**INNOVATION PROJECT**

Develop a ppt. presentation depicting all 12 steps of the design process centered on your unique Lego Design: Each step should be a separate slide in your presentation. You may also use Prezi.

**Step 1:** Define the Problem: What need will your Lego fill (2+ sentences). Written in the form a problem!

**Step 2:** Brainstorm: Develop multiple solutions to your problem (rough sketch/written description)

**Step 3:** Generate Ideas: Complete/annotated sketch of your chosen Lego design

**Step 4:** Research Ideas & Explore Possibilities: Research similar Legos that aided in your design/solution

**Step 5:** Identify Criteria & Specify Constraints: Your Lego must assemble to other Legos and other Legos must assemble to it

**Step 6:** Consider Alternative Solutions: What would make your design better

**Step 7:** Select an Approach: Use a decision matrix to determine final design

**Step 8:** Develop a Written Design Proposal: List the **Client, Design Problem, Design Solution, Criteria and Constraints.** (Similar to a summary of previous steps, you would deliver this document to your client before beginning manufacturing)

**Step 9:** Make a Model or Prototype: Use Autodesk Inventor to design your Lego (Paste a screenshot into your presentation)

**Step 10:** Test & Evaluate the Design Using Specifications: Assemble your unique Lego to standard Lego on Autodesk inventor (Paste a screenshot into your presentation)

**Step 11:** Refine the Design: Poll at least 3 classmates on how the design could be better

**Step 12:** Communicate the Results: Present your 12 slide presentation

Example Decision matrix: (step 7)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IDEAS | Color | Cost | Usefulness | Total |
| Idea1 (be specific) | 5 | 2 | 3 | 10 |
| Idea2 (be specific) | 4 | 4 | 4 | 12 |
| Idea3 (be specific) | 2 | 1 | 3 | 6 |