

# For Our Common Future





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# Reduce Wastes for A Circular Society

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# I. Wastes in Life




**What are wastes?**

The wastes are what we throw away, and what we think to be useless.



**HAVE A TRY**  Take a look at the dustbins we use. What do you see in the dustbins? Write them down in the following box.



 In addition to things listed above, what other things will be thrown into the dustbins? Write them down in the following box.



Common wastes in life are leftover food, fruit peels, litter, cigarette butts, aluminum cans, plastic bags, glass bottles, used batteries, old CDs, used appliances, old furniture, outdated toys, and so on.

1. Paper	
2. Glass	
3. Metal	
4. Plastic/Rubber products	
5. Wood products/ Textiles	
6. Food waste	
7. Electrical equipment/ Chemical products	

Figure 1.1 Common wastes in daily life

## How much wastes in daily life?

In daily life, about 1 kg waste of all kinds can be generated by a Chinese person per day.

### Activity 1.2



What is in 1 kg of garbage?



1 kg of banana peels  
About \_\_\_\_\_ pieces.



1 kg of \_\_\_\_\_  
About \_\_\_\_\_



1 kg of newspaper  
About \_\_\_\_\_ copies.



1 kg of \_\_\_\_\_  
About \_\_\_\_\_



1 kg of empty water  
bottles  
About \_\_\_\_\_ bottles.



1 kg of \_\_\_\_\_  
About \_\_\_\_\_

Figure 1.2 Different garbage of the same weight, such as the banana peels, newspapers, beverage bottles, and so on.

### Activity 1.3



*Make a small questionnaire, and find out how much garbage we throw out and complete the following form.*

What time do you throw garbage out in your house?

What kind of garbage do you throw out in your house?

How much garbage do you throw out by weight in your house?

### Activity 1.4



*How many households are there in your community? How much garbage in weight is generated by each household per day on average? What about in your city? If we carry all the garbage by trucks with a maximum load of 5 tons, how many trucks will be needed?*



## Where do wastes go?

We often have a lot of junk in lives, for instance, we leave a core of apple after eating an apple, and an empty bottle after drinking a bottle of mineral water into a garbage bucket. In fact, the trash is not the final destination of these water bottles.

Kids, do you know where these wastes will go?

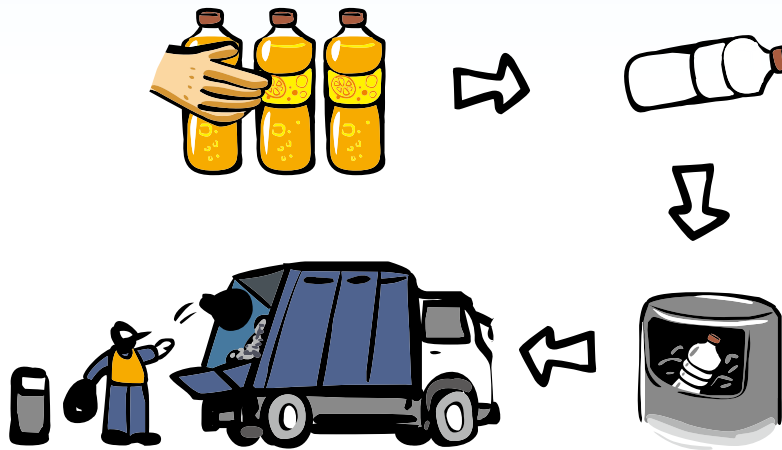


Figure 1.3 The journey of drink bottles

Drink bottles came from factory to everyone's hands. After drinking, they will throw the bottles into the trash bin. After being carefully classified by cleaners, part of drink bottles after crushing re-transformation, can be used in the manufacture of other materials, and ultimately the bottles themselves turn wastes into treasure.



Under a variety of physical, chemical or biological effect, the wastes in nature can be gradually broken down into various other substances. However, the time needed in the decomposition of various wastes is different. Some wastes decompose quickly, while others take a longer time.

