



TURKEY

Journey of Cotton

Schools : Notre Dame de Sion and Saint Michel French High Schools

Teachers : Seval Erol, İnci Kimyonşen

Students : Lara Makal, Mehmet Barış Avkovan , Aysu Köse, Mehmet Hamza Ulutaş

The development of agriculture and the industrial sector is a key element for self-sufficient societies.

Agricultural products pass through many stages from field to city. Therefore, sustainability in agriculture affects the sustainability of the cities. Many factors such as energy efficiency, waste management, environment and food safety are effective in the sustainability of cities. Last September we went to Adana, Çukurova to participate in the cotton harvest. We saw cotton in its natural habitat and joined the cotton harvest. We collected cotton, filling sacks and taking them to the factory. We saw the separation of cotton from its fibers witnessed its transformation into fabric in the factory.

Cotton with high economic value is used in many areas.

Global warming also have on direct effect on agriculture, therefore planting areas are decreasing day by day.

Researchers indicated that long term storage and distribution process may have hazardous effect on the product itself, thus potentially cause health issues on consumers.

As we have seen the difficulty of the whole harvesting process of cotton and its voyage to our daily lives we had to take an active role in our school to raise the awareness among our friends.

Therefore, in the name of sustainable cities. We started a campaign for recycling our used textiles. We collected those at school and gave it to authorities for recycling.



Natural Food Workshops

Schools : Notre Dame de Sion and Saint Michel French High Schools

Teachers : Seval Erol, İnci Kimyonşen

Students : Ash Ünlüer, Zehra Zor-Mert Çağdaş



Nowadays, because the access to natural organic products is difficult and the city life encourages people to consume processed products, natural nutrition habits are decreasing day by day and the diseases are increasing rapidly. It is very difficult for us to reach such organic products because we live in a big city like Istanbul. So as we decided to produce our own organic products.

Our first workshop was about making some healthy pickles. We used some organic products like cabbage, radish, carrot, cauliflower ... We produced cheese and kefir which are really important for our body and our immune system. Finally we ate our cheese and drank our kefir. They were really delicious.

Our third workshop was making a natural vinegar workshop. We

used natural apples but vinegar can be made from many fruits such grapes and citrus fruits. We put the apples in the glass jar. We added drinking water, some sugar and chickpeas. We left our jars closed with cheesecloth on a dimly lit atmosphere. After waiting for the natural fermentation process to take about 2-3 months, we then our delicious natural vinegar got ready to be used.

After all of that we made natural soap which cleans the acidic structure of the skin using honey, natural olive oil soap, glycerin, olive oil and lavender / rose essences. They smelled so good.

After we have gained the habit of making and using healthy, clean, cheap products and we have added natural cream and toothpaste to the workshops where we aimed to protect the natural environment.



Journey of Cotton and Natural Food Workshops are both joint projects of Notre Dame de Sion School and Saint Michel French High School

Public Water Fountains

School : Robert College

Teacher : Erol Şahin

Students : Ash Çelik, Tuna Cengiz, İlayda Koca, Ayşegül Şahin



In Turkey, water from household taps is not fit to be drunk. Drinking water is therefore purchased. Water companies distribute their products by unsustainable means, emitting great amounts of greenhouse gas in this process. For this reason, a changeover in the commercial distribution of

to satisfy the demand of water. Water will be brought by water companies to these reservoirs from their water plants. Our project aims to substantially decrease carbon emission in the transportation sector and decrease plastic usage both in 5 gallon sized (for a typical household) and in daily used water bottles. For the latter, these reservoirs will also be used as public water fountains, providing for people while disincentivizing purchase of plastic water bottles. Thus, tackling the enormous amounts of gasoline consumption due to water distribution and the excessive plastic usage in such commercialized water containers are the two focal points of our project.

water should take place in order to better our industry, transportation, and environment.

Bringing water with pipes directly to households is not a viable solution in this regard because the pipes are not near qualified to carry drinking water. Moreover, the water pipes are chronically fractured due to rapid urbanization and their weak composition.

Building water reservoirs throughout large cities could be a rather plausible option, however. The reservoirs will be built near population centers and contain a sufficient amount at all times



Sustainable City Index

School : Uskudar American Academy

Teacher : Sedat Toy

Students : Begum Atasoy, Defne Gulluoglu, Yaprak Su Akın, Alin Deniz Kutan

Partner Organization : Arcadis



The purpose of our project is to analyse Istanbul's sustainable city index based on "Sustainable Cities Index" data. Istanbul is the 14th most populated city as of now, which brings along major problems. We researched the top 100 most sustainable cities and their sustainable city indexes. With the information we collected, we then proceeded to collect data from our own city. We analysed the population density, transportation, improvements done by

the government, water/air/noise pollution, construction and the environmental pollution of Istanbul in detail by researching in the field and online. We also analysed the effects of these problems on the welfare of citizens, the ecosystem and natural resources. Furthermore, we suggested solutions for dealing with the issues and methods of prevention to arising problems.

Why did we select these topics? We believe that if people can

measure the items of the sustainable city index including People (social), Planet (environmental) and Profit (economic), the society can act together to make the world a more sustainable planet. Arcadis, the company which provided our data is also supporting



us on this journey. In the last two years we have been working on this topic. Our long-term purpose is to improve the awareness of people who live in the cities. If they can be aware about these measurements, they can also be part of the solutions. On this note, we want to integrate these measurements into our initial research project and then, raise awareness by trying to educate those around us according to these three pillars of sustainability. We've been working with the Istanbul Metropolitan Municipality on our projects to improve our city's long-term sustainability.



Stepping into a Sustainable Future in School

School : Istanbul Saint-Joseph French High School

Teacher : Şükran İnce Toy

Students : Öykü Candaş , Şirvan Garod Horozoğlu

Partner Organization : Municipality of Kadıköy and Cafe Nero



We are also trying to create joint awareness programmes with other clubs at our school on reusing and recycling, and their effective implementation by the wider society.

The full recycling and reusing of our waste not only benefit the economy but also allow us to leave a liveable world to future generations. This is why we take our duty to contribute to the promotion of these very seriously.

Time has come for us to take action against global warming, which is caused mainly by increased levels of industrialisation and construction in larger cities. It is possible to leave a better world to future generations by taking a number of simple precautions both at home and at work.

We have raised awareness for the carbon footprint and water consumption at our school, which has 1200 students and continue to do so. If we assume the students will talk to their parents and friends outside of school, the impact of our efforts would have reached almost 5000 people.



