

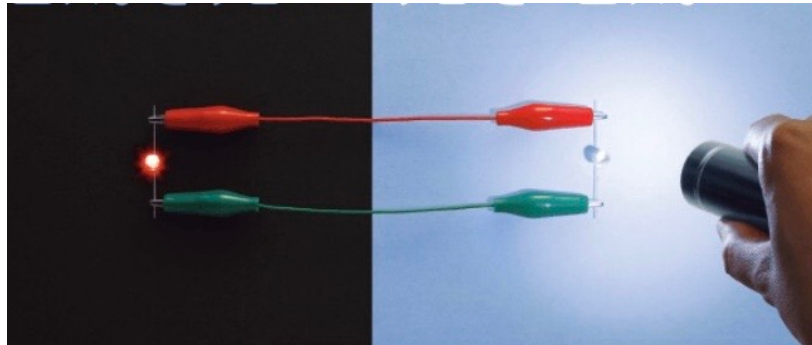
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Pathway: PDC  
Project title: Solar Home

The earth resources are limited. At present, there are various environmental issues such as global warming, air pollution and depletion of natural resources. As human beings living in the global ecosystem, we are also required to aim for sustainable production and consumption that matches the environmental stage capacity, such as using natural energy and developing energy saving technologies.

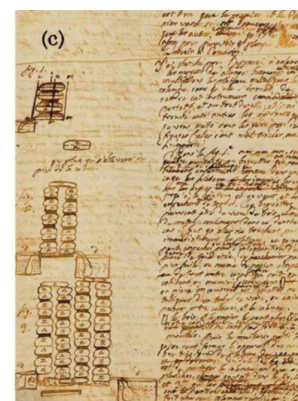
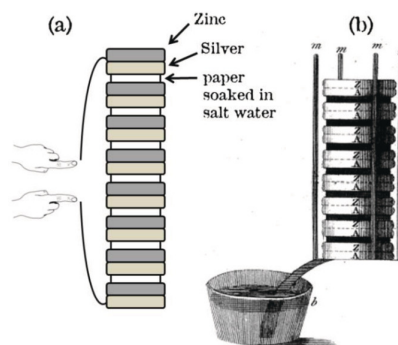
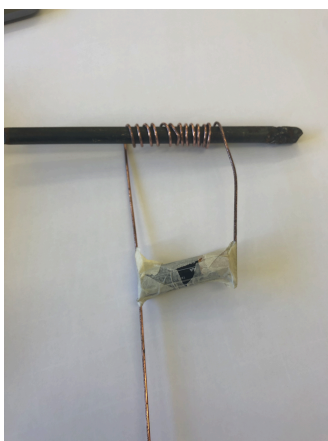
This time I am interested in electric generation. Because electric is very important for human life. There are some products about electronic generation. For example, conventional power generation relying on fossil fuels causes global warming. And nuclear power harms human health when an accident occurs. So I looked at the power when generating electricity.

I am interested in some way to make power. Firstly, I tried to make electricity by using only two LED light. If you shine light on one of the LED lights, the light will be generated by the same system as solar power, and the other light will also shine. I think that LED light will generate stylish and environmentally friendly indirect lighting by generating electricity using room light.

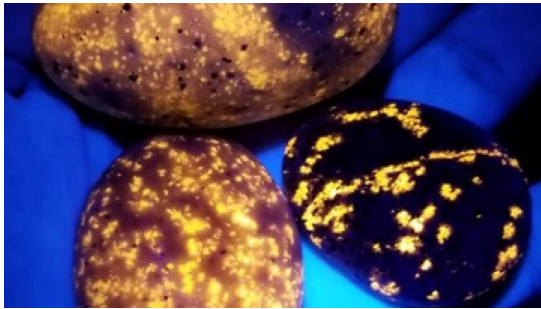
But I thought that the energy of electronic power was small.



And I tested Volta battery system. However I thought the energy of electronic power was small too. And I tested electromagnetic induction, but it uses battery. So I focused on the stone which glow by using solar power.



