



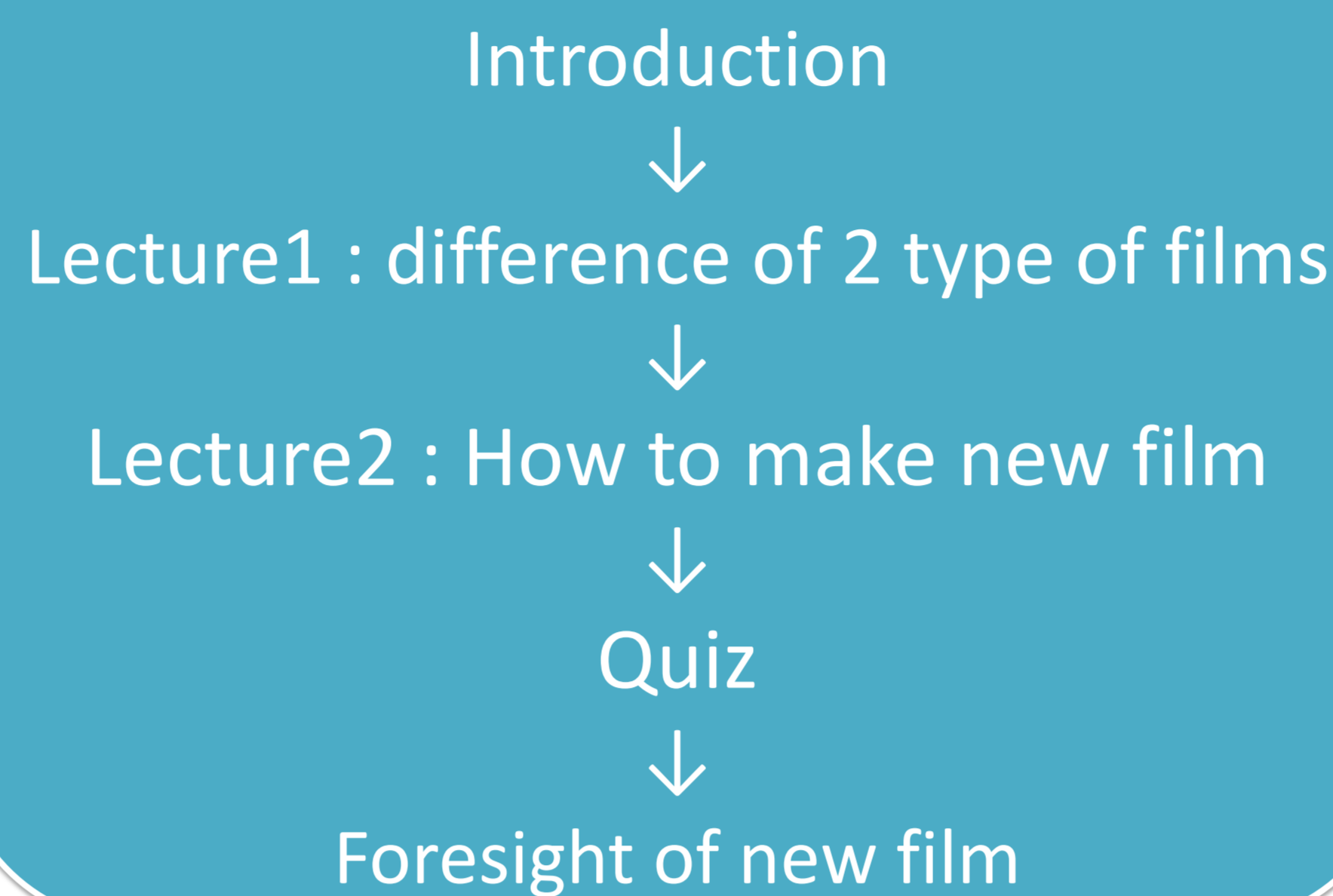
## 1. Summary of our class

**Topic:** New Film

**Aims:**

- Students understand the difference between polymer film and new film, especially in structure.
- Students have interest in the future possibility of new film.

