

# Science Across the World

## Domestic Waste

**TO:**

Date	
Teacher's name	
School	
Address	
Phone numbers (inc. dialling code)	Telephone: Fax:
E-mail address	
School website address	

We understand that your class is studying *Domestic Waste*. We would like to exchange information about the causes and effects of domestic waste and what is being done about it at national and international levels. We enclose the opinions of our class with this exchange form.

We look forward to hearing from your class. Please reply.

**FROM:**

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## Waste at Home

1. On average, how much solid waste is generated per day per person in the homes of the students in your school?

In our houses, one produces approximately 0.5 kg of solid waste per day.

2. What is the average percentage (by mass) of different types of the waste produced in students' homes?

Waste	Average Percent (By Mass)
Paper products	38.5
Organic waste	41.2
Glass	7.2
Metal	3.4
Plastics	8.8
Other (e.g. batteries and packing made of composite materials)	0.9
Total	100.0

3. Do most students separate waste at home? Yes  No

In just few houses the separation is made.

If yes, into what categories is it most commonly separated?

- Newspaper
- Cardboard
- Glass bottles
- Plastic
- Fabrics (such as old clothes)
- Aluminium cans
- Steel cans
- Kitchen waste
- Garden rubbish
- Hazardous chemicals (oil, paint, spray cans etc.)
- Batteries
- Medicines
- Others, please specify \_\_\_\_\_

Obs: In our city, the most separated garbage category is the aluminium.  
About 87% of used aluminium is recycled.

4. Is waste normally collected from students' homes? Yes  No

If yes, who collects it?



Trucks belonging to the City Hall make the garbage collection. Unfortunately, the collected garbage is not separated, getting it all mixed. The City Hall is responsible for only 0.03% of the recycling in São Paulo.

5. What happens to the waste from home?

Please indicate with:

- C** any treatments provided by the community  
**F** any treatments carried out by individual families

Treatment	Type of waste					
	Paper	Organic matter	Glass	Metals	Plastics	Others
Recycled				C		
Landfill	F	F	F	F	F	F
Burned: In the open In an incinerator						
Composted		C				
Others						

In São Paulo, just 5% of all gathered rubbish is recycled. This amount has only been assured thanks to the collectors' cooperative involvement. The City Hall answers for just 0.03% of all material.



### Organic rubbish

10% of all garbage collected is sent to sewage works to be changed into fertilizer.



### Waste At School

6. What happens to the waste at school?  
Is the waste at school separated?

Yes

No

If yes, into what categories is it separated?

Newspaper

Cardboard

Office paper

Glass bottles

Plastic

Others, please specify: scrap iron

Aluminium cans

Steel cans

Kitchen waste

Hazardous chemicals

Batteries



Garbage separation at our school



Mr. Valdemar, responsible for the recycling, with the can crusher of our school.

## Waste in the Community

7. What are the major issues concerning domestic waste in your community? (If possible, please send us some labels, leaflets or articles dealing with waste issues in your community).

With a population that generates 15,000 tons of residues per day, and by dumping nearly all this rubbish in landfill sites, São Paulo's waste collection system is on the brink of collapse.

Mario Rodrigues



**Landfill Bandeirantes: to go for yet three years.**

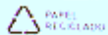
Alessandro Duarte  
e Erika Sallum

# RUBBISH DECOMPOSITION TIME IN THE OCEAN

Poster of TAMAR Project (in defence of marine turtles)




Você já havia pensado que ao jogar o lixo na praia ou no mar, o ser humano está comprometendo o futuro dos animais marinhos e também o seu próprio? Todo esse lixo que é jogado nos mares, suja nossas praias, machucando e até matando peixes, golfinhos, tartarugas, entre muitos outros. O pior, é que muitas pessoas jogam o lixo em qualquer lugar, sem saber o mal que estão fazendo aos outros, a si e aos seus descendentes.  
 Por isso, quando você vir alguém jogando o lixo em lugar inadequado, lembre-o de que será muito melhor que nossos filhos recordem-se de nós pela nossa sabedoria, do que pelo lixo que deixamos de herança para eles.




PROJETO TAVAR IBAMA

Informações pelas telefones: (012) 432 1382 ou 432 6202





**Associação Brasileira de Embalagem**



**Como trabalhamos a questão ambiental?**

**A** ABRE – Associação Brasileira de Embalagem tem como prioridade desenvolver as discussões em torno do meio ambiente e atuar intensamente para criar alternativas viáveis para que a indústria e os interesses ambientais caminhem lado a lado.

Ciente da importância de seu papel no que tange ao meio ambiente, temos uma indústria de embalagem envolvida e participante, investindo e desenvolvendo pesquisas de cunho ambiental.