Zephyr Wall

School : Istanbul Saint-Joseph French High School

Teacher : Şükran İnce Toy

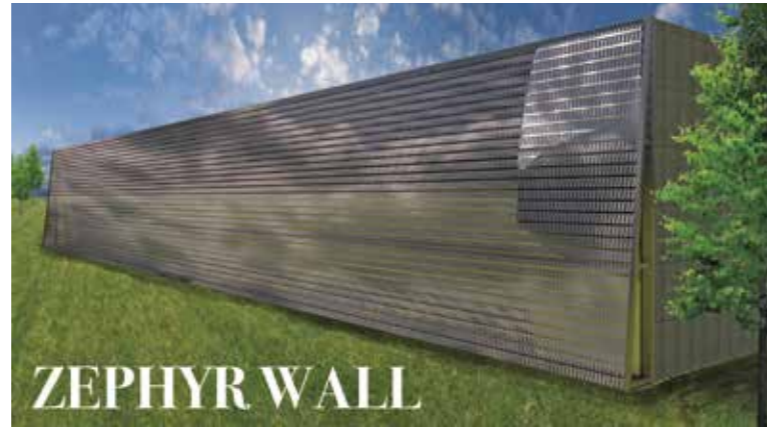
Students : İrem Duru, Karya Erdoğan



The problem our world is facing currently is quite obvious and becoming much more important with every day passing: usage of fossil fuels. In order to make an effort to eliminate current and future problems, Zephyr Wall proposes a wall that will generate electricity to the building using wind energy convertors and solar panels. Electricity is clearly important for everything in today's world. If it is generated from natural resources such as our solar panels or kinetic energy convertors, this will be beneficial for both the environment and the economy. Moreover, with this project we also try precluding our cities from becoming uninhabitable places

due to uncontrolled and unorganised urbanization and their ugly consequences. Aesthetic pleasing is considered as the least important of our issues however pleased people means pleased minds and well-being.

Zephyr wall will transform the cold and concrete image of Istanbul into a soft and dynamic image. The city will begin to produce electricity that it needs by itself. Thus the use of fossil fuels will be minimized and the costs to produce the electricity will decrease.



The Contribution to the Sustainable Life in Cities

School : Uğur High School

Teacher : Sibel Özten

Students : Şükran Selin Petekçi, Alp Aksu, Lalem Anita Bayraktar, Gamze Akarsu, Ada Özten



With this project of our school, we do not only try to give environmental awareness theoretically, but we also try to show our students what they could do working actively to find the solutions to these problems out of the class, in

the school corridors, school canteen or lunch hall. We additionally create some working spaces for them to discover what they could do and we try to show them with these studies and changes they do, lots of things could change in global scale.

We let them see what they could do with a lot of materials which they think that they are waste in our recycling workshop that is opened for this purpose.

In our ecology workshop, we try to explain why soil and water are

important and show them how to grow or cultivate our natural seeds without using any chemical drugs or fertilizers in the greenhouse we built in our school yard.

We teach them how to make use of a lot of waste or unwanted materials of any type with the studies we do together. We have been conducting various actions to raise awareness of the school community and ensure that they are sensitive to the environment. We do some school trips and field studies.

Our belief is that with such educational and implementation projects to be developed at schools, cities will be transformed into places where future environmental problems and related problems may be reduced.



Sustainable Bond Between People in Need and Volunteers

School : TED İstanbul College

Teacher : Didem DEMİRCİ

Students : Şevval TUNAR, Öykü ÇIRAK, Hatice Ekin AKPINAR, Zeynep Şuğle, Duru Topaloğlu

Partner Organization : TİDER



İstanbul is the biggest city of Turkey. 15 million people live in İstanbul. Unfortunately, not every person can afford their basic needs. That's why non-profit organizations that work for level playing field are important to sustainability in a big city.

TİDER is a non-governmental organization which works to prevent waste and help people who can't afford their basic needs. It is a non-profit organization which tackles poverty in Turkey. They established Food Bank Association in 2010, İstanbul.

Their aim is to find a permanent solution instead of just providing support. Therefore, these volunteers meet people in need and provide them with their basic needs, provide jobs for them, go to disaster areas

to help people there, and support women for development projects. Their values are based on transparency, objectivity, and sustainability.

We as TED İstanbul College students went to their food markets and participated in package, sale, and donation parts. We introduced TİDER to the whole school, collected basic needs for the people who can't afford them and sent them to Maltepe Supporting Centre. When we have time, we work in Maltepe Supporting Centre and find new sources for them.

We, as young people, should work for sustainability in a big city. Our first goal is make this wish come true in İstanbul, then in all the big cities in the world.





PORTUGAL



Sustainability behind Urban Gardens in Lisbon

School : Agrupamento de Escolas de Benfica

Teacher : Maria Emília Martins

Students : Maria Teresa de Oliveira Dias Marques, Sofia de Sousa Alves, Tiago Manuel Peres Dinis

Partner Organization : Câmara Municipal de Lisboa



We are a group of students from Agrupamento de Escolas de Benfica - Lisbon, Portugal. In the last few months, the question we have been trying to answer is "What benefits urban gardens can bring to our city Lisbon in terms of sustainability and preservation of biodiversity?"

maximization of the soil's efficiency and waste management. Our work is based on the collection and analysis of data from entities that are responsible for the Urban Gardens Project in Lisbon, aiming to know which efforts are being made in our city to develop new projects. In order to collect information on how gardening affects sustainability, we inquired some gardeners in Lisbon about the way they manage their gardens. We also celebrated School Agriculture National Day, showing to kindergarten children our school garden. With this activity, we raised awareness on the importance of gardening among younger generations.

Urban gardens are small areas designed for the production of vegetables, fruits and flowers. Urban gardening is integrated in the city's economic and ecological system. Therefore, it is built in the urban ecosystem. This type of agriculture brings us many advantages related to "Sustainable Living in a Big City". It contributes to a better lifestyle, supports biodiversity, improves the environmental conditions, improves the food access and security, as well as allowing the



Citizen Scientist : Biodiversity in Lisbon - Knowing to Preserve

School : Agrupamento de Escolas de Benfica

Teacher : Maria Emília Martins

Students : Gustavo Lucena Duarte da Silva Manso, Inês Sofia de Barros Castanheira

Partner Organization : Centro Interpretativo de Monsanto - Câmara Municipal de Lisboa



We are a group of students from José Gomes Ferreira High School - Lisbon, Portugal. In the last months, we have worked on our project related to the main theme: "Citizen scientist:

Biodiversity in Lisbon - Knowing to preserve". In the last century, human activities have caused an extinction rate of about 1000 times higher than the natural rate. The extinction of species leads to changes, sometimes irreversible, on the balance of ecosystems, thus implying a break in the food chain and, consequently, in the survival of other species.