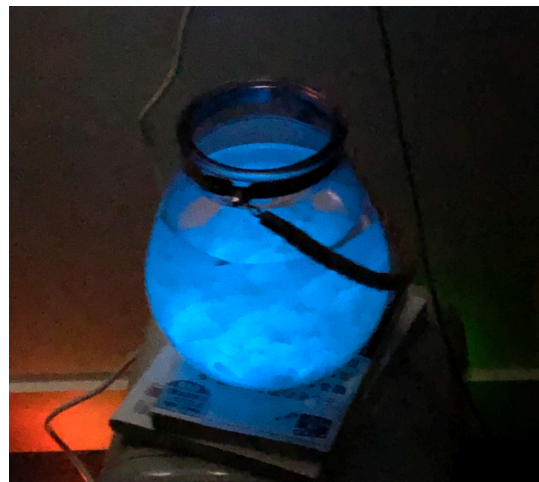
Volta Battery  
20/2/20



Yoopelites 27/2/20



Glowing stone 27/2/20



### Some forms of container

I tested whether the stone can glow enough. I thought this brightness was enough. This time was my key moment. And the brightness depends on the arrangement and main light source. So I needed to think about the form and function of lighting system.



Akari XP1 Isamu Noguchi 28/2/20



MOBLES 114 BARCELONA 29/2/20

I am interested in the shade and atmosphere which are made by paper especially 'Washi'. Like "Akari XP1" and "MOBLES 114 BARCELONA", I think that 'Washi' makes something like relax shade. So, I would like to research more about paper which is good for lighting system and explore the possibility of 'Washi'.

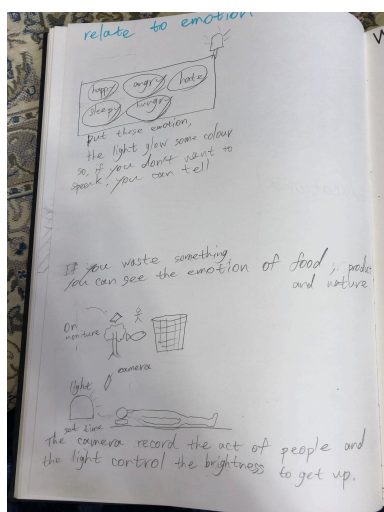
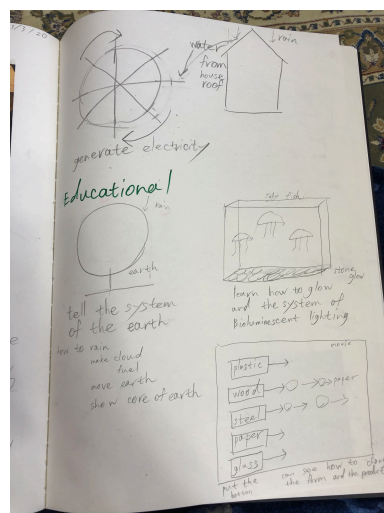
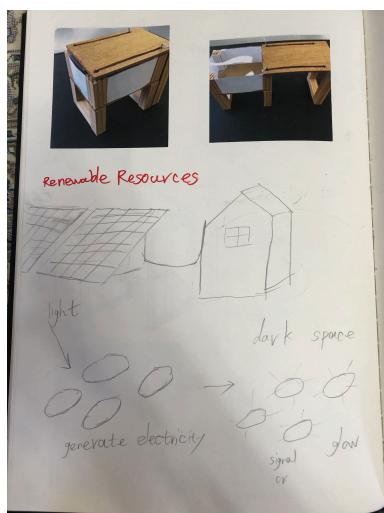
I think that Washi is sustainable paper. It is made by only raw materials such as wood and so on. And it is thin, but it is tough. So I am interested in Washi.

I like the light and shade which Washi makes. I feel something like warm and gentle. I consider that Washi is simply a sheet in which long plant fibres are intertwined and bound together. There are many gaps when looking under a microscope. The air comes and goes through these gaps, so Washi has good ventilation.

