

CHEMISTRY AND SUSTAINABLE DEVELOPMENT

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ABSTRACT: Human action in relation to the environment has caused many negative impacts. There needs to be awareness of their preservation. The school is the place where the student builds his way to a social future, thinking of this the project was stipulated in order to stimulate scientific knowledge and awareness about the care of the environment producing in addition sustainable materials such as paper pencil, Organic cola and pet bottle vase.

Keywords: Environmental awareness; Recycling; Scientific thinking.

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A QUÍMICA E O DESENVOLVIMENTO SUSTENTÁVEL

RESUMO: A ação do homem em relação ao meio ambiente vem causando muitos impactos negativos. É necessário que haja uma conscientização sobre sua preservação. A escola é o local onde o aluno constrói o seu caminho para um futuro social, pensando nisso o projeto foi estipulado a fim de estimular o conhecimento científico e conscientização sobre os cuidados com o meio ambiente produzindo além disso matérias sustentáveis como o lápis de papel, cola orgânica e vaso de garrafa pet.

Palavras-chave: Consciência Ambiental; Reciclagem; Pensamento Científico.

INTRODUCTION

Currently, the action of man in relation to the environment has significantly interfered in ecosystems causing environmental degradation. It can be noted that global warming and acid rain both generated by polluting gases in the atmosphere, resulting from forest fires; as well as dam slides that destroy flora and kill people and animals; polluted rivers, seas and oceans with improper disposal of garbage and oil spills, leading to the death of several marine animals and soil contamination, are making life on our planet unbearable. Unfortunately, the education we have today teaches us to be active consumers, ignoring the consequences of our actions (DIAS, 2010).

Today we have the law that allows every citizen to have access to environmental education. Law 9795/99, which provides for the National Environmental Education Policy - PNEA, which portrays an achievement of Brazilian society and the Ministry of the Environment. The school must work with the teachers to care for the environment, so that they can take this knowledge to the classroom, thus working on the construction of scientific thinking, which leads the student to think about the events that are around them.

The school is the place where the student builds his way to a social future, what is done and learned reflects on his life, how he will behave in the face of society, his values learned in school will directly influence his choices. Environmentally correct behaviors can only be learned in practice, in their daily lives, developing values that will contribute to being a responsible citizen (GARCIA, 2011).

MAIN GOAL:

Stimulate scientific knowledge and awareness about care for the environment so that it is appropriated and used in their future choices.

SPECIFIC OBJECTIVES:

- Make students aware of the importance of caring for the environment.
- That students have a new vision of preservation, to keep our planet alive.
- Encourage the reuse of paper, newspapers and magazines for making pencils and recycling pet bottles in making vases.
- Work on experimentation in the production of organic glue.
- Exercise the ability to think to seek solutions to the problems identified.
- Develop reasoning so that students can visualize the causes of environmental problems.

METHODOLOGY

The following project was proposed to the students, so that they could work on environmental education, as it is a theme that addresses several areas, and joins several problems currently experienced. The project will be divided into five stages, in which students will be the protagonists, developing skills that will involve chemistry.

First part: To start the project it was chosen to work with the students on the use of “paper, newspapers and magazines”. Papers were reused to make the pencils. Paper is biodegradable and the biggest concern comes from felling trees. Each recycling of a ton of paper already prevents the felling of 20 to 30 trees, small changes in habits can reduce

waste, a sheet of paper cannot simply be thrown away, it can be reused in various ways, origami, pencils, gift boxes, transforms it into seed paper, among others.

Second part: to glue the paper, a simple organic glue that is not harmful to the environment was thought of, which will be made from tapioca gum. It is known that with the rush of everyday life we get used to and get used to certain things without questioning them, but if we look at the packaging of glues that many of them show that “they can release toxic gases during burning”, it is a product that if thrown into the environment in any way it can affect the ecosystem and pollute rivers and lakes.

Third part: at the top end of the pencil (as opposed to the graphite point) it was chosen to place seeds that students can plant and harvest in the future when the pencil is finished, such as chives, coriander, tomatoes, among others. You can make a small vegetable garden at home. So instead of throwing away the remaining tip, it would be inserted into a vase with sand, so the seed fixed there would germinate and the wrapped paper would be considered fertilizer.

Fourth part: we make the pencils using the papers. We did this process using the papers already mentioned and also recycled papers, recycled in the school itself, this, because it has a more uniform color, and can even be recycled papers already used. The process is simple. Simply add the glue produced on the paper, place the graphite tip at one end and the seed at the opposite end. Roll the paper until the end, getting a cylindrical shape, that is, pencil and wait for it to dry.

Fifth part: to complete the project, the students produced ANTIDENGUE SELF-IRRIGABLE vases, made from pet bottles. The pet bottles were recycled, turning them into usable vases. We know that hundreds of bottles are thrown into the environment daily in rivers, which take 400 years for their degradation, after degradation they are transformed into microplastics, which are small pieces of toxic plastic, which is one of the great villains causing the death of thousands of people. animals. So we reduced the amount of pet bottles thrown in the trash and developed a vase where the pencils with seeds will finally be planted.

RELEVANCE OF THE PROJECT

The project seeks to encourage students to take care of the environment, taking knowledge so that they can transfer it to their community, working on environmental problems that are directly intertwined with political, economic, ecological, social, scientific, cultural and ethical issues.

PROJECT / RESEARCH IMPACT

The students were able to develop scientific thinking, where they worked on ways that could contribute to the environment, bringing knowledge to the school and its community.

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SEARCH RESULTS

This project seeks to bring scientific knowledge to these young people, in order to make them aware of the importance of caring for the environment. It is important for the school to work on the aspects of products we consume, as there are several factors that lead to the destruction of the environment, thinking about a better future and an awareness of students about the care they should have with the earth.

So they could understand the relationship of man with the destruction of the environment and how each individual can make their contribution to minimize these impacts.

FINAL CONSIDERATIONS

The project had positive results, which is attributed to the students' interest in contributing to the environment, thus working with ethical and social values. The development of activities that are related to the scientific learning of the students was worked on, such as the recycling of papers, the making of an organic glue, the construction of the self-irrigating anti-dengue vase, and the use of conscience in planting a small vegetable garden at home.

Environmental education in chemistry and the environment is a way of introducing a new way of seeing chemistry into student learning, since it is treated as a means of destruction, so it is necessary to “make chemistry teaching effective in understanding the problems environmental issues that surround the local community and the globe itself” (GARCIA, 2011, p. 21).

REFERENCES

DIAS, G. F. Educação Ambiental: princípios e práticas. São Paulo, Gaia, 2010.

LEI Nº 9.795, que dispõe sobre a política nacional da educação ambiental, DE 27 DE ABRIL DE 1999. Acessado em: http://www.planalto.gov.br/ccivil_03/leis/l9795.htm, no dia 27 de Outubro de 2019.

GARCIA JUNIOR, Rubens Serpe. Educação Ambiental ao Alcance de Todos 2011.

folhas. Monografia (I Curso de Especialização no Ensino de Ciências) – Programa de Pós-Graduação à Distância (EaD) da Universidade Tecnológica Federal do Paraná - Campus Medianeira, 2011.