### Activity 1.5



*Access to relevant information, try to think how long the following wastes will take in complete decomposition under natural conditions?*



Banana peels,  
orange peels



Leather



Plastic



Glass



Paper



Usually, under natural conditions, the decomposition of wastes takes a long time. Therefore, people have to use various means to deal with these wastes. Dealing with these wastes costs a lot of manpower, financial resources and material supplies, but also takes up much space room, and even results in possible environmental pollution.

Currently, major waste disposal methods are:



Dump



Landfill

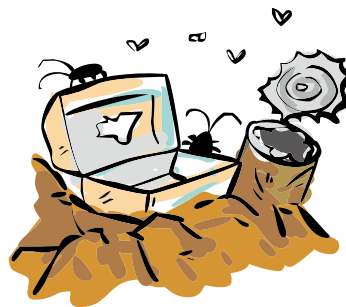


Incineration

Different approaches may bring possible harm to the environment:



Dump pollutes water sources



Landfill pollutes air and soil



Incineration pollutes atmosphere

## II. Work Together to Reduce Wastes



After treatment, waste seems to disappear from our sight. Is that true? In fact, whatever the treatment method is, whenever we throw away the wastes, it means that we consume resources. Therefore, we should minimize the generation of wastes in our daily lives.

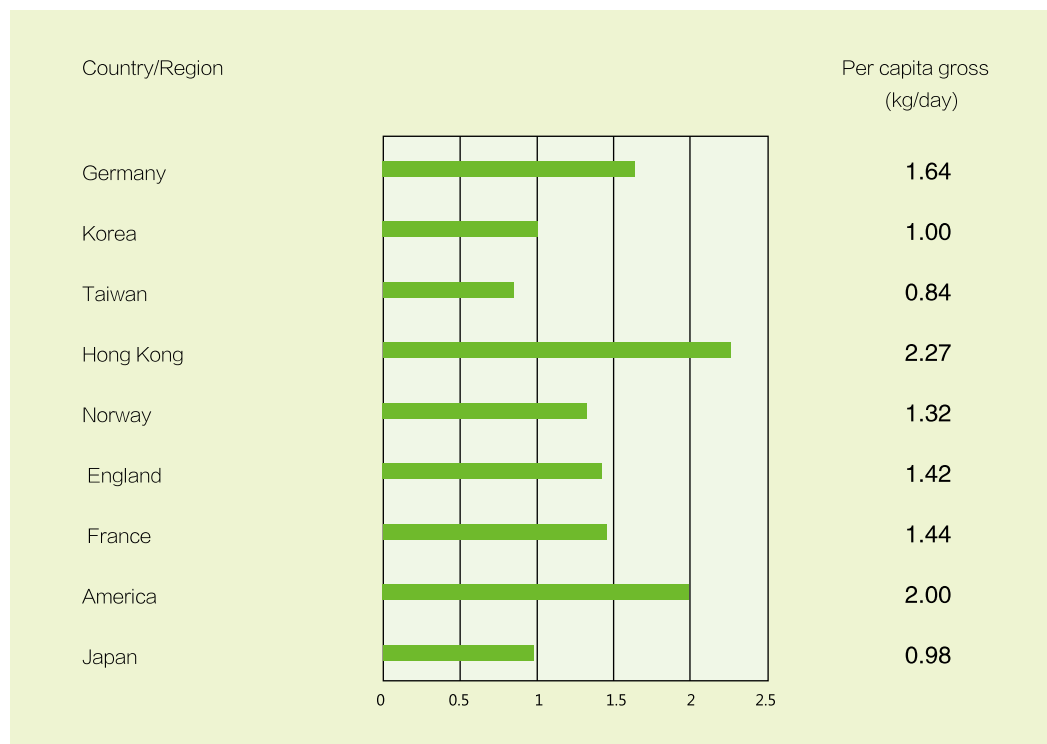


Figure 1.4 The amount of waste generated per person (2011)

## Activity 2.1



*As you'll recall from the questionnaire on page 7, think of the garbage in the house, which must be thrown off? And which can be reduced? How can we reduce the amount of wastes in the house? Write down the measures in your mind.*

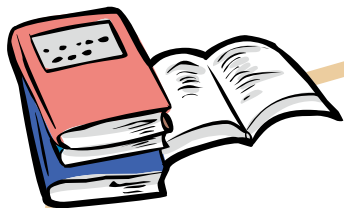


Reducing wastes is the fundamental solution to the problem of wastes. Therefore, many countries have developed laws and regulations to promote reduction.