This lead us to the main question: "How can Biodiversity and its preservation contribute to a more sustainable life in big cities?". A sustainable city is one that meets all Man's needs in terms of habitat, shelter, food, working conditions and respects the ecosystem where it is installed. Lisbon, as a sustainable city, is developing a few projects in order to preserve and increase the existing biodiversity. These projects aim at conserving certain habitats and species and raise awareness for the public to enjoy and protect it. Good levels of biodiversity in a city contribute directly to human well-being. Another aspect approached was the citizen scientist and the importance that he has in the preservation and cataloging of species. To facilitate this cataloging, several applications have been developed, the one we used was iNaturalist. Moreover, to achieve



this, an exhibition was organized, including various activities to raise awareness of pre-school children and 8th grade students. In order to preserve, we must be aware of the life that exists around us: their names, physical aspects and their differences throughout the year. Observe and formulate questions, like a scientist. At CEI 2019, we will present more aspects on the Portuguese Biodiversity, as well as its benefits to increase world's Biodiversity.



MALAWI

Environmental Conservation Education

Organization : NatureKit.org

Teacher : Steven Makumba

Student : Chinsinsi Miracle Chauluka



NatureKit offer environmental advocacy and awareness to residents of Malawi by offering environmental services through environmental education. We are committed to providing the best environmental service to different communities. NatureKit works with school on environmental education in areas of organic farming, tree planting, climate change, waste management and plastic upcycling. Our projects aim to instill a culture of environmental protection amongst the citizens and revitalize Malawi to a state where the populace has sufficient knowledge to preserve and conserve the environment from environmental degradation. It is an organization dedicated to help in dealing with

numerous negative impacts to the environment degradation. Through its different sectors NK will work to maintain nature through implementation of different projects of which some will aim at building environmental education capacity to communities and schools. The main focus is to provide advocate on environmental education through actions on integrated and environmental management systems. NatureKit works to help move practices away from landfill disposal and to promote prevention, preparation remove, recycle, recovery and proper disposal. It possess advancement and dissemination of information relating to all aspects of the environment in areas related to conservation and sustainable management.

We focuses and uses education as eeducation has the power to modify the society and present better knowledge to its populace. Education can stand as proper solution to solve different sorts of problems exist in a society and therefore, education has a big role to play to save environment. It's time for a cleaner and healthier environment.





HONG KONG



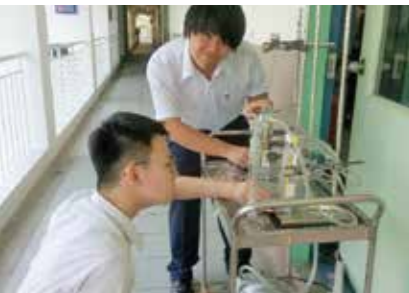
Air Quality in Hong Kong

School : SKH Tang Shiu Kin Secondary School

Teacher : Ms CHAU Yuk Lin

Students : LO Wing Kai, HUI Chun Sing, CHAN Siu Kin, LAU Chun Wang, LIU Cheuk Heng

Partner Organization : The Hong Kong University of Science and Technology



In Hong Kong, the air quality seems to be improved. Over the past decade, the emissions of major air pollutants, such as nitrogen oxide (NO_x), sulphur dioxide and particulate matter dropped steadily. The ground-

level ozone concentration remained almost unchanged. However, at times there can be episodes of serious air pollution which may threaten our health. There are several factors that may affect the air quality. Also, ozone is not a 'primary' pollutant. It is formed from the chemical reactions of nitrogen oxide - released from thermal power plants and vehicles - and volatile organic compounds under strong sunlight. This makes the issue of air pollution more complicated.

Air pollution is monitored at 16 general and roadside stations throughout Hong Kong, but they do not cover many densely-populated areas, including our school district. In order to help the public to know how clean the air they

breathe in, we, as secondary school students, have participated in a project known as 'Community EXPLORE: Science to Action' organized by the Hong Kong University of Science and Technology (HKUST). In the project, we have installed the necessary equipment and measured the concentration of nitrogen dioxide, ozone and black carbon in the school environment using the EXPLORE platform developed by HKUST. Based on the data collected in our school environment, a study of the effects of weather conditions on the air quality will be conducted, so that the people can identify the places with clean air according to the predicted weather condition and plan their trips.



Marine Conservation Programme - Reduction of Marine Litter

School : SKH Tang Shiu Kin Secondary School

Teacher : Ms CHAU Yuk Lin

Students : LUO Tsun Ming Karlton, CHOI Lok Hin, LI Chun Man, YIM King Sum, LEE Long Kwan

Partner Organization : Environmental Association in Hong Kong



Since a mass of litter was washed ashore on the beach or on the ground in the urban

area by the super-typhoon in September 2018, many local people have become aware of the issue of marine litter and helped to clean up the shoreline actively. However, the removal of marine

litter does not really help to conserve the coastal and marine environment. Our coastlines are still awash with marine litter. To minimize this problem, there should be a reduction of waste generation at source. In this project, a research has been conducted to know the extent to which the citizens understand the issue and their perception of the need to reduce marine litter.

The data was collected from 107 respondents through an online questionnaire or a face-to-face interview between 9th March and 31st March 2019. The results showed that they just had an average understanding about marine litter. Also, around 80% of the respondents reflected that most people did not care about marine litter because of three reasons. First, some perceived that the problem did not cause lasting damage. Also, it was not an imminent environmental



threat. Third, it was only a problem to the coastal communities. Since they do not feel an urgent need to reduce marine litter at source, we set up an educational booth to spread the message of the importance of protecting the environment and teach the public how to upcycle the plastic waste in the Marine Conservation Carnival organized by the Environmental Association on 31st March 2019.



JAPAN

Environmental Conservation Education

School : Daimon Senior High School

Teacher : Takeguchi Yoko / Oda Tatsuro

Students : Asai Mao, Ishida Hitomi, Iwamura Rika, Kadoshima Kyosuke, Kanayama Taisuke, Kaneba Kiko, Teari Rino

Partner Organizations : Toyama Prefectural Government, Imizu Municipal Government



A city is not sustainable where a lot of trash is dumped. In order to make a city sustainable, we must reduce the amount of trash. What has become a big problem in Japan in recent years results from plastic bags such as supermarket

checkout bags. These bags are light, strong and waterproof enough to carry goods we have bought without any stain. Ironically, however, plastic bags are so durable and easy to use that they have led to serious environmental pollutions and huge waste of petroleum. As a countermeasure to these problems, in Toyama Prefecture, some supermarkets started charging extra fees on plastic bags in 2008. In 2009, the students at our school in those days conducted a research on how many plastic bags each household used. The research said that the amount of the bags each family used per

week was around half as much as those in another prefecture. Hence they concluded that charging some fee on a plastic bag is somehow effective to reduce the amount of those bags.