And most of Washi is neutral, so the paper is hard to deteriorate. We can also see that the paper from more than 1000 years ago remains. Most of machine paper is acidic due to heavy use of chemicals, so it lasts only about 100 years.

Pulp made from machine paper contains a large amount of lignin, a substance that degrades fibres when exposed to light. It is the effect of lignin that the newspaper becomes ocher when exposed to the newspaper for half a day.

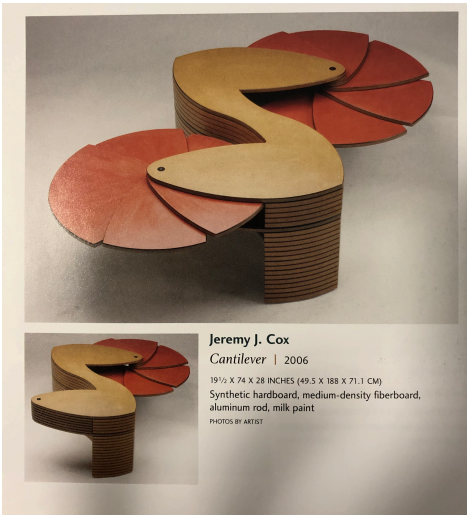
So, I think Washi is good for environment and it suits to my product.



My idea development note



Then, I decided to combine with my lighting system and furniture.

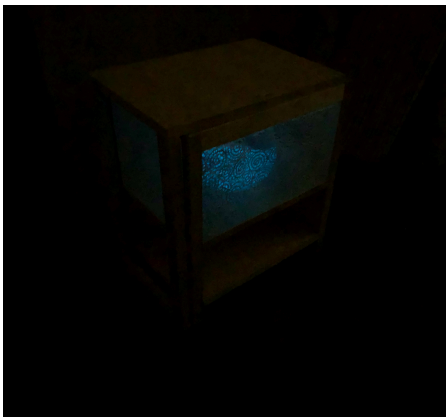


Cantilever  
Jeremy J. Cox 11/3/20



Add Corner  
Wuthichai Leelavoravong 11/3/20

Final Outcome

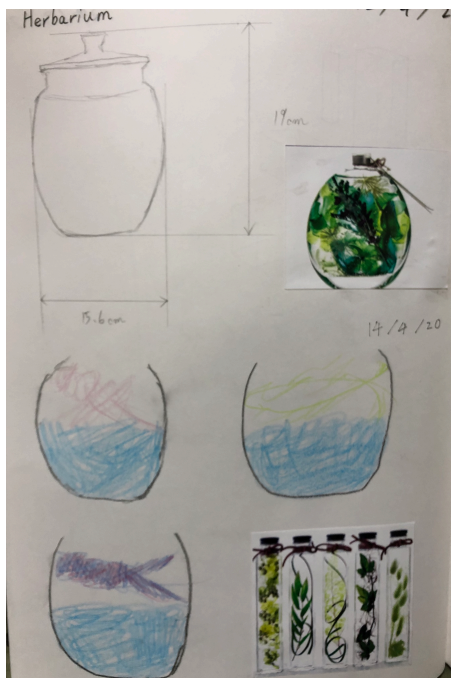


At night





## Herbarium



I designed an indirect lighting system without using electricity for people who live in limited spaces. Main materials are wood, Washi paper and glowing stones. This product contains a Herbarium which can glow at night. It needs to put near the window because it needs to absorb light. This product is good for the environment and I like the harmony of light and Washi paper.

I think the strength of my product is that it can use everywhere because it does not need electricity. On the other hand, the weakness of this product is that the brightness of it depends on main light source. So it is hard to get enough light.

I think that material of light source research is the most important research because by researching many materials, I could find the characteristic and suitability of materials. I do not know what kind of specific product design I want to study. But some methods and knowledge which I got in this project will help me in BA.

I experienced big pandemic I have not experienced before. This time, I recognised the importance of medical system and tool, and online communication system. Now, there are many problems about them. So I think these problems are good topic of product design. I want to solve problems in the future.