

# FOLLOWING TEACHING DE DISPOSAL MEDICINES

*Robson Paulino da Silva  
Marcelo Paraíso Alves*



# EDUCATIONAL PRODUCT TECHNICAL SHEET



**TITLE:**  
**MEDICATION DISPOSAL**

**Product Origin:**

It emerges from the dissertation work for the Professional Master's Degree in Teaching in Health and Environmental Sciences.

**Level of Education for which the Educational product is intended:**

High school.

**Target Audience:**

Teachers who wish to work or dialogue with the topic of Socio-Environmental Education.

**Category:**

Following teaching.

**Goal:**

Support tool aimed at teachers working in high school environmental education, with the aim of raising awareness and encouraging the school community to properly dispose of medicines, including expired and unused ones, as well as their packaging

**Disclosure:**

Digital medium.

**Language:** Portuguese

**City:** Volta Redonda

**Country:** Brazil

**Year:** 2024

# PROBLEM SITUATION



## INCORRECT DISPOSAL OF MEDICINES

The inadequate disposal of medicines, whether expired or unused, as well as their packaging represents a significant environmental challenge.

When substances used in medicines reach the environment, whether through incorrect disposal in common waste or sewage systems, they can contaminate soils, rivers and groundwater.

Medicines, including their packaging, contain active chemical compounds that, when released into the environment, can cause adverse impacts on fauna and flora. This contamination can lead to the formation of persistent and harmful waste, affecting aquatic and terrestrial ecosystems. Furthermore, there is growing concern about the development of drug-resistant microorganisms, amplifying the risks to human health.

Inadequate disposal can also result in high concentrations of these compounds in certain areas, generating cumulative effects over time.

To combat this problem, it is crucial to implement safe disposal practices, promote awareness of associated risks, and encourage active community participation in the responsible management of unused medicines and their packaging.

# THE ROLE OF EDUCATION



## CRITICAL ENVIRONMENTAL EDUCATION IN THE SEARCH FOR MEDICINE

In this work, critical environmental education emerges as a proposition to address the disposal of unused and expired medicines, as well as their packaging.

By providing debate and discussion on this problem, environmental education creates a space that can encourage decision-making in conjunction with the needs of the collective and the environment.

Critical environmental education goes beyond simply providing information, encouraging reflection and analysis of everyday practices, consequently making changes when necessary.

By promoting autonomy and critical thinking, it allows the collective to question established standards, adopting behaviors that move towards sustainability.

With this approach, environmental education plays a vital role in preventing drug contamination and building communities that are more aware and committed to the environment.

# THE DIDACTIC SEQUENCE



## AIM

*Research the way in which communities have been disposing of unused or expired medicines and their packaging, promoting actions to mitigate this problem.*



## DURATION

*12 hours*



## FREQUENCY

*2 hours per week*



## STRATEGY

*Chaining of actions aimed at research and problem solving.*

# CLASS 1



## CONVERSATION CIRCLE

### AIM

Investigate the class's knowledge of how medicines and their packaging are disposed of in their homes.

### USED MATERIAL

Notebook, pen, computer and cell phone or camera.

### ACTIVITIES

- Initial conversation circle based on the guiding question of how families dispose of unused or expired packaging and medicines, surveying these actions from the students' perspective;
- Investigation of the thematic universe on how families discard unused or expired medicines and their packaging.

### EMPHASIS

The research to be carried out by the family can be through notes in the students' notebooks or through online forms.

### TEACHING ACTION

- Raise awareness among the class about the work proposal;
- Demonstrate being receptive and accessible to listening;
- Diagnose the class's knowledge and relationship with the content;
- Stimulate field research procedures.

# CLASS 2

## SEARCH



### AIM

Map the ways students' families use them to dispose of unused or expired medicines and their packaging.

### USED MATERIAL

Notebook, pen, computer or cell phone.

### ACTIVITIES

- Armed with a questionnaire developed in the previous stage by the students themselves, they will research how medication is disposed of in their families.

### EMPHASIS

The student becomes the protagonist of the research by applying the questionnaire developed by him and his class to his family.

### TEACHING ACTION

- Encourage and monitor field research.

# CLASS 3

## ANALYSIS AND PROPOSALS



### AIM

Collectively interpret/understand the significant statements in/from the research with families about the disposal of unused medicines and their packaging.

### USED MATERIAL

Notebook, pen, computer and cell phone or camera.