### Flow of the lesson



### contents

We did some activities to understand the difference.



about polymer



about new film



making molecular model

## 2. Introduction part

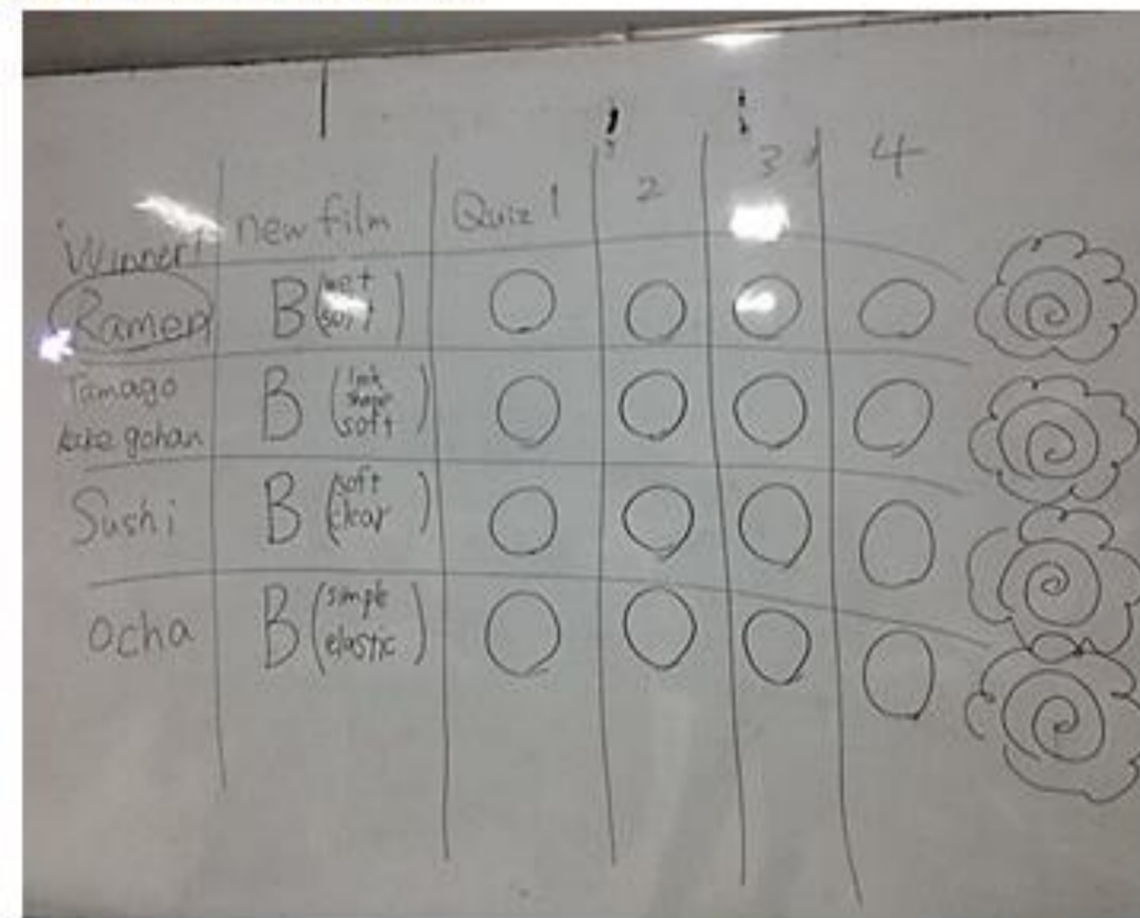
Feel several films and guess "What is New Film ?"  
 → Students answer the new one and the reason

### Points of improvement

1. Impressed student with using real things. After watching our movie, I showed the plastic film.



2. Naming their group in Japanese food attracted students.



3. Changed how to ask students and focused on it.

"What is new film?"  
 → "What is new developed film?"

### Which film is new one?

Let's think which is other film!  
 It's ok you touch and lift up.  
 Please don't cut!  
 In 5 minutes.

before

### Which film is new developed one?

Let's think which is new developed film!  
 It's ok you feel the films.  
 Focus on feeling, appearance, and so on.  
 Please don't cut!  
 In 5 minutes.

after

### After improvement

- We could see students understood more.
- Students were interested more in this lesson.
- Students could answer the question and the reason clearly.

