, or a lab report for your design. Why is it so important? Because in MYP Design, *how you got to the solution* is just as critical as the solution itself.

What goes in a design folder? Everything! It will include your notes on the problem, pictures or screenshots of products you researched, sketches of your ideas, photos of your prototype under construction, test plans, results (like charts or feedback forms), and your reflections. A good design folder shows a clear story from start to finish of your project. An examiner or teacher should be able to read it and understand exactly what you did and learned at each step. For example, in Criterion A you might include a summary of an interview you did with a potential user. In Criterion B, you'd include scanned drawings of your different design ideas with notes. In Criterion C, you could have a table schedule for making and in-progress

photos of your prototype. In Criterion D, you might show a graph of test results and write a reflection on what you'd change in the future. It's called a "folder" because it can be a digital or physical folder containing all this evidence of your process.

Why is documentation crucial? First, it helps you as a designer to keep track of your own thoughts and improvements. It encourages you to be organized and methodical. If something didn't work out, you have notes to refer to (so you don't repeat a mistake). If you had a brilliant idea in November but only built it in January, you won't forget the details because it's written down. Secondly, it's how you're graded. The IB MYP Design criteria are assessed largely through what you **write and present** in your design folder, not just the object you made. For example, Criterion C doesn't just grade the final product – it grades how well you **documented the creation process and followed your plan.** Criterion D looks at how well you recorded your testing and reflections. In fact, during official IB moderation or eAssessment, students have to submit a "design project ePortfolio" which includes a complete design folder with all these elements.

According to IB guidelines, a solution in design can be a **"model, prototype, product or system"** and it must be **presented with a design folder containing the brief and specifications**. In other words, no matter how amazing your invention is, you need to explain it and the journey to create it. As a student, this might feel like extra writing, but it's truly part of the learning. When you compile your design folder, you are **reflecting** on your own work. You're essentially teaching someone else *how* you solved the problem, which reinforces your understanding.

Tips for maintaining your design journal: Don't leave all the writing to the end! It's best to update your journal as you go. After a research session, jot down bullet points of what you found (and sources). After a brainstorming class, take a photo of your brainstorm notes or sketch and put it in your document with a caption. While building, keep a notebook or digital log open and note any adjustments ("Decided to use a smaller hinge because the big one didn't fit"). This way, when you finish the project, most of your documentation is already done – you're just compiling it neatly. Many students use Google Docs, Microsoft OneNote, or ManageBac design folders to keep everything in one place. Some prefer a handwritten notebook that they later scan or photograph pages from. Find what works for you.

In summary, **your design folder/journal is the story of your design**. It shows all the thinking behind your creation. In the future, designers in the real world often keep project journals or portfolios too – it's not just a school thing. It helps teams communicate and keeps a record of progress. By practicing this now, you're learning an important professional habit. And importantly, you're demonstrating to your teachers that **you understand the design cycle** deeply by writing about each part of it. So, embrace the documentation process – it might actually turn out to be quite satisfying to see how far you've come when you look back through your design journal at the end of a project!

Example Design Project: *Redesigning a Lunchbox for Sustainability*

To see how everything comes together, let's walk through a **fictional student project** from start to finish. Imagine your class is given this challenge: **"Redesign the everyday lunchbox to be more sustainable and user-friendly."** Here's how one student (let's call her Alex) might use the design cycle to tackle this project:

