**Project #1 - Part 2 – Design Challenge – Design and Prototype**

**Objective:**

* Develop your Design Challenge into a detailed prototype drawing
* Work with a partner to perfect a final draft drawing
* Create a physcial prototype

**Overview**

Now that the Design Challenge has been created, it’s time to develop a working prototype to showcase your problem-solving idea.

**Task:**

* Create four sketches on your own showing your original ideas about the prototype’s final design – this will consists of four separate sketches:

1. First drawing will be the most simple design
2. The second drawing will show three modifications to the first drawing
3. The third drawing will be a totally different design look that drawings one and two
4. The four drawing will consist of the most outrageous ideas for the prototype

* Choose a final design with your partner – develop a final drawing with proper labeling and explanation of the prototype parts and design
* Develop a working prototype – build a recognizable and marketable prototype that will used in a marketing campaign

Template –

Font: Times New Roman

Font Size: 12 point

Title of Design Challenge (centred and underlined)

Overview: (bold)

This explains why we should take this design challenge as a serious problem that should be solved. Convince your audience in three to four sentences.

Example: The world needs to look at other form of power generation. Many societies cause environmental damage and health risks to the public by using hydro-electric dams or fossil-fuel power plants. We should look to natural forms of energy generation to help our world and ourselves.

Design Rationale: (bold)

This section explains what the design-challenge should attempt to do. In other words, how should the designer shape their solution.

Example: Our homes use lots of power that we need for our modern daily lives, having power generated off-site and delivered through power lines is an outdated method of providing energy. How could our homes become self-sufficient with green energy? Elements to consider:

Problem Scenario: (bold)

Develop the topic into a problem-styled scenario.

Example: Your team has been chosen to design a method to power homes independent or our current power grid. The energy must be able to power a modern house, be clean, and be adaptable to various type of housing.

Evidence: (bold)

List of information you have found, URLS, plus pictures would go here

Parameters: (bold)

Explain the limits to the project – what restrictions are there?

Example:

* Power must be generated on-site – meaning our houses, ground, airspace above our property must be the only spaces used
* High-Technology can be used – this can include conventional ideas, or new futuristic ideas that have been made public
* Must be cost efficient (under $50 000) per household

Success will be determined by: (bold)

How will you determine if the design-challenge has been solved?

Example:

* The connection to the evidence provided (and any new evidence you can find)
* The cleanness of your energy
* The energy makes the household self-sufficient
* If it could become a marketable solution in the near future