## 3. Lecture 1

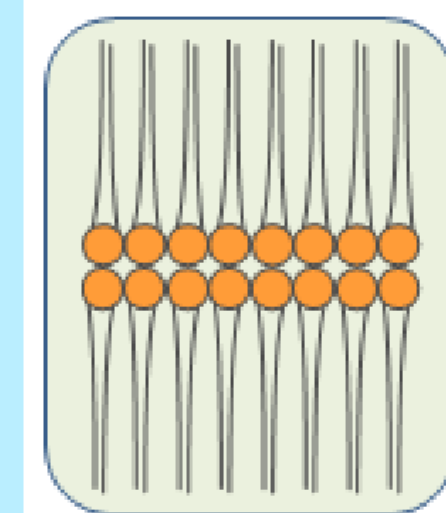
### Lecture 1

<difference between general film and new film>

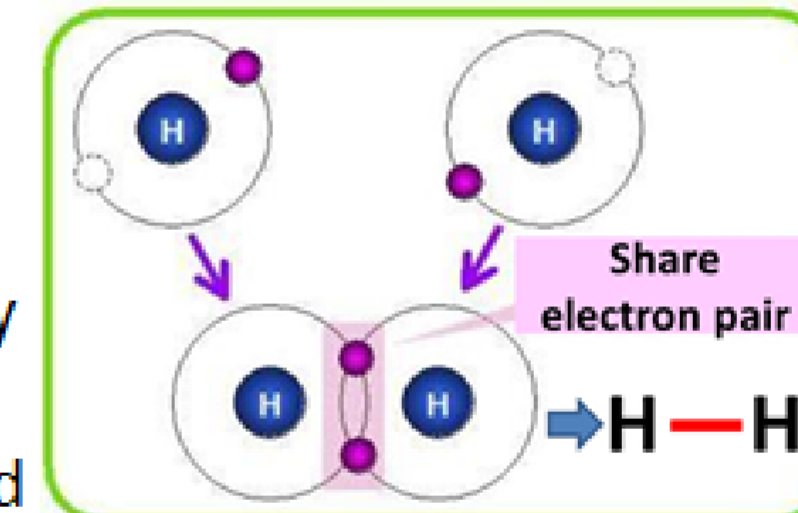
	general film (polymer)	new film (surfactant)
structure	 crossing	 well-ordered
between monomers	covalent bond	hydrogen bond & molecular zipper

### improvement

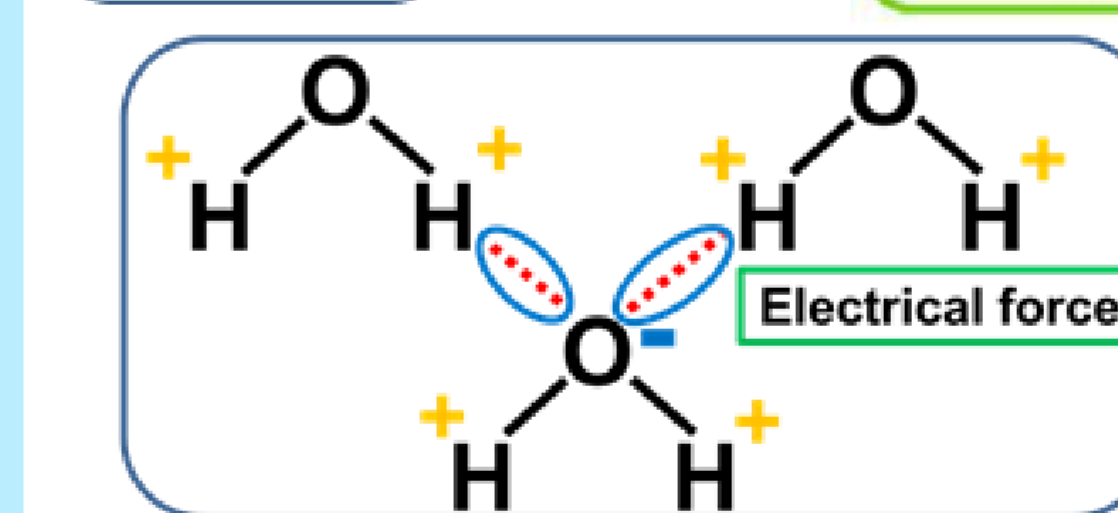
We added some explanation about key words.