Neste sentido, ao mesmo tempo que nosso setor apresenta soluções para garantir a proteção adequada aos produtos embalados – uma exigência cada vez maior do mercado comprador de embalagem, são desenvolvidas constantemente novas técnicas para maximizar o reaproveitamento e o processamento destas embalagens.

**As embalagens que você descartou continuam sendo utilizadas da seguinte forma:**


**Vidro**  
Novas embalagens. As embalagens de vidro são recicláveis na proporção 1 para 1, ou seja, uma garrafa reciclada produz uma garrafa nova.


**Papel e Papelão**  
As embalagens de papel e papelão ao serem recicladas geram novas embalagens ou papéis para múltiplas utilidades.

**Cartonadas**  
A partir de embalagens cartonadas recicladas é possível produzir peças moldadas como vasos, bancos, cadeiras, entre outras.

**Plásticos**  
Todos os plásticos são recicláveis. A partir deles são produzidas peças moldadas, fibras têxteis, para roupas, estofados, carpetes, além de peças moldadas.

**Metal**  
Ao serem recicladas, as embalagens metálicas se transformam em novas embalagens ou em matéria-prima para outros fins.





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[www.secovi-sp.com.br/reciclagem/postos.htm](http://www.secovi-sp.com.br/reciclagem/postos.htm)  
[http://blogs.law.harvard.edu/lixo/stories/storyReader\\$66](http://blogs.law.harvard.edu/lixo/stories/storyReader$66)

There is still the chemical rubbish problem, causing contamination, as well as the battery disposing trouble, contaminating the soil.

8. What actions has your local community authority taken to:

a) Reduce waste

To prevent the purchase of products with packings that cannot be recycled or avoid buying products with great packings.

**Obs: This is not taken much seriously in the majority of residences of our city.**

b) Reuse waste

The reuse of plastic carrier bags brought from shopping to place domestic garbage.

c) Recycle waste

Some particular associations for the collection and recycling of the garbage have been created. Some condominiums have adopted the selective collection.

d) Recover energy from waste

We do not remember any action directly taken by our governmental bodies to face this question.

9. What policies have been put in place to improve waste management by your

a) Local community authority

The city councils have approved measures for the increase of taxes on garbage collection and has been liberating mounts of money so that it is increased the collection of recyclable rubbish, as well as the recycling of materials and the production of "biogas".

b) National or state government

- The City Hall has created a new tax. The payment varies in accordance with the production of residues by each residence. This contribution is called "Garbage Tax ". By charging this new tax, the City Hall found that the production of the garbage would diminish.

**Obs. This attitude little helped to solve the problem.**

- The City Hall inaugurated, in May of 2003, a space of selection in the centre of the city. The City Hall supplies the building, the trucks, the presses, and the scales. All the material goes for this central shed. Also it is contracting a company to make selective collection in door-to-door carries along some quarters. This material also goes for these cooperative centres to be separated and commercialized. Today, we have 11 central offices of selection, and the collection is made in 1 million of residences spread through 45 localities of the city.

- Production of "biogas"

Exploration of gas that comes out of organic rubbish scattered in landfills. Bringing benefits for the municipality, there was the reduction of harmful gases emission, as methane and the carbonic gas, both of them resulting of the decomposition of organic substances, and the consequent reduction of the greenhouse effect that heats the terrestrial atmosphere.

**Obs: Everything that has been made is yet very little, taking in account the garbage production of São Paulo, that is of 15,000 tons of garbage per day.**

10. List the organizations involved in reducing, reusing, recycling and recovering energy from domestic waste in your community and indicate how they are involved. (If possible, list reasons why the organizations are involved).

Organization	Involvement
<p>There are many organizations involved in the question of garbage collection and recycling. The great majority of them has as purpose to make money, and some associations train and give for refuse collectors good conditions to exert their function. We have in São Paulo an enormous number of refuse collectors, who, with their work, try and hardly make ends meet.</p>	<p>Spread for the city, there are ecological groups, associations of inhabitants, supermarkets and until units of Fire Brigade which make the selective collection. Before taking away the garbage, it is necessary to separate plastic, glass, aluminium and cardboard in different packings. These associations are non-profit-making organizations. They only have social function. There are also a great number of firms that work commercially with the separated garbage. Some of them are related in this site: <a href="http://www.cecae.usp.br/recicla/">http://www.cecae.usp.br/recicla/</a></p>



11. What action has your class proposed that the school should take to cut down on the amount of waste or to improve the management of school waste?



Looking at the garbage cans of our school, we could perceive that the pupils throw whatever kind of rubbish at any of them. We need to make pupils and employees be aware of the importance of playing the garbage in the right dustbin, so as to assure the garbage is really recycled.

**Obs:** Our school has some programs of awareness for the recycling of garbage. See a little of what has been done there by accessing the following link:

**Colocar link para trabalho de lixo.**