Today, ten years after this study, our new research shows that the amount has dramatically reduced to fewer than 10. While the charging has undoubtedly contributed to this outcome, is there any other factor for reducing the amount? If there is, we assume, we can use it to further decrease not only the usage of plastic bags but also other kinds of trash, leading to a sustainable living in a big city.



Used Baby Diapers Utilization As a Planting Medium

School : SM Sekolah Alam Bogor

Teacher : Okwan Himpuni

Students : Dzikru Amrullah, Ghietrief Fawwaz Kurniawan, Landry Azmiraisza Irawan, Muhammad Luthfi Alif Sandy, Muhammad Ridwan Fadillah

Partner Organization : Jaringan Sekolah Alam Nusantara (JSAN)



Our project is based on processing used diapers. The goal is to find an alternative solution in processing from used diapers into planting medium and nutrition for plants.

The birth rate in Indonesia reaches 4.87 million per year. In 2018, 9,7 million children under two years old. which nearly 97.1% of children under two years old used disposable diapers (sigma research, 2017). The average use of disposable diapers in one day is three. If the weight of a used diaper is around 125 gr, that means the diapers waste produced is 1,289,184 tons per year. The weight of the used

diapers produce per year is equivalent to 24 RMS Titanic. One of the materials in the diaper is hydrogel (Sodium Polyacrylate). Hydrogel has the ability to absorb water well, so it can maintain soil moisture. In addition, used diapers containing urine are also useful for plants as liquid organic fertilizers that provide nutrients for plants because they contain water, urea, sulfate, chloride, although in relatively small amounts. Our conclusions that are achieved from experiments show that plants using planting media from used diapers have fairly good growth, especially for vegetables (river spinach, bayam, lettuce, caisim). We have introduced planting media from used baby diapers to the community and some of them were trying it at home. Next, we will make some drop box to collect used baby diapers from the community.



Bio Battery from Bio Waste of Durian Fruits

School : Sekolah Alam Indonesia

Teacher : Ainun Nurul Fitriyah

Students : Fitri Nur Aulia, Hanadia Shohwah Nurul Izzati, Evelyn Kamiliya Ornam, Sanchia Gedyazka Sehan

Partner Organization : JSAN



Durian (Durio zibethinus) is a well-known tropical plant in Indonesia. It's also known as the king of fruit because of its big size and thorns. Although it has a huge size, only 25% of durian can be consume. While the other 75% is usually thrown away. Not many people know that durian's skin has the ability to conduct electricity (electrolyte) caused by manganese inside it. Beside that, batteries are electricity storage who needs the existence of electrolyte as electricity conductor from positive pole (cathode) and negative pole (anode). Unfortunately, batteries these days still using lithium cobalt whose dangerous for the environment.

This research discuss about the using of durian waste as a substitute of electrolyte in batteries so that it could reduce HTS (Hazardous and Toxic Substance) on batteries. Based on our experiment, it is known that with 2,77



gram of durian's skin can produce 1,14 volt of electricity on average. On the second experiment, we did fermentation on the durian's skin by adding yeast. By adding 5 gram, 10 gram, and 15 gram of yeast, this process proven can increase the amount of electricity. The maximum result is 1,302 volts of electricity on average can produce by adding 10 gram yeast and 10 days fermentation. So proven that durian's skin can substitute as electrolyte. We have already socialized to students and made presentations at "Pojok Iklim" from ministry of environment to do campaign about reducing HTS so that this research will have more impact for sustainability of environment.

Empowering Plasticless Living

School : ABhome Senior High School

Teacher : Setyo Budi

Students : Atika Rahma Putri, Ethereal Laudia, Kayla Fathia Arsy, Rahimah Nurul Izzah, Zahra Aulia Rahim

Partner Organization : JSAN



As we all know single use plastic is one of world's biggest problem nowadays. There is still lack of awareness to reusing or recycling single use plastic. Which means most of the plastics are end up in the landfill or the worse, it clogged

up rivers and ocean. The biggest impact is come to local communities itself where they lost their source for food and clean water.

Our city, Bogor produce 650 tons waste per day, and 1.7 tons of it are plastic bag from modern market. To reduce it, on December 2018, the Mayor of Bogor City issued a regulation that all modern markets are banned for using plastic bag. This regulation force people to use reusable bag.

The new problem now is raising awareness about why people should reducing plastic and recycle their plastic waste instead of buying new

reusable bag. We have two range of target, the first are kids age 3-9 years old as we aim to change character and mindset. We make and storytell an illustrated story book about the danger of plastic waste as an effective media to deliver our message. At least 130.000 kids in this age are living in Bogor. Hopefully, these kids will share what they learn from the story to their parents, family, friends, and everyone around them. Thus, spreading the message wider. For older people, we share the way to turn used plastic bag into a reusable bag. However it helps to reduce plastic waste that already appeared around us.



Reused Project: Soap from Used Cooking Oil

School : ABhome Senior High School

Teacher : Setyo Budi

Students : Najla Saqeenarava Nitisara, Jaler Gibran Fakhira,
Fadel Yuliantoro Putra, Luth Raffa Audiansyah

Partner Organization : Jaringan Sekolah Alam Nusantara (JSAN)



Our desire to learn more about Used Cooking Oil several months ago challenges us to make this project. In Indonesia Used Cooking Oil is usually called as Minyak Jelantah. As time goes by, we found some related problems. there are Amount of Used Cooking Oil and Water and Soil Pollution.

As we've known, waste in Indonesia is (still) not yet managed well. Based on questionnaire we made to 107 respondents, each family produces 1 liter of Used Cooking Oil every week and 66,1% dump it into trash can or conduit. In our city, there are 300,063 families, which is totaled with the average of oil consumption become 1.08

tons every month.

It needs high cost to restore the polluted environment caused by Used Cooking Oil. Based on The Guardians, to restore the polluted environment, the government needs 600,000 US dollar or equivalent to 7,2 billion rupiahs. If 1,08 tons of Used Cooking oil pollute in our city, then the government needs 720 million rupiahs every month.

Therefore, we try to decrease pollution with reuse the Used Cooking Oil and recycle it into soap. By self-making soap, we can make the environment better, reduce government spending for restoring the environment and save money to buy soap.

From this project, we try to engage people to start making their own soap, from their Used Cooking Oil. Hopefully, if every family apply it at home, so by the time it will decrease pollution and make a better living for years.