### Activity 2.2



Ask your parents and grandparents whether things in the following picture used to be carried in plastic bags when they were young. How did they carry them?



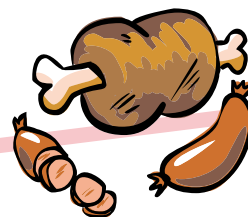
Book



Vegetable



Dessert



Cooked meat

In daily life, just a few simple actions can reduce a lot of wastes, without any big impact on life. During the New Year and other festivals, we can save a lot of paper, which have to be used in producing the cards, by sending e-cards instead of paper greeting cards. Nowadays, sending e-cards has become a fashion.

### Activity 2.3



*Think of good ideas for reducing wastes in daily life, such as e-cards. Write them down in the following box.*



Three large, empty, rounded rectangular boxes for writing ideas, stacked vertically.



# Reuse

Each thing has its lifetime. When a thing reaches its lifetime, it becomes less useful than before. However, in many cases, these useless things can be transformed into useful products through skillful modification. The wastes in one place can become a rather useful material in another place. Therefore, the wastes are actually also valuable resources!



Modified Vinegar bottles



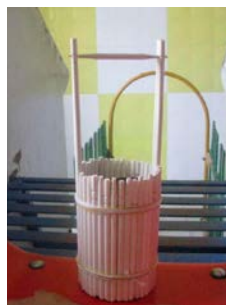
Box reused to store things



Unwanted DVD used for plant pot decoration



Empty bottles modified into lighting apparatus



Flower pot made of bamboo



Key board pieces remade into hand bag

In each family, there are always some idle things which do not be preferred or no longer be used. Most of these things are good, even brand new. How to deal with them often becomes a headache in many families. At this time, you should find a new owner for them, and let it continue to play its role.





## Activity 2.4

Idle goods exchange class. Have a try.



*Have you participated in the exchange activity of idle things? Exchange activity of idle things means to exchange things we like by what we do not like or do not need with other people. In this way, it can help us to save money and conserve resources, so it becomes more and more popular. Why not hold an exchange activity of idle things with your friends and see what you will gain?*





In fact, after some treatment, wastes in life can become raw materials of other products, which can be re-processed into useful things. Natural circulation itself does not require human intervention. When the degree of human contamination exceeds nature purification capacity, the wastes need to be reworked. We can imagine that this re-processing aggravates human economic burden.

