



# Grade 10: Product Design



# AIMS OF DESIGN

Source: IB MYP Design Subject Guide

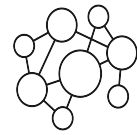
- enjoy the design process, develop an appreciation of its elegance and power
- develop knowledge, understanding and skills from different disciplines to design and create solutions to problems using the design cycle
- use and apply technology effectively as a means to access, process and communicate information, model and create solutions, and to solve problems
- develop respect for others' viewpoints and appreciate alternative solutions to problems



# Unit: Perfect fit



**Goal: Create a laptop stand that incorporates ergonomics and user centered design**



### Situation:

In today's classroom it is normal to use a laptop computer for most of the day. However, the design of most laptops, and how and where they are used, mean users do not always use them in the most ergonomically correct way. Students who travel from class to class, and back home again with their computers, need a solution that is convenient, portable, and durable.



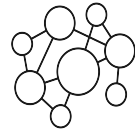
### Role:

You are a designer who is seeking to develop a better laptop stand for students. You will use your design research skills, ideation skills, and modeling and assembly skills to create a design for middle and high school students.

## Unit: Upcycling



**Goal: Develop a 3D-printed object that upcycles an existing waste item.**



### **Situation:**

Upcycling is the finding of new value in objects that are discarded by adding designs and discovering new purpose.

The market for these types of items is growing as eco-conscious consumers want to make more sustainable and responsible consumption choices.



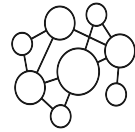
### **Role:**

You are a product designer who has been asked to develop a 3D printed solution to be sold in an upcycling store. Using research about the market for upcycling in Korea, you will use feedback from your peers to develop a solution.

# Unit: Illumination



**Goal:** Using concepts of form and function and 10 principles for good design, Design a lighting solution



### **Situation:**

Lighting designs are often used by designers to showcase their design skills and design thinking. Your lighting design team is tasked with using CAD/CAM technologies to develop a successful design. You will use market research, iteration, and user feedback to develop a lighting solution.



### **Role:**

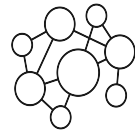
You are an industrial designer working as part of multidisciplinary design team. You will need to apply your creative and critical thinking skills to develop a successful solution.



# Unit: Things Come Apart



**Goal:** Communicate how design decisions and goals are influenced by the exploration, knowledge and understanding of materials and manufacturing processes.



## **Situation:**

Most users are unaware of the environmental impact of the products they use over the full life of the product. Designers are the decision makers - we make decisions that have environmental, social, and economic impacts. The more educated we are about the impacts of our design, the better we can design.



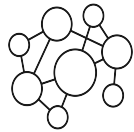
## **Role:**

You are part of a multidisciplinary team examining the environmental impact of a product, from its manufacture and distribution, to use and end of life. You use an Life Cycle Analysis (LCA) tool to assess the product. Using a Design for Manufacture (DfM) strategy, you will suggest improvements to the design.

