

# ***WE RECYCLE OUR FUTURE***

## ***HALUK ÜNDEĞER ANATOLIAN HIGH SCHOOL***

### **TEAM MEMBERS**

Ayşegül YOLCU

Hüseyin METİN

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Burak AKGÜN

Harun ÜZER

Ferhat IŞIK

### ***PROJECT DIARY AND THE PROGRESS OF THE PROJECT***

Before starting the project, our teachers gave information about the organization and event and they asked if we wanted to participate. I liked the idea and really got excited about being member of this community so I joined the team. Then, we met other students and started the project.

Firstly, we determined the problems and decided what we could do. Everyone had amazing ideas and but we chose the most favourite ones.

We had been through a lot difficulties, had to delay the project because of exams and holidays but we did our best and were able to get over them. With this project I learnt that I should be more aware about recycling and even it is a small thing that we are doing it has a huge impact for the sake of our planet

*-Ferhat IŞIK-*

Our teacher gathered us and made a team. Everbody put their heart and soul in doing the project and worked in unity and helped each other. While deciding on topics of the project, we saw that we had great ideas but we had to chose the ones more applicable and more voted.

We ran into a lot difficulties like improper schedules, illnesses, members in flux and there were many complications in our studies thus we had to cancel one of our projects which we came up with four at the beginning. But somehow we managed to complete the three, thanks to the team and our teachers.

In this project, I learnt how to recycle efficiently and what we can do with technology. This project has a lot contribution on me besides nice memories .

*-Burak AKGÜN-*

We had tough two weeks as it was all matter of time. To talk about the hardships we had to go through, our former team couldn't have a healthy teamwork, which is something so sad. At that moment, we realized how important the communication between people who worked together was.

Fortunately, the new team we created was way much better when it came to distribution of the work, debating and trying their best while working. But another hardship we had to go through was how short our time was left after wasting our time with the former team due to the reasons such as wrong communication, exam weeks, semester holidays, etc. But I am literally happy to be in it and amazed at finding how much in common we have when it is all about nature and environment.

*-Ayşegül YOLCU-*

I'm the last participant in this project. After my teacher having asked if we would like join I realized how much I liked the idea of recycling and am really glad to be a part of it. I was in the translation part and didn't have so much contribution like the rest of the team as I got involved in it at the last minute but I think we made a lot of useful stuff out of recyclable things and showed everyone that even when you think something can be disposable you can make amazing things if you use them efficiently.

*-Hüseyin Metin-*

As we had a tendency to mechanic and technology and both of us eager to learning we joined the team. First, we discussed about the problems of environment and tried to come up with a couple solutions. Then, as we reviewed our topics, we decided to try the ones more practicable due to time limitation but eventually we got over all the difficulties by completing our work on time. In this project, we learnt to make useful stuff out of recyclable waste but most importantly to be able to protect the nature.

*-Enes DEMİRBAŞ & Enes ÖMER-*

I volunteered to study in this project when I learnt it was all about recycling and saving our nature. We met and came together with other students to identify the topics. We faced so many hardships but finally we got over them. Exams and holidays made our work so difficult that sometimes I wanted to quit to be honest but it was worth it.

*-Harun ÜZER*

## THE BACKGROUND



### GARBAGE POLLUTION

As we know, one of the world's biggest problem is pollution and recycling has a huge impact on reversing some or other. Around the world, paper, cans, glass jars, plastic products, and junked cars and appliances mar the landscape. Litter makes it difficult for plants and other producers in the food web to create nutrients. Animals can die if they mistakenly eat plastic.

Garbage often contains dangerous pollutants such as oils, chemicals, and ink. These pollutants can leech into the soil and

harm plants, animals, and people.

Often, the garbage is picked up and brought to a dump, or landfill. Pollutants leaked from landfills also leak into local groundwater supplies. There, the aquatic food web can suffer from bioaccumulation of toxic chemicals.

In order to solve the problem, we incinerate or burn our garbage.