Linting si Linting An Ingenious Cheese Packaging for Sustainable Living

School : Citra Alam Senior High School

Teacher : Dsei Arti

Students : Reyhan Irfansyah, Gloriana Fattimia Amadea,
Siti Cahyaningsih, Athalla Ariq Wijaya

Partner Organization : Saung Palakali Creative Art Community,
Sustainable Hyper-platform of Indonesian Network of Educator, RPTRA Shibi



Various campaigns to reduce the use of paper have been running in Indonesia for many years. Eventhough the paper waste period only 2-6 month, but when the waste production continues to increase,

we still have to tackle. The average of paper waste production has remained high, which is 17 tons/day. In other words, every Indonesian approximately contributes 27 Kg waste/year.



To reduce the amount of paper waste, we initiated a Linting si Linting project as a creative project from paper waste. The project aims to design a cheese packaging made from paper waste (newspaper, writing paper, corrugated paper/card board, magazine paper), and to raise people awareness, especially food packaging producer about the possibility of using paper waste for a unique,

attractive, low cost and good quality food packaging.

To promote the product, workshops for school students and the local community were conducted. During the workshop, we taught them about the importance of reducing paper waste for sustainable living, and the procedure to make a cheese packaging from paper waste which main goal is to raise the families economic condition around their homes. Based on the feedback from workshop participants, we plan to increase the quality of this cheese packaging and do better campaign.



Tuntungan Ground Board Game: An Educational Game Program to Improve Young People's Concern for the Environment in a Big City

Schools : Sekolah Alam Medan Raya, Sekolah Alam Bengkulu Mahira, Sekolah Alam Baturraden

Teacher : Suprapti

Students : Azzam Habibullah, Adeeva Afsheen M. Rosyadi, Mahira Salimah, Rhyntan Nandya Benaya

Partner Organization : Jaringan Sekolah Alam Nusantara



World Economic Forum 2018 Report on Education, recommended one of the educational technologies, called the 'Play Based Learning' method. Based on this research, we made an Environmental Education Game with the type of 'Board Game' for young

District in Indonesia, where the community has diverse ethnicities, but can collaborate in solving various problems in their area.

people that educate environmental awareness, and the skills they need to deal with environmental problems in a big city.

Tuntungan Ground Board Game program has been carried out for Youth in Educational Institutions in Bengkulu City, Baturraden, and Deli Serdang Regency. Fun play and learning activities, make this game not to make the correspondents bored, even they are always eager to discuss and solve more problems, and win the game.

A Board Game is a tabletop game that involves counters or pieces moved or placed on a pre-marked surface or 'board', according to a set of rules. Tuntungan Ground Board Game is a fun educational game that invites anyone to play to be a hero to defeat Monsters who attack the City by solving natural and social problems, with mythological figures from Indonesia who represent the character of Entrepreneurship, Socialpreneurship, and Intellectual.

Based on our plan, this program will be an example of an Education model that can be applied by educational institutions in Indonesia. Continuously campaigning for the importance of environmental care for young people, through fun and memorable education.

'Tuntungan' is taken from the name of a remote area in Deli Serdang





DENMARK

Fixing Our Food-waste Problem

School : Aalborg youth School

Teacher : Anne Juel Larsen

Students : Daria Mataonau, Emilie Jennet, Nicole Kryger,

Partner Organization : Aalborg Youth City Council



The production of foods is consuming resources and contributing to global carbon emissions. It is not only that producing food in itself is adding to more pollution but also the fact that people are throwing it away makes much of the pollution purposeless. 7 to 8% of global carbon emissions are related to food that we do not even eat.



Most big cities in Denmark are facing this problem. Over the course of one year, all people in Denmark are wasting approximately 247,000 tonnes of food (2017), which is after reducing it from 261,000 tonnes in 2011 and 2012. Wasting food is not only happening in Denmark. There are lots of countries that produce even more waste, and though there are countries that are more aware of how much they are throwing away, food waste is still a global issue. For a sustainable life in a big city, we decided to make young people more aware of the food waste situation and invited them to contribute in making their own lunches with expired or nearly expired food, to show them that food is okay to be consumed even a few days after their expiration date. We will examine how young people in Aalborg look at the food wasting issue and contribute to a positive mind set regarding food habits.

Clothes Swap

School : Aalborg youth School

Teacher : Anne Juel Larsen

Students : Kalinka Ranfelt, Nikoline Prehn, Cecilie Færk, Maja Linnemann

Partner Organization : Aalborg Youth City Council

The accessibility of cheap clothes and styles that changes every season has caused a rise in the consumption of clothing items in first world countries.

The means of production, along with the immense distances travelled to get the materials to the factories and then to the consumers, leave a considerable footprint on the environment caused primarily by the CO2 emitted and the water usage.

As urban living provides a lot of people packed together, this is the ideal place to start dealing with the problems of the clothing industry especially since the big cities are where a lot of sources of reused clothes typically are located for example thrift shops. As a branch of the already existing trend in our city, Aalborg, we are going to test the effects of swapping clothes instead of just tossing them out to buy brand new ones.

In our project, we dig into how reusing clothes can have a positive effect on the individual's environmental footprint as well as how it can be an event to strengthen a community. Therefore we plan to

make a clothing swap scheduled in May 2019 to test if this idea could be one of the possible solutions to the problem and we will present the results of this at the conference.



SOUTH AFRICA

Inclusive Environment In Durban

School : Mason Lincoln Special School

Teacher : Mhlonipheni Collin Gumede

Students : Minenhle Truelove Mtolo

Partner Organization : South African National Civic Organization



This project has identified the challenges faced by people living with physical disabilities particularly in the informal settlements located in Durban. Durban is South Africa's third biggest city and it is found on the east coast of our country. Our school is Mason Lincoln Special School and it caters for learners with physical impairments. Some of our learners reside in the neighbouring informal settlements which were mainly constructed without proper spatial planning and thus the space tends not to be navigable or accessible for people using crutches and wheelchairs. This usually becomes even more untenable during the rainy season where learners' mobility becomes so compromised that some

learners end up even missing school. The learners' right to learn gets compromised. In other areas there are no ramps for wheelchairs thus making it impossible for learners to move freely.

Due to climate change, Durban's weather has become prone to heavy rains and floods like the one we recently had during the last week of April 2019 which resulted in the death of over 60 people and collapse of houses especially the informal houses. During this period again, our learners were adversely affected and had to miss school for much longer than their able-bodied peers. Working with a local branch of a civic organization called South African National Civic Organization, we have highlighted the challenges faced by our learners and dialoguing about how best to address these challenges. SANCO is a powerful organization with a powerful political clout and we seek use their leverage to highlight our plight and to implement infrastructural facelifts that will ensure that the environment accommodates learners and all persons with disabilities within the city of Durban.