1. **Inquiring & Analyzing (Criterion A):** Alex begins by *investigating the problem*. She notices that many students at her school use disposable bags or old plastic lunchboxes that break easily. This creates a lot of waste. She defines the problem as: *"We need a lunchbox that is eco-friendly (better for the environment) and durable."* Alex then researches existing lunchboxes. She looks up what materials they use (plastic, metal, silicone, etc.) and their pros/cons. She finds, for example, that metal lunchboxes last long but are heavy, and plastic ones are light but often not recyclable. She also surveys 10 classmates, asking what they wish their lunch containers had – some say "keeps food cold," others say "more compartments," others care about style. From this, Alex writes her **design brief**: *Many students produce waste with disposable lunch packaging. There is a need for a sustainable lunchbox that keeps food fresh, has separate compartments, and is comfortable to carry.* She lists the main points from her research (e.g. "Use recyclable or biodegradable material"; "Include thermos section for temperature control"; "Compact size to fit in backpack"). Now she has a clear direction for designing.
2. **Developing Ideas (Criterion B):** Next, Alex brainstorms **ideas for the new lunchbox**. She sets **design specifications** based on her research: for example, *Material must be biodegradable or recyclable*, *Must have at least two compartments*, *Target cost under $20*, *Insulated walls to keep food cool*. Using these specs as a guide, she sketches **three different concepts**:
    - *Idea 1:* A lunchbox made of bamboo fiber, with a strap, and a built-in fork/spoon holder.
    - *Idea 2:* A modular lunchbox with clip-on compartments (made of recyclable plastic) so you can adjust the size.
    - *Idea 3:* A fabric wrap (like Japanese furoshiki style) that unfolds into a placemat – very eco-friendly, but needs a liner for any leaks.

She annotates each sketch with notes (e.g., for Idea 1: "bamboo lid doubles as cutting board; use silicone seal to prevent leaks"). Alex then evaluates her ideas against the specs: Idea 3, while cool, might not keep food cold or prevent spills – so she rules that out. Idea 1 and 2 both seem promising. She decides to go with *Idea 2, the modular lunchbox*, because adjustability could really reduce waste (people only use the size they need). She writes a short **justification** for her choice: "Idea 2 best meets the need as it's versatile (fits different meal sizes) and uses recyclable PP

plastic which is durable and can be recycled. Insulation can be added with a foam layer." Now Alex draws a more detailed blueprint of the chosen design, with measurements (e.g., 20cm x 15cm box, 3cm deep compartments) and labels for materials. She also plans out how it will snap together.

3. **Creating the Solution (Criterion C):** Time to build! Alex doesn't have a factory, but she does have access to her school's Makerspace. She decides to create a **prototype** of one module of the lunchbox to test the concept. She chooses a thick biodegradable plastic (PLA) to 3D-print a small container that matches her design. First, she uses Tinkercad (a 3D modeling software) to create a 3D model of her lunchbox module. She follows her blueprint for dimensions. After a couple of hours of tweaking the design on screen (making sure edges have the right thickness, etc.), she prints it on a 3D printer. The result is a rough white plastic container. It's not as big as the final would be (maybe she prints a smaller scale model due to time), but it shows the idea.

Alex also sews a simple insulated sleeve using scrap fabric and an old insulating grocery bag – this would wrap around the lunchbox to keep food cold, as per her specs. During the making process, Alex keeps a log. For instance, she notes that her first 3D print failed because the walls were too thin, so she adjusted the design and tried again. She documents this with a photo of the failed print and a sentence: "Initial print cracked – increased wall thickness from 1mm to 2mm and reprinted successfully." She paints the prototype green just for presentation. Essentially, by the end of this stage, Alex has a tangible model: a mini lunchbox module that can clip to others (she might only print one or two modules to demonstrate how they connect). She followed her plan, adjusted when needed, and now has something to test.

4. **Evaluating (Criterion D):** Now Alex tests and gathers feedback on her prototype. She can't fully test keeping food cold with a scale model, but she can demonstrate the module's concept. She shows it to three classmates and her teacher. She asks them questions: "Do you find this clip-on idea useful? Is it easy to open? What size would you want it?" She also does a small **drop test** – oops! The prototype cracks when dropped from shoulder height (the PLA plastic is a bit brittle in thin parts). Alex writes down these results. The feedback might be: *Classmate 1:* loves the modular idea but suggests adding a handle; *Classmate 2:* worried if it's leak-proof; *Teacher:* reminds her that biodegradable PLA, while eco-friendly, might not tolerate high heat (like a dishwasher). Alex compiles this feedback and evaluates her design.

