Open Source Design Challenge

OVERVIEW

This project is designed to get students thinking about original design solutions to every day problems with a social justice focus. In this project students will design something that is meant to help others, create a 3D Model, then share it on YouMagine.com as an open source project. Through this platform they will print another classmates design and ask questions in order to refine its application and printability.

GRADE LEVELS

This project would be appropriate for almost any age of students that you would want to work with.

STEPS TO COMPLETION

1. You must create a design that will overcome barrier or problem that you wish to explore, it should be an original idea or a complex remix.

2. Submit a proposal for the project; it must describe your concept, the information you need to gather, and timelines for your progress on this project.

3. Pitch your design concept and proposal to your teacher.

4. Complete a fully documented design, including drawings, a detailed description, 3D design, and an .STL file.

5. Create an account on YouMagine.com Post your fully documented design on this include a description and instructions on how you would use your design. Try to be as clear as possible in your instructions. You may want to test print your design to be sure it works☺

6. Link to another students design on YouMagine.com. Download the provided .stl file and print it off. Does it print successfully? If so, post a comment about your experience, if not ask the designer to make changes to the original design or provide more information about print settings. Once you have a successful print, test out the design. Does it work as intended? If so, post a comment about your positive experience, if not ask the designer to make some changes until you are able to use the design successfully.

FOLLOW UP

A large part of the emphasis in this project is meant to be placed on the idea of designing something that other people need or which will make their lives easier. The technology of 3D printing has great potential to improve the lives of people in many nations around the world who do not have regular, easy access to basic products and household objects (water buckets, glasses, utensils, etc). Students could investigate how the technology of 3D printing has the potential to improve the lives of some of the world's poorest people.

EXTENSION QUESITONS

1.) How could the final product be changed and revised to make it easier to use and easier to print?

2.) Make a list of common household objects that could fairly easily be created on a 3D printer.

3.) What would be the cost of creating and printing a set of household objects compared to purchasing them?

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