TAIWAN

The Construction and Use of a Zero – Electricity Air Cooler

School : Huey Deng Senior High School

Teacher : Hui-Yu LIN

Students : Yen-Yin CHEN, Chieh-Hsien LIU, Yung-Yu GU, Yun-Hsi WU



We used PP plastic corrugated board and reused bottles to make an improved natural cooling device, and this device is designed to be installed in windows. The PP plastic corrugated board is transparent, and this won't affect the lighting quality. Also, the durability of PP plastic corrugated board is greater than other materials. Our cooler applies the thermodynamic principle of the Joule-Thomson effect and the process of throttling to make use of the difference between bottle's neck and body to reduce the temperature of air the is forced through. This is the same principle that explains how air blow from your mouth is warm if your mouth is wide open but much cooler if you press you lips together and force the air through a smaller space.

Through this experiment, we hope to apply this "eco cooler" to our surroundings to help people to cool their homes while conserving energy.



In Taiwan, almost every family in the metropolitan areas uses an air conditioner. Apparently, since the phenomenon of global warming is even more obvious in the recent years, the power consumption of air conditioners has greatly increased, which causes environmental pollution.

'The Eco-Cooler Grey Dhaka unveils world's first zero-electricity air cooler made from plastic bottles' is a video about a company that repurposes bottles to make an environmentally friendly device. After watching this video, our team formulated an improved version of the device.

Board Games – Pursue a Sustainable Living in Big Cities

School : Stella Maris Ursuline High School

Teachers : Yu-Hsiang HUANG, Fan-Tso CHIEN

Students : Jih-Han FANG, Shan-Yu HU, Hao-Jyun YU



Believing that education is the first element of sustainable development. We need good talents and appropriate course materials to sculpt the next generation that to have possibility of continuation. Thus, we decided to design a board game, so that men, women and children can gradually experience the connection between our city life and nature.

We hope to design a board game that passed through many of the life issues facing the city now. For example: "over-fishing of marine resources, development of land-based environment, stray dogs in cities, etc." Through the packaging of these social realities and the reflection of roles, such as: "coordination of economic value and environmental conservation or confrontation between power and



morality", so that people who play can be more recognize the many aspects of the real society, and understand the empathy of the world, let them think, to continue that spirit.

It is hoped that participants will be able to think about sustainable development as the main goal in their play, for example: "Overfish fishing has become a social problem, and between the role fishermen, the government and environmentalists. Achieving balance and developing policies to limit fishing? There are a variety of agreements." This is just an example, with the concept of sustainable development between urban and environmental economy is what we want to reach.



Sustainable Development of Ecological Pool

School : Stella Maris High School

Teachers : Fan-Tso CHIEN, Yu-Hsiang HUANG

Students : Zi-Yu LUO, Ming-Yu SHEIH, Yu-An CHEN

Partner Organization : TACPS



The topic of our report is Sustainable Development of Ecological Pool.

We take the school's ecological pool as the core, and extend two parts of the theme to share this report, Education and Environmental Protection.

In this report, we explain how to manage the ecological

pool, why the ecological pool could protect the environment and what its function to implement environmental education is.

To maintain the ecological pool is a health condition. As the pool is located outdoors, it grows some kinds of algae easily, meanwhile, it restrains various organism from growing.

By means of keeping the ecological pool, we also implement the environmental protection to the junior students.

To help the junior students realize the importance of environmental protection, they are asked to carry out the cleanup work which we do every week.

We wish to achieve our goal—protecting the only planet where we are living on by this chance. Hopefully, we can make some contribution to the earth.





MEXICO

Entomology : Source of Traditional, Wholesome, Nutritious and Tasty Food

School : Instituto Edcuela del Sur

Teachers : Elda Gabriela Pérez Aguirre and José Antonio López Tercero Caamaño

Students : Jocelyn Ghisleine Contreras Hernández, Marcela Abigail Ugarte Cedillo

Partner Organizations : Centro de Complejidad , Secretaría del Medio Ambiente y Recursos Naturales de la CDMX



Population growth has increased the demand for food on a global scale. Recent research indicates that the consumption of some insects represents one of the best sources of proteins and its production requires less than a quarter of food

potential they have and how widespread is their import from other Mexican states, their production and consumption in Mexico City. The production of edible insects can become a multidisciplinary and sustainable activity in Mexico City. With the conclusions of our study we will present an information document so that people of our community know the advantages of this nutritional source, that in many occasions is rejected.



than for cattle, for example. Insects can become one of the possible ways to deal with the shortage of food in different regions and malnutrition in others. In fact, in May 2013, the United Nations Food and Agriculture Organization (FAO) said that eating insects could fight hunger in the world. This project takes up the ancestral tradition of entomophagy or insect ingestion in our country. Mexico is a privileged country in this sense, since, of the edible species of insects in the world, a high percentage is endogenous. We are making a study of the main species, of the regions in which they are produced and consumed, of the nutritional

Rainwater Recollection at School

School : Instituto Edcuela del Sur

Teacher : Huitzilihuitl Moctezuma Mendoza

Students : Andrea Cisneros Guadarrama, Mariana Pérez Buendía, Derek Portugal Vela Morales, Christian Vargas Tena

Partner Organization : Isla Urbana



Currently, the water system in Mexico City is both deficient and unsustainable. It is 70% formed by the aquifer mantle and 29% by the Lerma-Cutzamala system, then 1% by springs. The system

requires great energy and economic investment due to the complicated route that water follows to reach the city: it has to ascend more 1000 m, great losses of the liquid are due to leaky

pipes, besides unequal access in areas that do not have piped water or only once every so often. Floods and subsidence derived from a surplus water and over-exploitation of the aquifer, add up to the problem of distribution.



It is necessary to rethink the water system of Mexico City keeping sustainability as principle, to reduce energy consumption and support local water projects, such as water catchment systems are implemented. Rainwater collection systems allow to reduce the excess of water in the hydrous network; improving its access, taking advantage of the



rain that ended before in the drainage, solving the floods and subsidence. For this reason, the Rainwater Collection Project of the Instituto Escuela will be implemented to be an example for water sustainability both in schools and in the city, so it can be emulated elsewhere.

Green Walls : A Contribution to a Better Environment in Mexico City

School : Instituto Edcuela del Sur

Teacher : Magalí Sarmiento Fradera

Students : Denisse Guevara Espinosa, Nareni Pineda Juárez, Martina Sánchez Caballero, Patricio Sánchez Caballero

Partner organization : Go! Global – Virtual School Exchange



Mexico City, the country's capital city, is the economic, political and cultural center of Mexico. It is situated in the Mexican plateau, which is a valley surrounded by mountains and volcanoes. 17% of the total population of the country lives there: 20,843,000 inhabitants with a population density of 13,500 inhabitants per km². Each day people commute using 4.7 million of automotive vehicles that use fossil type fuels, consequently creating high pollution

levels. Besides, the increasing population and urban infrastructure has caused a reduction of green spaces: currently 3 m² per person while the WHO (World Health Organization) recommends 9 to 12 m² per inhabitant.