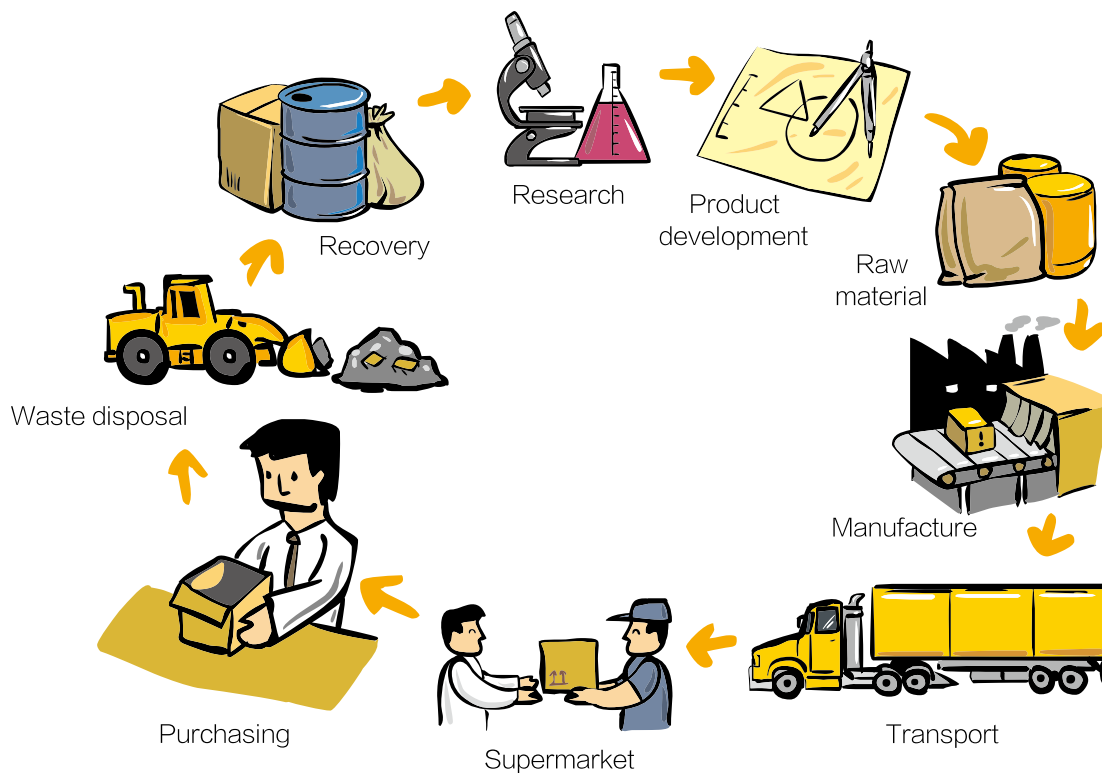


Figure 2.3 Recycling of paper box

## Activity 2.5



*Tell us, do you know any example of recycling?*



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At present, we cannot meet the technical level of recycling all wastes, so we need to reduce and reuse wastes. In the future, we need to start with product design, production, use and recovery and other links to realize the complete recycling.



# III. Go into a Circular Society

## Wonderful Cycle

The constant cycle and persistence of life is the physical movement in nature. For example, carbon dioxide emissions of humans and animals are wastes, but they are resources for plants.

