

# Dyeing

— by reusing discarded onion peels —  
Space Exploration Educators Conference

Kudan Secondary School

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# Presentation Overview

- 1 Self-introduction
- 2 Students today
- 3 Solving the problem
- 4 Teaching materials
- 5 After this

# 1 Self-introduction

I'm a science teacher with a major in chemistry.

Students from the ages of 13 years old to 18 years old are enrolled at my school.

I teach a third-year class.

## 2 Students today

Many students are not conscious of using personal belongings carefully.



- They don't care about lost articles.
- They throw away things they can still use.
- They desire something new.

Supposing you stayed in space,  
your way of life would be  
different than it is now.



How to  
collect  
trash.

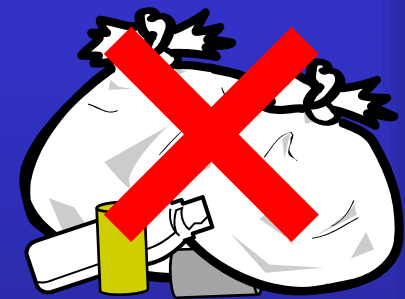
# 3 Solving the problem

We must prepare teaching materials for raising student awareness of the global environment.



# 4 Teaching materials

Teaching materials:  
reusing trash



I want students to think about the global environment and to consider their experiences **by** reusing something they planned to throw away.

I would like to make students aware  
of the concept of what is wasteful,  
in Japanese: *Mottainai*.

Reusing discarded onion peels



Dyeing





I **want** the students to think about whether something can be **reused** before throwing it away.



It's very wasteful to throw **this** away. .

Mottainai.

# Dyeing

- by reusing  
discarded onion peels -

# Preparations

onion peels, nylon net, stainless steel bowl (2), burnt alum, pre-washed cotton cloth, dry beans, cotton thread, clothespin, rubber band, scissors, beaker (100ml), citric acid

## Method

Make a pattern using dry beans and a clothespin.

Cut up the onion peels with scissors and put into the nylon net.

Pour boiling water into the stainless steel bowl, add the onion peels, and soak.

When the dyeing liquid gets dense, pull the net out, and put the cloth in.

Add the burnt alum to the bowl.

Wash the cloth in water and dry in the shade.

Make a pattern using  
dry beans and **a** clothespin.

Cut up the onion peels with scissors **and** put into the nylon net.



Pour boiling water into the stainless steel bowl, add the onion peels, and soak .



When the dyeing liquid gets dense,  
pull the net out **and** put the cloth in.



Add the burnt alum to the bowl.





Wash the cloth in water and  
dry in the shade.



# Dyeing with fallen cherry leaves





# Some results



Coffee  
beans

Fallen  
cherry  
leaves

Peel  
of  
onion

# Another result



Dead branches

## Some other things that can be used:

- Coffee
- Tea (Herb tea · Green tea)
- Wine
- Dead branches
- Grape peels
- Etc.





# 5 After this

- Continually try to dye things using trash.
- Develop other teaching materials.
- Instill the concept of reusing.

Thank you for listening.