We are aware that our city is far from being sustainable, but we also know that we can make some contributions that, as a whole, would improve life quality for the ones who live in this city.

Considering that the available spaces for planting trees is limited, our focus is on the implementation of green spaces. We have given priority to green walls, which in the last few years have proliferated in our city. We are contributing to this movement by creating them in our own school.



Campaign to Avoid the Use of Expanded Polystyrene (EPS)

School : Instituto Edcuela del Sur

Teacher : Carmen Larrondo Sayavedra

Students : Antonieta Aguirre Oviedo, Yuliana Gonzalez Dotor, Elián Sebastián López García, Masha Natalia López Lameda, Valentina Padilla Suárez.

Partner Organization : Secreteía del Medio Ambiente y Recursos Naturales



Expanded polystyrene (EPS, star foam, or unicele in Mexico) is a type of plastic made of the pre expanded polystyrene, generally used for construction and food packaging. EPS is a highly contaminant product that doesn't degrade in nature.

It's made from styrene. When EPS gets hot, it leaves very toxic dioxins, long exposure to it can affect the immune system, produces cancer and affects the hormonal system. While higher up is an animal in the food chain, more concentration of dioxins has in its system.

Mexico produces 125,000 tons per year, from which it is estimated

that only 1% is being recycled.

In different parts of the world, including Mexico, multiple campaigns suggesting the reduction or the searching to avoid the total consumption of EPS in our lives have been released. However, Mexico City is not within these places and that is why we have decided to start a program where the main objective is raising awareness within our classmates and families, later on expanding to more people in our neighborhood, including merchants, restaurants and schools to reduce the consumption and to explain the high risk and affectations generated because of this product.

We decided to start at our school, chatting in each group and conducting a survey after the talk to know how aware they were about the issue and conducting a second survey to observe the changes we achieved. Later, we will approach "sister" schools and the rest of the local community.



Transportation in Mexico City

School : Instituto Edcuela del Sur

Teacher : Abraham Pita Larrañaga

Students : Sofía Arriaga Galicia, Hugo Tonatiuh Carrillo Bonilla, Santiago García Martínez

Partner Organizations : Comisión Ambiental de la Megalópolis, Participación Ciudadana



We will study the access and the use of public transport in Mexico City, mainly in the communities of the students who participate in this project. In Mexico City, the use of cars with petrol-powered internal

combustion engine is privileged. The gasoline in Mexico is very expensive in economic terms and highly polluting. However, for reasons of comfort and a supposed "inefficiency" of public transport, many people never use it. The study aims to find out how efficient local public transport is compared to the use of cars, in terms of energy and travel time. We are making a lot of observations and measurements about times

of travel, frequency, punctuality, accessibility and state of facilities. The research is being developed both in METRO (electrical subway) and in METROBUS (gasoline buses that circulate on their own lane), that are the main transportation systems in our city.

Results will be disseminated and shared with local government and community groups interested in transport-related issues. On the other hand, it will also be reported that the public transport of Mexico City provides very interesting spaces of interaction and cultural exchange that are little valued.



USA

"Nature in the City" – Environmental Activities for Children in Poverty

Organization : CEI USA/ Oregon Chapter

Teachers : Dan Hoynacki, Tony Currier

Students : Karen Garcia, Ruby Pascual, Benjamin Bond, Andrew Bond

Partner Organization : Salem/Keizer School District



Our Caretakers students are developing a bi-lingual, research and science-based educational program about nature and the environment to target to Salem's underserved students K-8 in the Title I summer lunch program for eligible students. Our idea is to give students who are there for lunch the option to also have a new, fun learning experience. We've built a series of interactive carnival-style games to engage youth about conservation, energy, urban wildlife habitat, conflict and harmony between the natural and built environments, and careers in sustainability and the environment. Each game – K-4, 5-8 will have wheel-spin questions with small prizes for each participant.

We will be offering an outdoor game on how invasive species take over native ones. There will also be games about how nature

needs assistance to exist in what are unfavorable conditions, and that city parks are not designed to be wildlife habitats but that may look natural but are designed for people and pets. Cities still need pollinators and other helpers with the goal to naturally manage pest and weed control. A cellphone app is being developed so that students can seek places in their community that they perceive as either in harmony or conflict with nature and photo it. We also are making bi-lingual take home information flyers to share with families, hoping to grow future Caretakers.

Prior to the conference, we will be finalizing our game elements and practicing at a science fair. We are excited that this project could receive potential funding for 2020 and beyond.



Promotion of Green Alternative Public Transport

School : Szramek High School in Katowice

Teacher : Mariusz Kamrowski

Students : Oliwia Gubała, Maria Żukowska, Marek Janiec, Tomasz Janiec, Maciej Kamrowski



In our project, we would like to inform the people of what a serious problem for the environment the daily use of cars poses, and of how every human can bring our society a step closer to sustainable development and life. To this end, we have done several presentations on the connection between environmental and economic issues and ways of maintaining a sustainable lifestyle in big cities. In March 2019, we carried out a survey among our schoolmates on transportation. The findings of the survey let us determine the percentage of young people who use more eco-

friendly means of transport. Afterwards, our team calculated the average carbon footprint for the common student and presented the results in front of one of the classes. We have designed posters through which we inform the people of the idea of a sustainable city, and on how important public transport is in promoting a more ecological lifestyle. Our team has also measured the length of bicycle paths in the capital city of Warsaw, and, in future, we shall launch a campaign for the promotion of the use of bicycles and electric scooters in everyday life.



One Sustainable Life, Please

School : Szramek High School in Katowice

Teacher : Mariusz Kamrowski

Students : Monika Skibska, Mikołaj Deja, Konrad Borkowski, Aleksander Feruś

We have prepared a project entitled "Sustainable Day". Our main goal is to educate the people about a sustainable way of living and encourage them to change their non-ecological habits. During the presentation, our project group is going to play a short scene in which we are going to juxtapose contrary opinions and emphasize

the importance of an environmentally-friendly lifestyle for the future generations. Our focus is on the following issues: energy, transportation, heating, diet and waste disposal. We are planning to show a set of distinct approaches: eco-friendly, uncommitted and non-ecological. In the scene, we want to present three

lifestyles, corresponding to the approaches mentioned before. The actors are going to have a conversation in a shop about their views on the said topics and express their personal opinions. We want the uncommitted person to show mixed feelings when confronted with the conflicting opinions of the other two. Moreover, we want both the uncommitted and the non-ecological stances to

shift to a more green one. Finally, the uncommitted and the non-ecological characters are going to change their approaches, saying "One sustainable life, please." The genre scene is the outcome of numerous lectures, workshops, and personal challenges we have given, organized and taken on in order to raise awareness of the ecological issues in question.