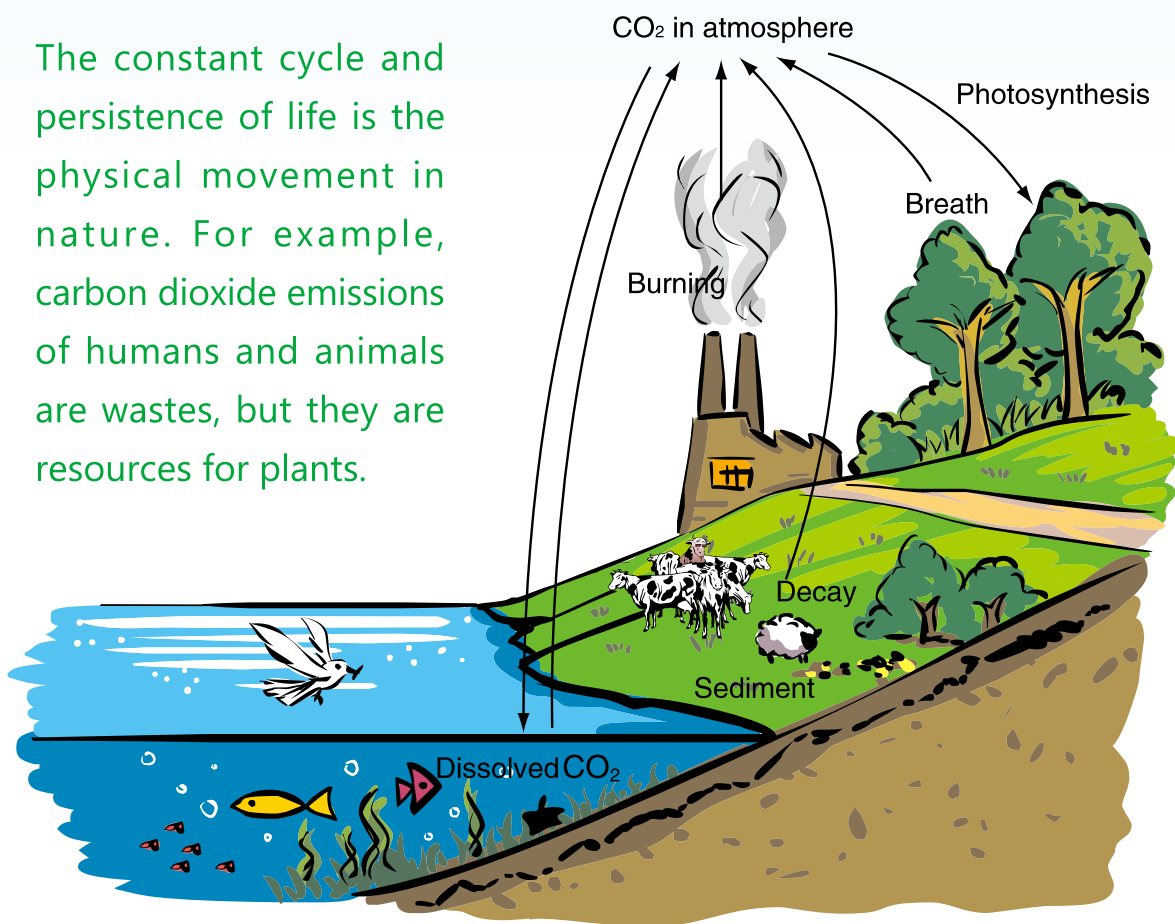


Figure 3.1 Carbon dioxide cycle

Long ago, our ancestors recognized the theory of material recycling and used it in production and daily lives. Straws are the remaining part of