# Sanko Zome Creation of New Original Color

Team 17

### Introduction

Polyphenol

Polyphenol + Alkaline or Acidic material

Changes color

Tannin



- Tannin is contained coffee or walnut skin.
- ·We can dye using tannin dying.

Purpose

Control cloth color by pH

### **Materials & Method**

Ex.1

Decide the type of cloth

(wool, silk, cotton, hemp)

#### Methods

After boiling, we added the clothes and wait 30 min.

1 L Water 40 g Coffee 3 pieces Clothes Ex.2

Effect of acidic and alkaline material to the clothes

#### **Methods**

Same as experiment A

 $+\alpha$ 

**Acidic···** 1g,4g,12g Citric acid **Alkaline···** 1g,4g,12g Baking soda

Ex.3

Same pH value

but different material

#### Methods

Same as experiment A

+α
1g Baking soda
4g Lime

### Result&Discussion

#### Ex.1 Decide the type of cloth

Wool	Silk	Hemp	Cotton

- 1. The wool, silk, cotton, hemp all can be dyed.
- 2. The order is wool, silk, cotton, hemp.

We use cotton because it can be dyed and it is cheaper.

Ex.2 Effect of acidic and alkaline material to the clothes

	*						
quantity	12g	4g	1g	basic	1g	4g	12g
рН	2	3	4		7	7.5	8

Colors changed by difference of pH.

Colors also changed by polyphenol.

Ex.3 Same pH value but different material

	Baking soda	Lime
First		
Second		

Clothes don't change color.

Don't change color by materials.

## Conclusion

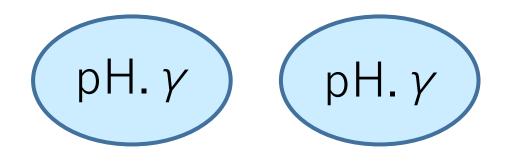
Ex.2 same materials different pH  $(pH, \alpha, \beta)$ 

ρΗ. α

рΗ. β

Different colors

Ex.3 different materials same pH  $(pH. \gamma)$ 



Same colors

Cloth colors can be changed by pH