



LUMA CENTRE FINLAND



Project name - **SILK THREADS**

The purpose of the project:

The idea of this project was born in 2021 when we observed the experiments of STEAM specialists from Israel, who came to our region with drones. While we were on an excursion to a silkworm farm in Biology class, we learned from a coppersmith that the optimal temperature in the cocoon is needed to grow quality cocoons, and that this temperature needs to be monitored frequently throughout the cocoon. In order to control the worms' equal supply of food and to detect the areas where the feed is reduced in time, the crawling worms are trampled to death, which leads to a decrease in productivity.

We have a question: can we solve this problem using our STEAM skills?

We formed a group and decided to use our school's STEAM equipment to solve this problem. First of all, we thought about regulating the temperature in the pottery. Then we planned to control the feeding of silkworms.

We used MicroBit devices, solar panels, drones to regulate the optimal temperature and control the pottery for the cultivation of high quality cocoons. We fully prepared this device and went to the pottery again and tested it. With the developed device, it is easier to regulate the temperature, to distribute it evenly throughout the pit, and to control the feeding. There is no need to walk in rows anymore, it is very easy to control with drones and watch on the phone. The coppersmith said he wanted to get such a device so that the work would be easier and the worms would not be crushed.

In order to improve the device in 2022, we conducted research on the Internet and learned that there are special nets for drones. With the support of our parents, we ordered a net from abroad. We already have the net, and we will improve the device and go to the pottery again in May to test it.

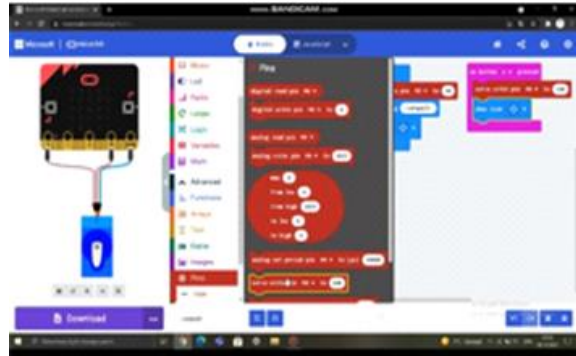
By implementing this project, we want to develop the digital ecosystem in Azerbaijan, facilitate the work of coppersmiths and achieve more income for entrepreneurs by obtaining higher quality products.

Silk threads are also widely used in communications, medicine and in the manufacture of musical instruments. As a result of our research and experiments in the group, we found out that a 1000-1500-meter-long thread is obtained from the cocoon of a high-quality silkworm.

The owner of the cocoons said that every year he got silkworms and handed over 100 kilograms of cocoons, and most of the worms were trampled to death. After applying this technology, he received 254 kilograms of wet cocoons, although he took the same seeds and got more products.

We are convinced that due to the high demand for silk products in the international market, productivity can be increased by equipping cocoon and silk production with new technology and equipment.

In preparing this project, we used the skills we acquired in STEAM, Biology, Mathematics Physics, Technology, Life Skills. We also used the help of our parents and cocoon specialists and municipal representatives.



Project agenda

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Video

https://helsinkifi-my.sharepoint.com/:v:/g/personal/ohaatain_ad_helsinki_fi/EVIJp2f9OCIDI9YHuR07NhMBduKEiSifeFJs1ztOv7nYdQ?e=0CwGg3