Incinerating trash gets rid of it, but it can release dangerous heavy metals and chemicals into the air. So while trash incinerators can help with the problem of land pollution, they sometimes add to the problem of air pollution.

### RECYCLING



Around the world, we are making efforts to combat pollution. Recycling, for instance, is becoming more common. In recycling, trash is processed so its useful materials can be used again. Glass, aluminum cans, and many types of plastic can be melted and reused. Paper can be broken down and turned into new paper. Recycling reduces the amount of garbage that ends up in landfills, incinerators, and waterways.

Recycling is a pretty simple concept: take something that isn't useful anymore and make it into something new instead of just throwing it away.

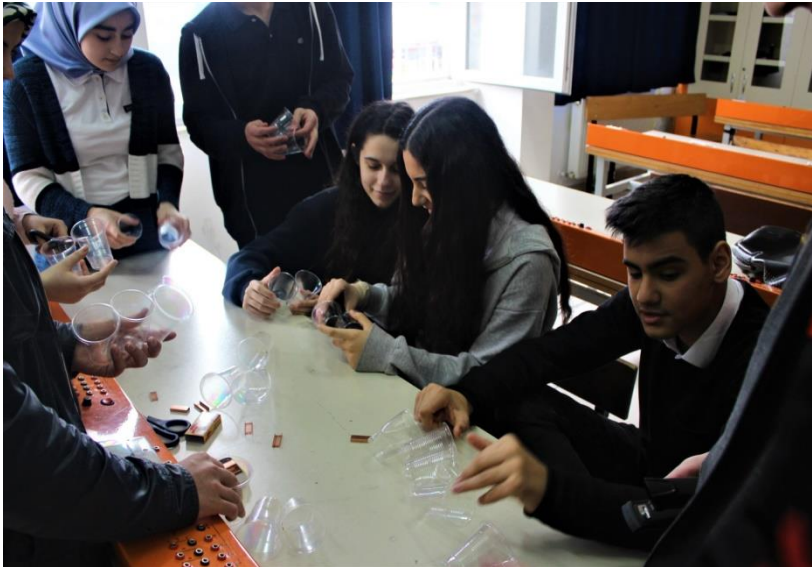
Recycling' interacting with our environment our economy and our own human behaviour plays a big role in the future of our planet. So we wanted to show as a team what we could do with recycling and thus named our study as

*" We recycle our future"*

*We had three projects on different fields.*

### **1<sup>st</sup> PROJECT**

#### **RECYLED PRODUCTS FROM PLASTICS, CARTOONS**



As we know, plastic waste really is a big issue for our environment– not all the people are as concerned with recycling as they should be-, and the result of that is quite damaging to our earth. Have you ever thought what you could have done with them instead of throwing them away? We did! Let's see what we have made out of plastic cups.

First, we collected used plastic cups and stapled them together side-by-side and made a circle of cups. We used six rows of cups on the half of the sphere, and each new row required fewer and fewer cups. Then we repeated the same process on the other half sphere and after finishing the five rows, we placed the led lights into the hole and used 12volt batteries to lit the light.



#### **SPARKLE BALL**

##### **MATERIALS**

Plastic cups

Led lights

Batteries

At the end, we completed the globe and there it is. The sparkle ball! Let's not forget that we got help from other students. Theirs was a really nice collaboration from playing in the short film to the preparing of the sparkle balls. We are thankful to them!



## HANGING ART PROJECT

### MATERIALS

Cartoons

Images of people

Rope



We had an English project last semester which was about the research of famous people with their images (mostly scientists) so we thought if we could make anything new from that project.

First, we cut out our research subject's image into the shape of portrait to make a 3d effect and add all our research onto the back of the project. Then, we wrote the person's name on a ring to display it. After that, we made a hole and passed a rope through it to hang them with the sparkle balls on the roof of the hall. When the hall was filled with all the 3D famous faces and sparkle balls, it seemed decorative and eye-catching! And you see the project itself is both educational and simple. And that's a big plus!



