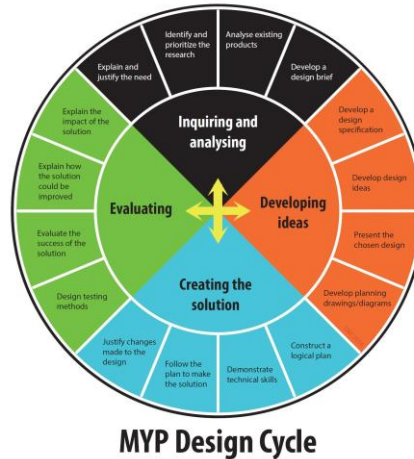


# Grade 6 Design Technology through Agriscience Course Outline

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Welcome to IB MYP Design Technology! Your cadet will be working on several projects this year using inquiry and problem solving skills to create solutions. Students will begin to understand their responsibility as world citizens who will need to work seamlessly with our planet in an attempt to feed an ever growing world population.



MYP Design Cycle

The MYP uses the design cycle as a model. It is intended to be the central tool to help students to create and evaluate products and solutions in response to challenges. The MYP technology design cycle consists of four major stages, and these relate to the objectives of the course. The four stages are as below. It is very much like the scientific method!

- Inquire and Analyze - Students identify the problems to be solved.
- Develop Ideas - Students design the products/solution.
- Create the Solution - Students use appropriate techniques and equipment.
- Evaluate - Students evaluate the product/solution.

This course uses the field of Agriscience to teach cadets the skills outlined above, and to become aware of a real planet-wide issue. Current world population is steadily increasing, and expected to reach 10 billion by 2050. How are we to feed them all?

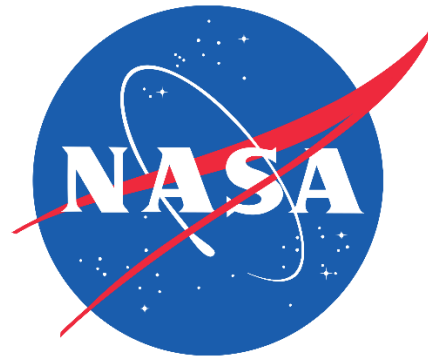
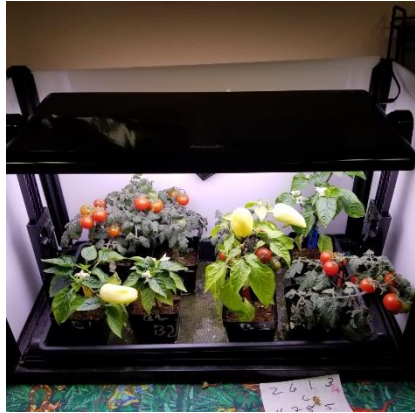
Current methods of farming are woefully inadequate, and new methods are being developed at break-neck speed in order to meet the needs of our planet. Your cadet will be introduced to these issues and the new agriscience techniques so that he or she can create real-life solutions. The course will include the following units

## Botany

In order to plan a successful solution to agricultural problems, students must have a solid knowledge of plants and our subtropical climate. They will also learn about pests, fertilizers composting and lethal plants.

## The Prep Garden and Campus

Students will plan, plant and maintain the Prep garden for both fall and spring crops. In addition, cadets will be responsible for various campus beautification projects, such as the vertical flower garden by parent pick-up and the office flowers.



## Hydroponics

The best part of the course! Students will learn about several hydroponic methods of crop production, and the benefits this new type of farming offers. They will investigate, plan and create their own hydroponic systems, some of which are being used by commercial farmers today such as drip, nutrient film technique, deep water culture and wick. The cadets will participate in NASA'S Growing Beyond Earth project where NASA sends seeds for these citizen scientists to grow and document for the space program.

## Plant Sales!

Stay tuned for these! Several sales are held during the year to help defray the costs of seeds, plants, soil, hydroponic supplies, etc. Students grow herbs and vegetables, organize the sale, and learn the economics of running a business.



## MYP Units of Study for Design Technology Grade 6

The two different time periods are a result of the Blue/Gold schedule

Unit Title	Unit Description	Approx. Date Range
Unit 1: Research Skills	Network basics, safe & effective searching, computer science note-taking, citations, plagiarism	August-September
Unit 2: Prep Garden	Botany, planning and creation of the Prep garden	August-December or January-May
Unit 3: Hydroponics	Hydroponic systems, global food production issues, emerging farming technologies, farming in space	October-December or January-May

### MYP Design Technology Assessment

### Criteria

Unit Title & Tasks	Approx. Due Date	A	B	C	D
Unit 1: research skills, plagiarism practice, network basics, citation practice	August See <a href="#">Daily Calendar</a> on my web page Smapscience.com	x			x
Unit 2: Prep Garden Botany worksheets Seed Packets Garden Journal	August-December January-May <a href="#">Daily Calendar</a>	x	x	x	x
Unit 3: Hydroponics Introduction to Hydroponics Worksheet Journals for each of the five systems	October-December January-May <a href="#">Daily Calendar</a>	x	x	x	x