She concludes that **her solution meets some criteria** well (it's adjustable, reasonably durable for normal use, and uses eco-friendly material), but **needs improvement** in others (needs better sealing for liquids, and material might need to be a mix of PLA and another bio-plastic to avoid brittleness). She identifies areas for improvement: *"Use silicone lids or gaskets to improve leak-proofing; test a drop with thicker corner design; consider a carry strap."* Alex also reflects on the design's

impact: It would reduce single-use plastic bags if implemented, and using biodegradable material means if it ever gets thrown away, it's less harmful than typical plastic. However, she notes that producing it would still use energy, so maybe integrating recycled plastic would be even better.

In her final report (design folder), Alex writes a paragraph summarizing: *"My lunchbox solution addresses the need for flexibility and sustainability by allowing users to customize size and using biodegradable material. Through testing, I found the concept is well-received, but the prototype needs enhancements in durability and leak prevention. In the future, I would improve the latch mechanism and material thickness. Overall, I learned how important material choice is in product design, and I demonstrated that a modular lunchbox is a feasible solution to reducing waste."* This kind of reflection shows she evaluated both the **product's success** and her **own learning**.

This example shows how a project flows through all four stages. From identifying a real problem (waste from lunchboxes), researching and planning a thoughtful solution, making a prototype, to testing and reflecting – that's the **MYP Design Cycle in action**. Your projects might be completely different (technology, fashion, engineering, etc.), but the *approach* will be similar. By practicing on something relatable like a lunchbox, you build confidence to take on bigger design challenges. You can see how each criterion leads naturally to the next: you can't brainstorm well without understanding the problem (A leads to B), you can't build effectively without a clear plan (B leads to C), and you can't judge success without something to test (C leads to D). And after D, you often circle back for another iteration – that's why it's a **cycle**. Every time you go through it, you come out with new knowledge and a better solution.

Why MYP Design Matters (Beyond the Classroom)

By now, you've seen that MYP Design is more than just an art class or a tech class – it's a **problem-solving class**. The projects you do might seem small (like a lunchbox) or for school, but the mindset and skills you gain can apply to many real-world situations. The design cycle you're learning is actually a version of what engineers, architects, game developers, entrepreneurs – you name it – use in their work. When you learn to **identify needs, think up solutions, test and improve them**, you are learning how to tackle any challenge systematically.

Think about some real innovations: smartphones, eco-friendly cars, even social initiatives like improved wheelchair designs – all of these likely went through cycles of design: researching what users need, prototyping, getting feedback, and refining. In MYP Design, you're simulating that process at a junior level. It prepares you for future studies in design and technology (for example, IB Diploma Programme Design Technology, engineering courses, or even creative fields like industrial design). More

importantly, it prepares you to be **innovative in everyday life**. You might one day use the design cycle informally to plan a community project or to fix a problem at home. One IB article notes that through design, students "learn to approach complex challenges with structured thinking and creativity" – a skill useful in any career.

MYP Design also ties in values and ethics. You're encouraged to think about the **impact** of designs: is it sustainable? Is it fair? Does it help people? In our example, Alex considered environmental sustainability. Many MYP Design projects intentionally connect to global issues or the **Global Contexts** (like Scientific and Technical Innovation, or Fairness and Development). For instance, you might design a water filter for a community without clean water, combining science and empathy. This shows you the power of design to make a difference, not just to make money or gadgets.

In addition, working through long-term projects teaches you **perseverance and resilience**. Designs rarely work perfectly on the first try. You learn to handle setbacks ("My code had bugs, but I debugged them" or "My first model collapsed, but the second was better"). This growth mindset – seeing failures as learning opportunities – is incredibly valuable. It makes you more confident and independent as a learner. In fact, many students find that after a few design projects, they feel more comfortable starting any big task, because they can break it down into stages and approach it methodically (just like the cycle).

Finally, MYP Design can be a lot of **fun and very creative**. It balances analytical thinking with artistry. One day you might be crunching measurements, the next day you're sketching wild ideas, and another day you're cutting cardboard or filming a video of your prototype in action. It's hard to get bored! If you are someone who likes doing and creating, this class will likely be a highlight of your schedule. And even if at first you're not "a tech person" or "an art person," you'll find your groove – maybe you discover you love coding, or you have a knack for CAD drawing, or you're really good at managing projects. There's a place for every talent in the design process.