the stem roots of wheat, corn, rice and other crops after harvest. From ancient times, people have taken advantage of straws cyclically.

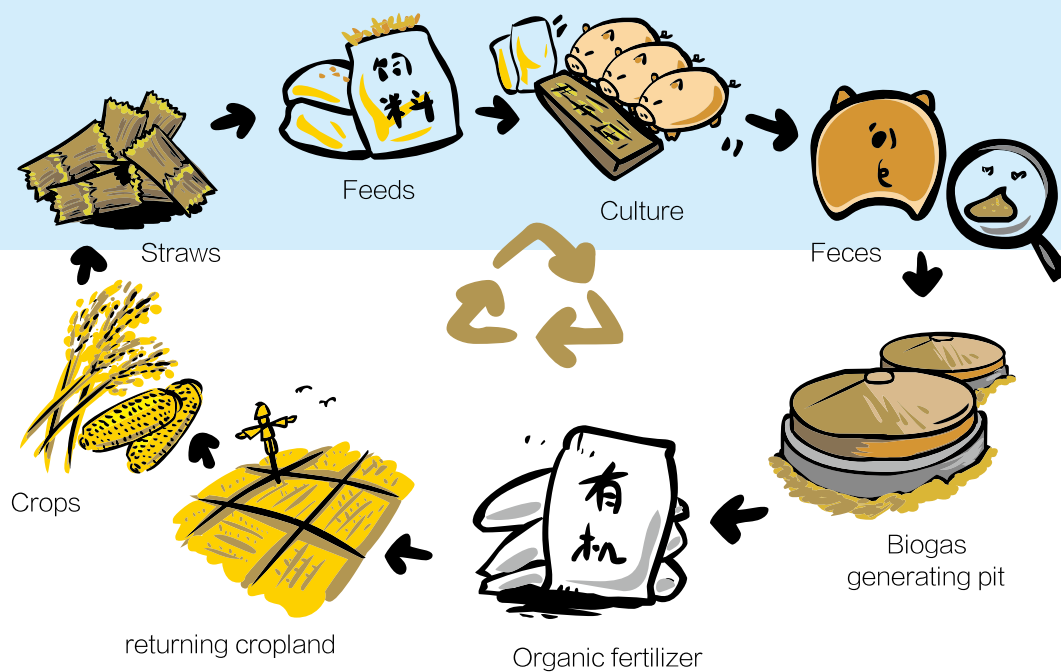
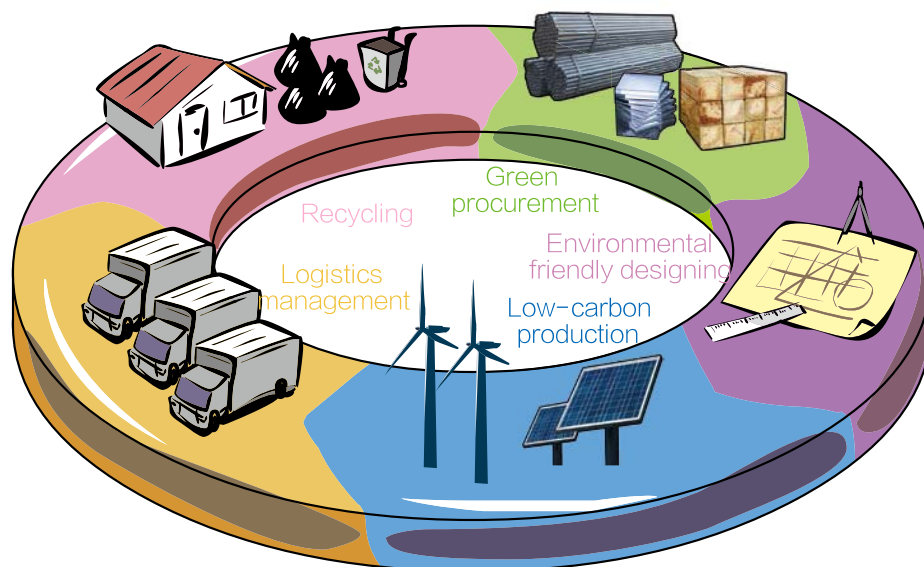


