Week 5: Play and Force

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Folio Object: https://www.youtube.com/watch?v=bDW8CyZqzs4&ab_channel=VidaZhang

Context:

When I was constantly thinking about what force appeared around me every day and could still be played with, what happened in the video happened. My touch lamp was knocked out by static electricity (https://rmiteduau.sharepoint.com/:v:/r/sites/AdvancedPlayDesignSemester12022/Shared%20Documents/Week%205%20-%20Play%20and%20Force/my%20poor%20lamp.mov?csf=1&web=1&e=jB05sM).

So this week I'm going to make a little game about how to turn static electricity into the force we can see. I watched few electrostatic experiments, and the static electricity can make things float surprised me, it's really amazing. So I want to make a video that controls objects through the force generated by static electricity to achieve a certain purpose.

The force of static electricity generated in daily life is weak, but the electricity it carries is powerful. To compare with the gravitation of the earth, the force generated by static electricity is really small. (https://rmiteduau.sharepoint.com/:v:/r/sites/AdvancedPlayDesignSemester12022/Shared%20Documents/Week%205%20-%20Play%20and%20Force/HAHAHA.MOV?csf=1&web=1&e=4JnJC1)

So after doing some research, I decided to use aluminum foil to demonstrate the sound that comes from the force created by static electricity. So for this week's topic, I'm going to explore how to use the force of static electricity to make sound.

Method:

I'm going to use aluminum foil to make a base and make some tiny aluminum foil balls, and then fill the plastic sheet with static electricity with my blanket. Then cover the plastic sheet on top of the aluminum foil, and the balls will be attracted by static electricity and jump between the base and the plastic sheet. The sound of the aluminum foil and the ball hitting between the base and the plastic plate will provide. These resulting sounds are the product of my work this week.

Response:

I encountered a lot of problems during the production process. I made the base of the aluminum foil very thin at the beginning, which means it is very light, so every time I put the plastic sheet on it, the bottom will be sucked up before the balls. I tried so many time, and I thought it might have something to do with the ball being too big. So I made a lot of smaller balls. Until I wrapped a thin plastic sheet in the middle of the base, which made it heavy, and

at the same time I wrapped 5 layers of aluminum foil on the plastic sheet, and then compacted it with books for few hours. That's why in the successful video, the foil doesn't get sucked up before the balls. The second problem is about the balls not moving. I increased the friction time and strength of the plastic sheet. Until after several attempts, I noticed that the small balls that not moving were all clumped together. So I spread the balls out for later tests. This gives them room to jump around and spreads the static force more evenly.

Reflection：

This week's theme I think is the most fun week for me to play and experiment. I spent a lot of time researching how to use the force of static electricity. The force of static electricity can actually be created by us. We can create it by rubbing clothes or media, and then decide where to release it. The controllability and flexibility of this force attractive me, it's not like buoyancy or gravity. We have no control over the magnitude of forces in nature. I think my use of static to create the sound feels more like I can see that the force is there and it's not weak. I also did other electrostatic experiments at the very beginning. But when I let the plastic rope float in the air, I feel that the force is very small because the rope is too light. Until I used aluminum foil to make the balls bouncing. Listening to the sound of the ball hitting, I felt the force of static electricity.

This week’s exploration was a lot of fun, and I liked the way I did my work full of tests and solving problems while the tests. The process of play has opened my mind. The tests before deciding on this idea are all useful. It should be said that because of the previous tests, I finally had this good idea.