### ACTIVITIES

- Conversation about research data on how families dispose of unused or expired packaging and medicines;

**IF THE EXISTENCE OF THE PROBLEM IS CONFIRMED IN THIS ACTIVITY, THE TEACHING SEQUENCE WILL CONTINUE TO THE NEXT ACTIVITY.**

- Ask students to develop actions as a way to face the problems highlighted by the research.

### EMPHASIS

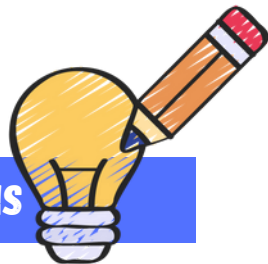
Moment of data analysis and proposal to address the issue.

### TEACHING ACTION

- Interpret, together with students, the data from the research carried out with families;
- Encourage the development of socio-environmental projects focused on the correct disposal of medicines.



# CLASS 4



## THINKING ABOUT SOLUTIONS

### AIM

Guide students in preparing concrete proposals, considering feasibility and effectiveness, to be presented to the school community for the correct disposal of expired or unused medicines and their packaging.

### USED MATERIAL

Notebook, pen, whiteboard and cell phone.

### ACTIVITIES

- Conversation round with the presentation of proposals to mitigate the incorrect disposal of unused or expired medicines and their packaging.
- Analysis of the proposals presented and direction of those that will be developed in the next class.

### EMPHASIS

The actions developed must be critically evaluated regarding their impact on mitigating the problem and also on the possibility of real applicability in the school community involved.

### TEACHING ACTION

- Raise awareness among the class about the work proposal;
- Encourage the development of socio-environmental projects.

# CLASS 5

## HANDS-ON



### AIM

Implement proposals for the correct disposal of expired or unused medicines and their packaging in the school community.

### USED MATERIAL

The material used will depend on the proposal developed by the group of students.

### ACTIVITIES

- Application and development of ideas developed in the previous class by students with the teacher.

### EMPHASIS

The socio-environmental initiatives will be led by the students, and their creativity can manifest itself in different ways. However, it is expected that certain actions, such as awareness campaigns through posters or on the internet, will be incorporated. In this context, it is essential that these activities are closely supervised by the teacher.

### TEACHING ACTION

- Encourage the implementation of socio-environmental projects.

# CLASS 6



## ANALYZING OUR ACTIONS

### AIM

Stimulate dialogue between the school and the school community regarding sustainable practices at school and the correct disposal of medicines.

### USED MATERIAL

Whiteboard, notebook, cell phone and/or others

### ACTIVITIES

- Organize a discussion panel in which students will present, in a structured way, the results of their actions, sharing experiences, challenges overcome and lessons learned. Other students will be able to ask questions and actively participate in the debate.

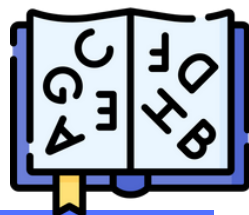
### EMPHASIS

By providing a safe space for students to express their individual opinions about the success of initiatives, encouraging the construction of arguments based on their experiences is fundamental to success in this class.

### TEACHING ACTION

- Encourage students to discuss the challenges faced when implementing the actions, seeking collaborative solutions to possible obstacles identified.

# FIND OUT MORE



## LINKS TO DELVE DEEPER INTO THE PROBLEM SITUATION

*Master's thesis: Irregular disposal of household medicines and their packaging.*



*Video about the types of medicine packaging and how they should be disposed of.*



*Video about the correct disposal of medicines.*



*Report from the National Pharmacy Council on the correct disposal of medicines.*



# RESEARCHERS AUTHORS



**PROF. MEST.ROBSON PAULINO DA SILVA**

Master's student in Environmental and Health Teaching from UniFOA, MBA in Team Management and Leadership from FAVENI, lato sensu specialization in Integrated Educational Management from Faculdades Integradas Jacarepaguá, post-graduate (lato sensu) in Business Environmental Management from UGB-FERP and a Degree in Social Studies from FERP.



Email [rosbonpaulinodasilva@gmail.com](mailto:rosbonpaulinodasilva@gmail.com)

**PROF. DR. MARCELO PARADISE**

PhD in Education (UFF). Post-Doctoral Internship in Education at UERJ. Post-Doctoral Internship in Physical Education at the Federal University of Rio de Janeiro (UFRJ). Master's degree in Social History from Severino Sombra University, Lato-sensu Postgraduate in Sports Training from UniFOA, Lato-sensu Postgraduate in Motor Education from UniFOA.

Email [marceloparaiso@outlook.com](mailto:marceloparaiso@outlook.com)