Figure 3.2 Crops cyclic utilization

Following the rule of cycling in nature, straws are no longer wastes to be thrown away, but have become important agricultural fertilizers, feeds, fuels, basic materials and other valuable resources. Through recycling, we can throw away no wastes into the natural environment, namely we can achieve "zero emissions."

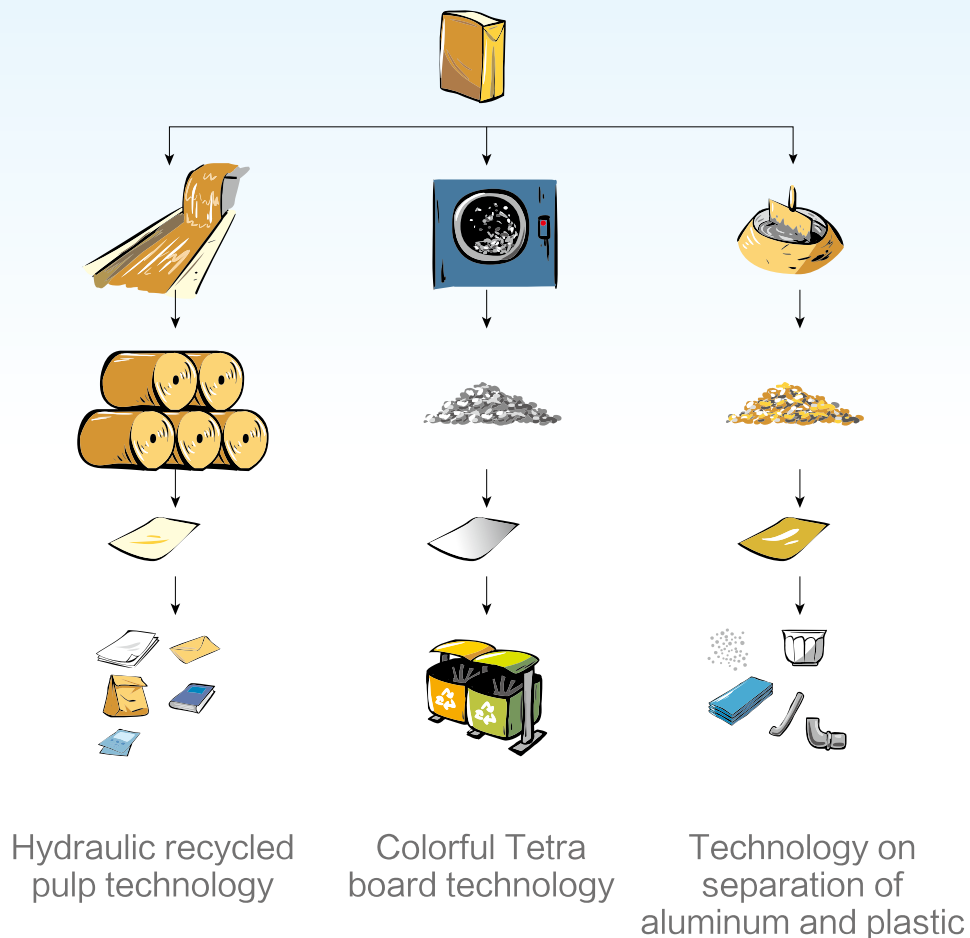
## Circular society

All kinds of industrial products used in our daily lives need to consume natural resources. How to achieve a cycle of these natural resources? We should try to use natural resources as little as possible in the production of various products. Besides, we should lengthen their using time, use them repeatedly or re-use them through changing their original function, so as to minimize the generation of wastes. At the same time, we should use the wastes as production resources to produce new products. In this way, the wastes can re-enter our lives with new looks, so they can be re-used by us instead of being discarded. This process forms a cycle of natural resources - products - wastes - resources.





Some commonly seen soft drink boxes in daily life are made of paper, plastic and aluminum foil, all of which can be recycled.



In fact, there are a lot of wastes just like the soft drink boxes. However, human's scientific and technological level is still very limited, so some wastes have not been fully used. Therefore, we still need to save resources, and make efforts to reduce the generation of wastes. Scientists also continue to research with the hope to create a society without wastes in the future.



## Activity 3.1



What are the wastes in your own house? Record the wastes by type. And then, discuss with your parents to see which of these wastes can be reduced. Which can be reused? Which should be sent to the collection depot for recycling? Discuss with your parents for good ideas on the handling of wastes in the house, and then share your experiences with other students. Write down the results of your discussion and action.

Name of the wastes	Classification	Treatment methods	Effect of actions

## Creative New Circular Life

Recycling and re-use of the useless wastes through skillful methods are not only challenging the scientific and technical personnel, but also challenging everyone's wisdom. In fact, good ideas can not only recycle wastes, but also make our life more stylish and colorful while protecting the environment and saving resources.

Most of those big cloths with painting ads on the street are made of non-woven cloth, which is difficult to break down in natural conditions. Usually, by the end of ads show, the advertising cloth will be discarded. So some creative young people collect those used advertising cloth. And then, according to the words and pictures on the cloth, they skillfully design the cloth into beautiful, unique environmental protection shopping bags, which are fashionable, durable and also waterproof and easy to clean.



4.1 Bags made by non-woven advertising cloth

## Activity 3.2



Who should be responsible for dealing with the used advertising cloth? Is it a good approach to make those advertising cloth, which is hard to break down, into shopping bags? Do you have any good idea? Write down your ideas and thoughts.



Four large, empty, rounded rectangular boxes for writing answers.



## Activity 3.3



*How to better achieve the ideal of recycling society in families and communities? Could you think of any idea for families and communities?*

*Write down the ideas in your mind, and achieve them with your small partners together. There will be a surprise for you.*



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## IV. Stories from China, Japan and Korea

In China, Japan and Korea, there are many stories of creative recycling. Try to find those stories. What do you know about those stories? Write them down.

*Stories from China*



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## *Stories from Japan*



A large white rectangular area with a yellow border, containing seven horizontal dashed lines for writing.



## *Stories from Korea*



A large white rectangular area with a purple border, containing seven horizontal dashed lines for writing.