Reason why surfactant well-ordered



Covalent bond



Hydrogen bond

### After improvement

Comments from students

- At first I didn't understand but the lectures made the materials look easier than I think.
- They were good enough in explaining the materials by some fun activities.



## 4. Lecture 2 ~ Foresight

### subject

- how to make film (use movies)
- question about the lesson
- foresight (new film)



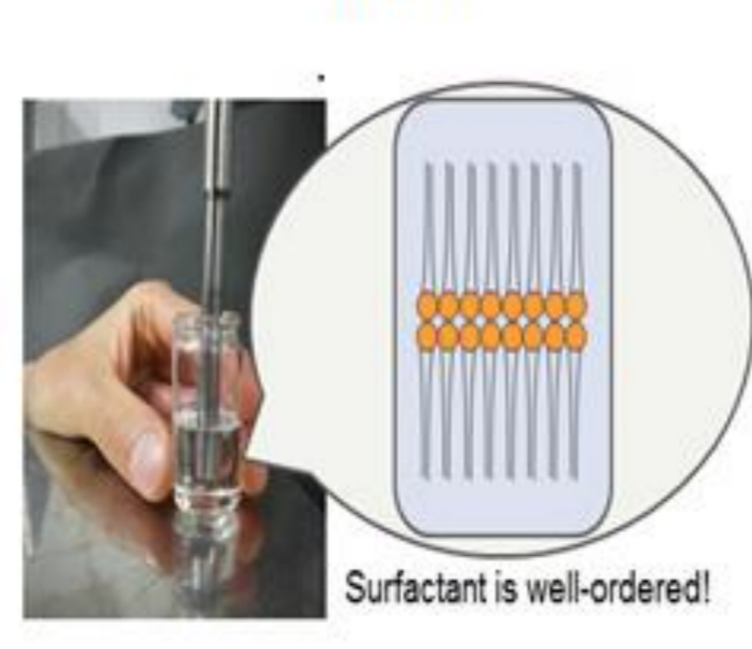
### Points of improvement

1 Adding illustration to the movie (about how to make film)

Before



After



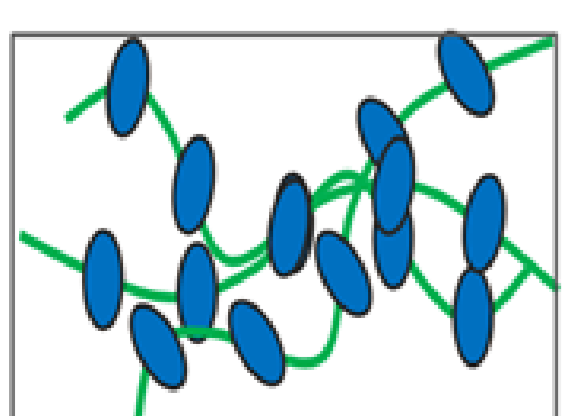
Surfactant is well-ordered!

### After improvement

2 Comparing structures again in foresight

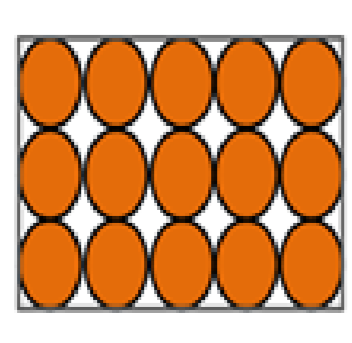
- Comparing difference structures

polymer film



many space

New film



few space

- They could understand better (about how to make film)
- They could understand better (about new film's possibility)

Increase the comments about foresight

## 5. Cultural experience

### Cultural experience



### Experience about agricultural community



Rice planting by hand. Competed planting time.

### Learn about Indonesian history



Went to art museum and national museum. Impressed by Indonesian history. Priceless!!

### International exchange about traditional dance and music.

- Introduced "Bon-odori" to students.
- Enjoyed dancing "Bon-odori" together.