# Unit: Open Unit



**Goal: Apply design thinking strategies to develop a unique and meaningful solution**



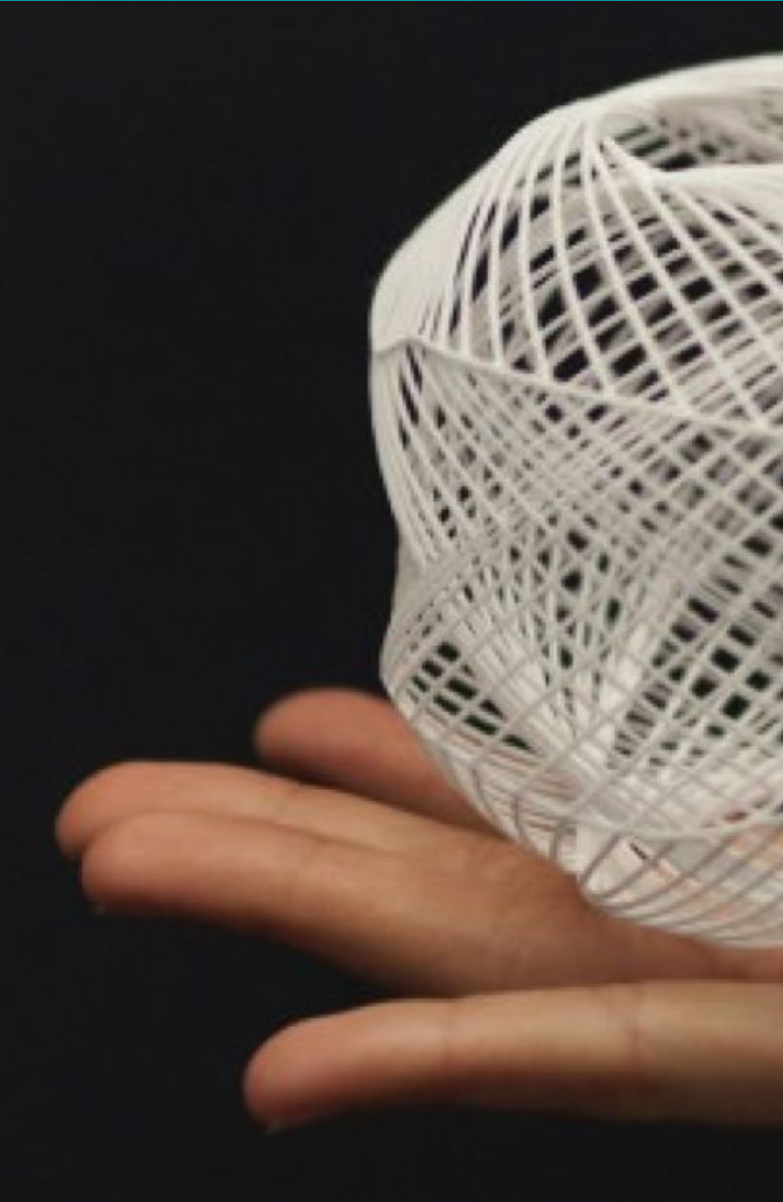
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# MYP & DP Design Courses

6

## Introduction to the Design Cycle

Learning about the steps in the design cycle and how we use it to solve problems

7

## Understanding Design Challenges

Develop an understanding of how to identify and solve unique problems using Design skills

8

## Understanding users & their needs

Refining research and technical skills to solve design problems

9

## Developing as a designer

Developing digital and product design skills to solve authentic problems

10

MYP Product Design

10

MYP Computer Science

10

MYP Robotic Design and Engineering

10

MYP Digital Media Design

10

MYP Entrepreneurship and Design

DP Group 4

DP

Design Technology

DP

Computer Science

DP

Visual Art

DP

Film

DP Group 6



BRANKSOME  
HALL ASIA



# G10 & DP Design Courses

## **10** MYP Product Design

Designing solutions to complex problems for users.

## **10** MYP Computer Science

Developing the foundations of computational thinking

## **10** MYP Entrepreneurship and Design

Integrating entrepreneurial principles with design thinking

## **10** MYP Robotic Design and Engineering

Developing technical and critical thinking skills to create innovative, creative and competitive solutions.

## **10** MYP Digital Media Design

Using digital technologies to communicate and tell stories

### DP Group 4

## **DP** Design Technology

Develop design literacy through developing and applying technical skills in authentic contexts.

## **DP** Computer Science

Explore and apply computational thinking in authentic contexts

### DP Group 6

## **DP** Visual Art

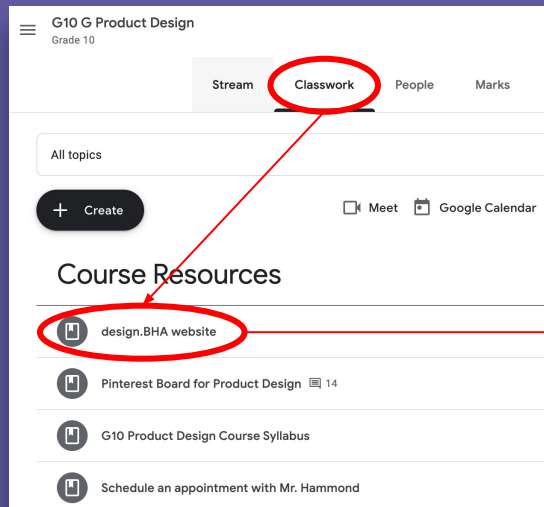
Experiment with diverse media and explore techniques for making art

## **DP** Film

Develop an artistic voice and learn how to express personal perspectives through film

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## Design Department website



## BHA Design FAQ