## PLASTIC BOTTLE POTS

### MATERIALS

Water bottles and lids

Soil

Flower plants

In our third work, we collected the plastic bottles in every size but used the 5 lts mostly as they are more suitable for planting our flowers.



First, we cut the bottles on the one side and continued to make a hole enough to plant flower. We put the flowers into the bottles, filled them with the soil and turned them into a pot. Easy to create and maintain. They look beautiful, don't they?





## 2<sup>nd</sup> PROJECT

### RAINWATER CATCHMENT AND IRRIGATION SYSTEM

#### MATERIALS

1/ arduino uno

1x breadboard

2x led lamp

Jumper cable

Wooden and cartoon materials

Humidity and Temperature Sensor

Flower

Soil Moisture Sensor ly-69

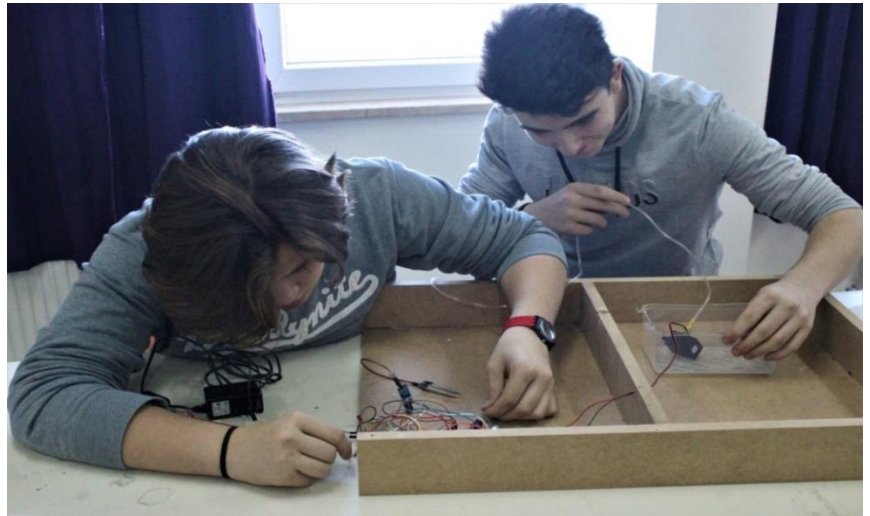
Water Engine

Collecting rainwater for irrigation help us become more aware of our resource use. Rainwater does not contain ammonia, fluoride or chlorine so it is preferable for use on our plants.

Rainwater catchment system consists of a tank stored underground that can collect rainwater from the roof and gutters and then filter and pump the water out for irrigation. We can also use the rainwater for cooking, showering, laundry if we add the infiltration system. A little step for protecting the environment, emergency water supply and saving money

For the automatic water system, we prepared the arduino codes and circuit later tested it to see if they worked properly or not. After that, we made a model house from the used cartoons and placed the arduino at the bottom of the model.

A greener, more efficient and more self reliant way to use the rainwater !



### 3<sup>rd</sup> PROJECT

#### MEDICINE BOX

As we already know, Alzheimer is a disease which is all about forgetfulness. And since most of the people with Alzheimer are old and take a lot of medicine, they must have someone to remind them when to take their pills. But unfortunately, not all the old people are too lucky to have someone around.

So, we decided to create a medicine box which has an alarm and light system that runs automatically at the medication time. But this box is not just for people with Alzheimer. We also targeted the people who forget to take their pills. As in our two other projects, we tried to use the waste materials

#### MATERIALS

- 1/ arduino uno
- 1/ arduino 16\*2 lcd screen
- 1/ speaker
- 2/led
- 1/ 10k potentiometer
- 2/ breadboard
- 2/ 220 ohm Resistor
- Jumper wire
- Bottle lids
- Cartoons



First of all , we designed the project and thought about the materials that we were going to use. We ordered the materials then wrote the codes for the project. Later, we set up the materials and checked the codes but we detected some errors. So, we fixed them and put the pieces into the box. And here is our medicine box!