In summary, the MYP Design course helps you grow into a thinker and creator who can shape a better future. You learn to blend creativity with logic, to listen to others' needs, and to not give up when faced with a tough problem. These are the qualities of inventors, leaders, and change-makers. By the end of MYP (and definitely by the end of this design class!), you'll have a portfolio of creations and, more importantly, a designer's mindset. Keep that mindset curious and open. Who knows – a simple school project could spark an idea that you carry forward and develop into something real one day. As the IB says, MYP Design "helps students become confident, creative, and capable learners who can apply their skills to both academic challenges and real life situations". You are the *innovators of tomorrow*, and the design cycle is your training ground. Happy designing!

Quick Summary: MYP Design Cycle and Key Points (For Web)

- **What is MYP Design?** – It's an IB Middle Years Programme course where students (ages 11–16) learn to solve real-world problems using **design thinking**. Instead of focusing only on final products, MYP Design emphasizes a **holistic design process** – students identify needs, brainstorm solutions, create prototypes, and test/evaluate the results. The goal is to apply practical and creative thinking skills to everyday challenges, preparing students to be innovative problem-solvers.

- **The Design Cycle (4 Stages):** MYP Design projects follow a four-phase cycle (linked to criteria A–D):
  1. Inquiring & Analyzing (Criterion A): Define a clear problem and research it deeply. Students explore the target user's needs and analyze existing solutions.
  2. Developing Ideas (Criterion B): Ideate and plan. Students sketch multiple design ideas, establish design requirements, then choose the best solution and make detailed plans or drawings.
  3. Creating the Solution (Criterion C): Bring the idea to life. Students follow a plan to build a prototype or product, using technical skills and documenting changes/challenges along the way.
  4. Evaluating (Criterion D): Test and improve. Students test their prototype against the requirements, gather feedback, and critically evaluate its success. They identify improvements and reflect on the design's impact.
  This cycle is iterative and student-centered – at any point students can refine their work, and the focus is on learning from each stage rather than rushing to a perfect outcome.

- **Real-World Connections:** The MYP design cycle mirrors how professional designers and engineers work. For example, in technology fields (like app development or robotics) and in product design (like architecture or fashion), creators go through similar steps: research, brainstorm, prototype, test. By practicing this in class, students build transferable skills for future careers and everyday life. MYP Design often addresses real issues – sustainability, accessibility, innovation – so students see how design can positively impact society and the environment. Projects might involve designing eco-friendly products or solutions for community problems, linking classroom learning to global contexts.

- **Typical Projects:** MYP Design projects can be **digital, physical, or a mix**. For instance, students might create a **graphic design** project (like a poster or school magazine layout), develop a **digital solution** (such as a simple mobile app or website), or work on a **product design** (like building a model bridge, a piece of furniture, or a gadget prototype). Some classes include **robotics and coding** challenges, while others do **engineering design tasks** (e.g.

constructing a device from given materials). All these projects require students to use creativity and logic together – whether they are coding a game or crafting a physical model, they must follow the design cycle steps. The variety keeps the course engaging and lets students discover different areas of design.