Smog Is Our Enemy

School : Szramek High School in Katowice

Teacher : Mariusz Kamrowski

Students : Magdalena Kita, Wiktor Sawicz, Jan Swadźba, Mateusz Halladin



our project, we have produced and distributed leaflets among the people in the neighborhood so that they are aware of the fact that they can check the quality of air on a daily basis. We also monitor the concentration of NO₂ and SO₂. To this end, we have installed sampling tubes, and cooperate with the "Napraw Sobie Miasto" [Repair your city] Foundation as well as The University of Silesia, Department of Chemistry, where we send the samples for analysis. We have also filmed an educational video of smog, showing how it is created and what negative consequences it brings about.

In the project, we focus on the quality of air in our city - Katowice. We monitor the smog levels in Katowice by means of a smog detector which we assembled. We would like to show the process of assembling the detector. With those two things - our smog detector and the constant monitoring of the pollution levels in our city - we want to inform the inhabitants of Katowice of the quality of air they breathe. Everybody can check the concentration of PM₁₀ and PM_{2.5} in the air in Katowice, as the smog detector operates in a global network, OpenSenseMap.org (<https://tiny.pl/txpck>). To disseminate





SWEDEN

Inspiring the Youth by Obtaining Eco-School

School : Öresundsgymnasiet Landskrona

Teacher : Karin Warlin

Students : Pelin Nergiz Erdal, Blerta Hajzeri, Victoria Sörensen



Young people are our future which is why it is important to inspire and encourage the upcoming generations to make a change. This can be done by Eco-Schools

With Eco-School it starts in the classroom, it expands to the school and eventually fosters change in the community at large and further has the ability to transform a city's sustainability.

This is one of the reasons that a group of students at our school started

an environment group that is now called Gronflagg. The goal was to try to obtain an eco-school certificate for Oresundsgymnasiet.

To succeed with this objective the group settled on development goals. These goals consisted of reducing food waste, using less harmful substances and materials and replacing them with more sustainable materials and recycling more.

Some changes that the environment group has managed to make are for example creating the "food monster" in the cafeteria where students see how much food and money is wasted each day and introducing recycling in the teacher's lounge.

By actively following up on these goals the school has succeeded in becoming a certified Eco-School. Throughout the journey the group has made it a point to inform other students of changes and engage them through the social media account @gronflaggoresundsgymnasiet. The account has been appreciated both by students and teachers but also by the community. The account has also been acknowledged by numerous other environmental organisations such as Eco-school itself, WWF and the Keep Sweden Tidy Foundation.



The Sustainable Use of Vital Resources in a City – Water

School : Oresundsgymnasium

Teacher : Gustaf Ekelund

Students : Hajrija Felec, Dalila Osmanovic

Partner Organization : Landskrona city



Water, being one of the most vital resources, is also one which humans are consuming at a fast and unsustainable pace. In many places in the world, people experience extreme water shortage, but what we don't talk about is the fact that these problems are arising in countries like Sweden

as well. In the future, we will face even more drastic consequences due to i.e. eutrophication, climate change and toxic waste.

The core of our project is to spark a discussion about the potential threats for drinking water availability which we risk to face in the near



future. We have looked at the local problems and situation in Western Scania District where agriculture plays an important role for the local groundwater. In our research a clear difference arises between the quality of

local wells and municipal drinking water. By interviewing staff at the Environmental Department of Landskrona's Municipality, reading articles and attending a scientific symposium in Stockholm, we have learnt about these complex challenges. We have made exhibitions for other students to read, when our school celebrated Earth Week and also gave a

PowerPoint presentation, open to the public at the City Library. We also give examples of how industries in a big city can use water in a sustainable way.



RUSSIA

Optimization Of Public Transport

School : Lyceum 28, Kirov

Teacher : Tatiana Khodyreva

Students : Artem Moshkin, Alexandra Nasikovskaya, Valeria Kononova, Victoriia Shikhova



Why have we chosen this theme? We think that it's very important for the big city how the public transport works. So we decided to learn about its history, development and organization of its work in Kirov. We did a survey of our students and found out that the work of transport concerns many of them. They go

to school and back by bus or trolley. Some of students use public transport to go to different sport or art centers and other places. To get as much information as possible we went to the Central Dispatch Service. We observed the work of dispatchers, learnt that there are 52 transport routes in our city, of which 45 are bus and 7 trolleybus routes. The length of the network of public routes in the territory of Kirov is 1040 km. For example, trolleybuses transport approximately 44500 people per day.

We organized the excursion to the trolleybus park (depot) and

looked at its work from inside. As it appeared the first trolleybus began to carry passengers in 1943 and it was wooden. Now 90 trolleybuses carry passengers on weekdays and 60 on weekends. Our group learnt a lot of interesting and useful facts about trolleys. They are ecologically friendly and almost don't pollute the air. We are going to tell about public transport to small children and pupils of elementary and middle school, remind them about the rules of behavior in transport and on the roads.



School Honey

School : Lyceum 28, Kirov

Teachers : Marina Konopleva, Mariia Chalova

Students : Diana Babintseva, Dmitrii Dorogin, Iliia Kropachev, Dmitrii Zorin

Partner Organization : Biotechnological cluster of Kirov region



In 2018, our lyceum was invited to participate in the pilot project "School Honey" on the initiative of the President of the "Biotechnological cluster of Kirov region". The apiary attached to the lyceum delivers its honey to school canteen. It is aimed at implementing health-saving technologies.

The honey undergoes double fermentation, therefore there are more nutrients in it and practically no allergens. In addition, new varieties of honey, enriched with blueberries and echinacea, were developed.

We visited the laboratory in the main University of Kirov, where we saw how honey is tested. Our Kirov honey is of very good quality;

it has no counterfeit honey supplements. Kirov honey is suggested to be included in the astronauts' ration for the international project SIRIUS-19. This honey is produced by beekeepers of the region together with scientists from Kirov University. The developers claim that 10-15 grams of honey contain a daily rate of dozens of useful substances.

A survey among parents was conducted to find out if there is allergy to honey among the students. We visited the apiary where we learned how honey is produced. In the future, it is planned to install video cameras to observe the whole process of collecting honey.

In the classes we told the students about the project. The leaders of the project gave them different kinds of honey for tasting. In the school camp the Day of Honey with games and competitions was held. We hope that the "School Honey" project will help strengthen the health of schoolchildren.

