



What happens to the things we throw away?

Organics and Recyclables

(for kids aged 5 to 10 years)

In this activity you and your students will create a learning experience which teaches what happens with different materials we throw away everyday.

Objective: The objective is to determine that there are materials that decompose rapidly while others take a long time to decompose. Children may also start to differentiate between organic and inorganic waste.

This knowledge is fundamental to understanding that many things we throw away stay a long time in the place where they are deposited, without transformation or integration back into the natural environment. Also this activity will help students to understand which materials should be selected for recycling and which can be composted.

Materials:

- samples (pieces of objects) of plastic, paper, glass, metal, banana peel (and others, if you wish)
- transparent plastic or glass containers for storing the samples, one for each sample
- material for sealing containers, such as covers, plastic film, tape, adhesive or wire
- labels
- sheets of paper.

Step #1:

Ask the children what they think will happen to the materials they use everyday, after they have been discarded:

- Are they transformed or do they stay the same?
- Is it the same with all materials or do some materials behave differently?

After listening to and recording the assumptions of the children, tell them that the best way to find out is by doing an experiment.

Step #2:

Introduce the children to different types of waste: a piece each of glass, plastic, metal, paper and a food scrap. (We suggest banana peel, which, besides being easy to collect, is transformed very quickly.) It is important that the materials are well cleaned to get conclusive results. Introduce also the containers in which the collected materials will be placed.

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Step #3:

Invite some children to put a sample of the collected material in each container and close it very well. Next, have another group of children make identification tags for them, drawing and / or writing the content of each container on its label.

Choose a place in the room for these containers to stand for at least one week. The place chosen should be relatively protected to avoid accidents, but should also be accessible for daily observation by the children.

Step #4:

Collectively, draw up a calendar for each container, making a place under each date for the children to record the status of the material on that day.

Explain that it will serve for two things: to show how much time has passed since the materials were put in their containers and to mark what happened with them during that time.

Step #5

Everyday, after observing the transformations of each sample material, the class must record their observations on the material's respective calendar.

The observations should be directed by questions from the teacher regarding the main attributes or characteristics observable for each element: colour, shape, size, smell etc.

Step #6

After seven days of observation, draw up a table with your class to organise the results. The left column lists the observed materials, and the following columns correspond to each day of observation. Thus, in each cell, you can point out (whether in words, drawings, figures, etc.) what happened in the experiment day by day. Some thing like this:

Material	What has changed?						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Plastic	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing
Glass	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing	Nothing
Banana	Colour	Colour Shape	Colour Shape	Colour Shape Consistency	Colour Shape Consistency Some liquid on the bottom	Colour Shape Consistency More liquid on the bottom	Colour Shape Consistency More liquid on the bottom Smell

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Step #7

Return to the original questions asked at the beginning of the activity and to the forecasts made by the students regarding processing of materials. Take them to observe and check which forecasts were accurate and which weren't.

Tell the class that food, the animals that die, the plants and the trees, are organic materials. Like the banana peel, these organic materials also change their aspect, releasing a liquid and an odour after some time. These organic materials are decomposing, turning into other things that gradually become part of the environment, which is where they belong.

Other materials, however, take a long time to decompose or don't decompose at all (for example, glass), and therefore remain for many years as rubbish in the place where they were discarded.

Step # 8

Ask the children if they know where the waste that they throw out daily goes. Encourage them to raise their assumptions about the destination of what is thrown away. Ask if it makes sense to separate the two types of waste that they observed during the experiment. Does it make sense to separate the waste that decomposes quickly from the waste that takes a long time to be transformed?

Step #9

Talk about the different types of destinations for the waste: composting for the organic waste and recycling for materials that take a long time to decompose.

Tell them how the banana and other materials that decompose quickly become a great fertiliser for plants, a fertiliser that doesn't contain toxic ingredients. List the advantages of using organic waste for fertiliser production instead of throwing it away.

Also show them that if they recognise objects that are suitable for recycling, they should separate those materials out and not throw them away. By doing this, these materials (glass, plastic, metals) can be recycled and reused, and this will reduce the need of industries to disturb our natural environment to find new sources of these materials.