



SGH指定校番号 2753

中村学園女子高等学校

探究テーマ「食と環境」

Garbage Island

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First
We chose the ocean from a number of natural environments. And, while I was investigating, I learned about the existence of a unique island of garbage island, so this time I gathered about the garbage island.

Why marine garbage concentrates in specific waters
With the influence of ocean current and wind, as the eyes of a typhoon, plastic islands can be the center of a huge annular flow. Garbage debris will be transported from the East coast of Asia to the center of the cycle within one year and debris from North America will be transported in about five years. Among the garbage of Great Pacific Garbage Patch, trash from Asia such as made in China, made in Japan, made in Korea etc. is also seen very much. It is thought that garbage such as beach sandals and plastic bags are gradually decomposed by sunlight to become microscopic fragments, that is, microplastic, and are gathered and accumulated in a spiral shape by movement of waves.

Example
The impact of the Great East Japan Earthquake is concerned. A variety of things, including oily waste and chemicals that are supposed to be about 1.5 million tons due to the tsunami are sent to the sea. The drifting rubble will eventually accumulate in the Great Pacific Garbage Patch. There is also concern about the impact of the Great Kanto Earthquake that everything leaked into the ocean.

Solution
To disseminate the current situation to many people.
Education on correct sanitary ideas
Example) Umi to Nippon Project (Seas and Japan Project)
The Ocean Cleanup Array
Participating in activities like the above and to be interested in such activities.

What is Garbage Patch?
Great Pacific Garbage Patch is a sea area where ocean waste floating in the North Pacific Hawaiian Island and North America continues abnormally. Fragments such as floating plastics are characterized by being closed by the ocean current of the North Pacific circulation.

Effect on organisms
Marine garbage afflicts many marine life, especially plastic is the biggest threat to marine life. It is because it is the result of mistaking the garbage as food and ingesting a large amount of polystyrene. In Great Pacific Garbage Patch, high concentration plastic particles are drifting in the upper part of the seawater. Apart from visible garbage, plastics that have reached the molecular level by photodecomposition are present in high concentrations in this area, and living organisms mistakenly swallow as food. Pelletized plastics are said to have the property of intensively attracting highly toxic substances such as DDT (insecticide) and PCB (polychlorinated biphenyl) in seawater. Fine particles, bottle caps, and plastic bags are spread over food from sea birds and marine mammals, abandoned fishing gears are hooked to death by clinging to living things. There are such garbage mates in the ocean all over the world. Actually, it exists also in the Sea of Japan. And these garbage collection areas are confirmed between Japan and Hawaii, off the coast of Chile in South America, the South North Atlantic Ocean, and so on.

Computer simulation of mass accumulation of dust

ENVIRONMENTAL INITIATIVES

Nakamura Gakuen Girls high school
2-1 Oba Chinatsu
Hori Miwa

I learned about an environment in research class and we found a compost. We also met a man working on improving the environment of Itoshima. We will introduce Mr. Koto and our approaches

コンポストの記録

Consideration
We could learn present situation and deepen our knowledge by listening to Mr. Koto, an expert actually listening to the experts. We want many people to know these approaches and keep on doing them.

Date of compost
Green Internal temperatures
Orange input amount
Blue temperatures

- Our approach
 - ... Put a compost on our school rooftop.
 - ... Know the importance of nature resources.
 - ... Tell others what we learn and what we do.
- Mr. Koto's approach
 - ... Improving the environmental situation in Itoshima.
 - ex) compost "Sutenannakunn"
 - Biomass power generation.

Modern environment and how the media should be

NAKAMURA GAKUEN GIRL'S HIGH SCHOOL
Yui Sasaki Sakurako Kobara

Problems in modern society
... Examples

Environmental problems of nuclear power plants

Objective present situation ... Specific example

- The media, politics
- "Nuclear safety myth" Nuclear coverage
Lack of explanation for "dangerous standards" Is it really safe?
Explanation and discussion
Ambiguity of information of government, Tokyo Electric Power Company, media etc.
- Harmful rumor
Just deviating from the original pursuit agenda?

Safe and secure Can make organic compost!

How to make compost

1. Put a black plastic bag in a breathable box
2. Place soil, rice flour, fallen leaves into the box
3. Put garbage in the box and stir.
4. Put the lid on it and place it on a sunny and well-drained place.

Let's start being aware of food disposal.
These actions of each person may improve environment.

Solution for Japanese food waste disposal

Ayana Izumi, Riko Koyanagi,
Nakamura Gakuen Girls High School

Introduction
Food disposal is a major problem in Japan now. Reducing food waste will be a means to solve various problems on the earth.

- Application of food bank
- Product distribution system
- Use of drone

Save people suffering from hunger

- Reduce waste of trash
- Itoshima's Approach

Prevention of global warming

- Construction of a recycling-oriented society
- Making Satoyama

Protect biodiversity

SIGNIFICANCE OF " CHILDREN'S CAFETERIA "

Nakamura Girl's High School Hinako Urugo & Akane Kato

Introduction
We studied the children's cafeteria in research class. For further understanding, we invited Mr. Taguchi to our school. He is a manager of "Kids Cafe Taberu Ba". We listened to him and deepened our school understanding.

What is the Children's Cafeteria?
Provide meals free of charge or low at cost.

The social background in which the childhood cafeteria was born

- Children who get thinner after summer vacation
- Children who eat only one dish for each meal such as udon and bread
- Children who often eat frozen food or instant food only

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- Increase poor family
- Increase children who do not know communication
- Women's social problems

Problems

- Many people do not know about the children's dining hall
- It is difficult to secure the place
- There is no central person
- No uniformity of provided food and difficulty of cooking.
- Ex) Only potatoes 10 kg

Things to do in the future
Listening to that, felt that the welfare situation in Japan was not so good as we had expected. There are more children with more poverty. In order to solve the problem We need to get up and participate in volunteers and widely inform the current situation.