- **ATL Skills in Action:** MYP Design actively develops **Approaches to Learning** skills. In the research phase, students use **research skills** (finding reliable info, citing sources). In brainstorming and planning, they apply **creative and critical thinking skills** to generate and refine ideas. Communication skills come into play when sketching designs or presenting their work (and if collaborating in teams, **social skills** like teamwork are practiced too). During creation, **self-management skills** (organization, time management) are key to follow the plan and troubleshoot issues. Finally, in evaluating, students use **reflection** and critical thinking to honestly assess their work and learn from feedback. In short, each stage of the cycle reinforces different ATL skill areas – helping students become better learners overall, not just in design class.
- **Design Journals & Documentation:** Students keep a **design folder/journal** documenting every step of their project. This includes notes of research findings, brainstorming sketches, photos of the prototype in progress, test results, and reflections. Careful documentation is **crucial**: it shows evidence of the student's process and is a big part of how they are assessed. By maintaining a journal, students learn to organize their work and communicate their thinking. The design folder essentially "tells the story" of the project from start to finish. In formal assessments, the IB requires a complete design folder accompanying the finished solution. This encourages students to value the learning process (inquiry, ideas, trials, and errors) as much as the final product. Good documentation also makes reflection easier – students can look back and see how they solved problems or how their idea evolved.
- **Assessment Criteria (A, B, C, D):** Like all MYP subjects, Design uses **criterion-based assessment**. Each of the four criteria A–D is scored on a scale from 0–8. In simple terms:
  Criterion A checks how well students researched and understood the problem (did they state a clear problem, justify the need, and analyze relevant information?).
  Criterion B looks at the quality of the ideas and planning (did they develop a thoughtful design specification and create a feasible, detailed design idea?).
  Criterion C evaluates the creation process and the final product (did the student follow a plan to make the solution, and does the prototype function as intended?).
  Criterion D focuses on testing and reflection (did they design and conduct tests, evaluate the success objectively, and identify improvements?).

Students are graded not just on what they made, but **how they made it and what they learned**. This means even if a project has hiccups, a student can still score well by showing strong process work and insightful reflection.

- **Example – Sustainable Lunchbox Project:** To illustrate, a student might tackle a project to design a **sustainable lunchbox**. In *Criterion A*, they research current lunchboxes, plastic waste issues, and what users need (e.g. keeping food fresh) – discovering the problem of lunch packaging waste and setting a goal to fix it. In *Criterion B*, they sketch different eco-friendly lunchbox ideas (maybe one made of bamboo, one modular design, etc.) and then choose the best option, detailing how it will work. In *Criterion C*, they build a prototype, perhaps using a 3D printer or crafting with recycled materials, documenting changes they make during construction. Finally, in *Criterion D*, they test the lunchbox prototype (check for leaks, ease of use, get peer feedback) and find that, say, it needs better insulation. They write an evaluation of how well their design solved the problem and propose adding, for example, a foam layer to improve it. This project shows the full cycle: **Identify problem → develop solution → create it → evaluate it**, all while considering real-world factors like sustainability.
- **Why Take MYP Design?** – MYP Design is **hands-on and empowering**. You learn to take an idea from concept to reality, which is incredibly rewarding. The course builds your confidence in tackling unfamiliar problems because you have a clear method to follow. It also ties together knowledge from different subjects – you might use a bit of science, math, art, and computer skills all in one project. By the end, you'll have a portfolio of creations and, more importantly, a designer's mindset. You become someone who says, *"I can fix this"* or *"I can make this better,"* rather than someone who only sees problems. These design and innovation skills are valuable in the 21st century, where employers and communities need creative thinkers who can adapt and solve issues. Even if you don't become an engineer or designer in the future, the *way of thinking* you cultivate in MYP Design will help you in research projects, business planning, scientific inquiry, and more. It's a class that prepares you not just for exams, but for real-life challenges – making you an active creator in a world full of opportunities for improvement.

Sources

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2. Design Cycle Explanations (Student-Friendly)

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Student-facing Google Site describing the design cycle, with separate sections for A, B, C, D and guiding questions under each. Google Sites
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3. Assessment Criteria & Rubrics (Criteria A–D)

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Sets out official objectives and descriptors for MYP Design criteria A–D, including what students should be able to do at the end of the course. Montgomery County Public Schools
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Teacher-made version of the criteria A–D arranged from highest to lowest levels, useful for students to see what "excellent" looks like at the top of each rubric. VistaThink
https://www.vistathink.com/modified-myp-design-assessment-criteria/

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https://jefferson.apsva.us/wp-content/uploads/sites/22/2019/11/IB-MYP-Assessment-Objectives-and-Strands-2.pdf

4. Classroom Guides & School Examples

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Short summary of how design challenges students to solve problems, consider their responsibilities, and focus on process. Good for short quotations on "why Design." Google Sites
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