

# Biological decomposition of plastic

Team 12

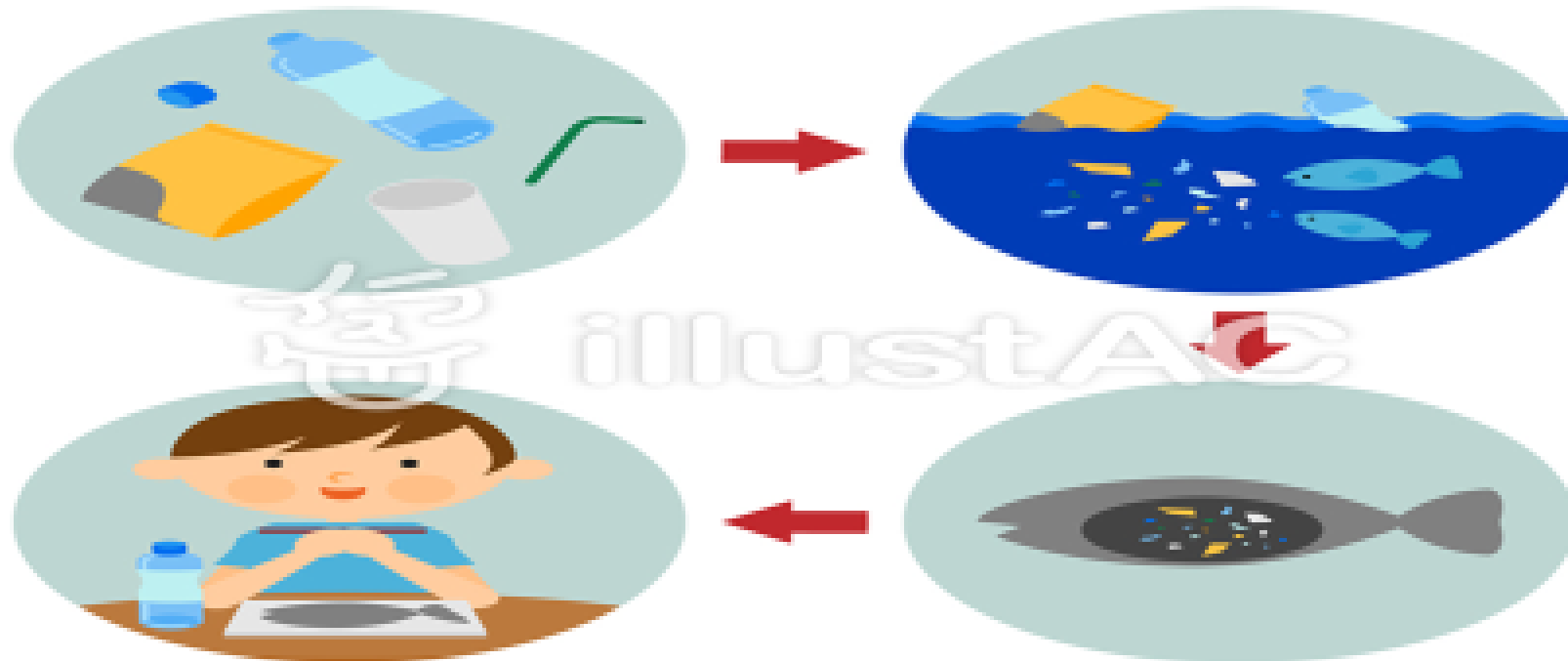
# Background

At present, there is a large amount of waste microplastic in the sea



Ingested by humans through the food chain

We want to save environment with decomposing these things



# Material and method

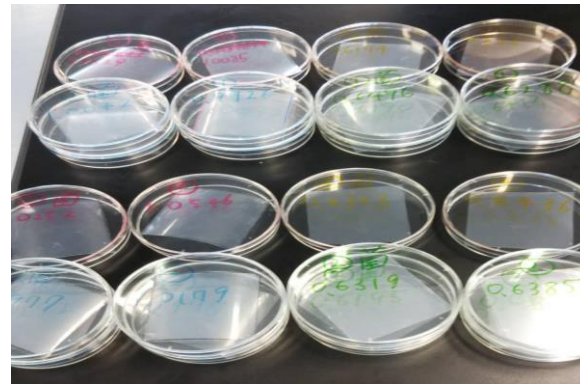
## Material, apparatus

- Polyester
- Polyethylene
- Soil under a pine tree
- Autoclave
- Incubator
- Petri dish
- Ultrasonic cleaner
- Electronic balance

## Method



◇ 1 Collect the soil



◇ 3 Put in petri dish



◇ 5 Measure the mass



◇ 2 Sterile the soil



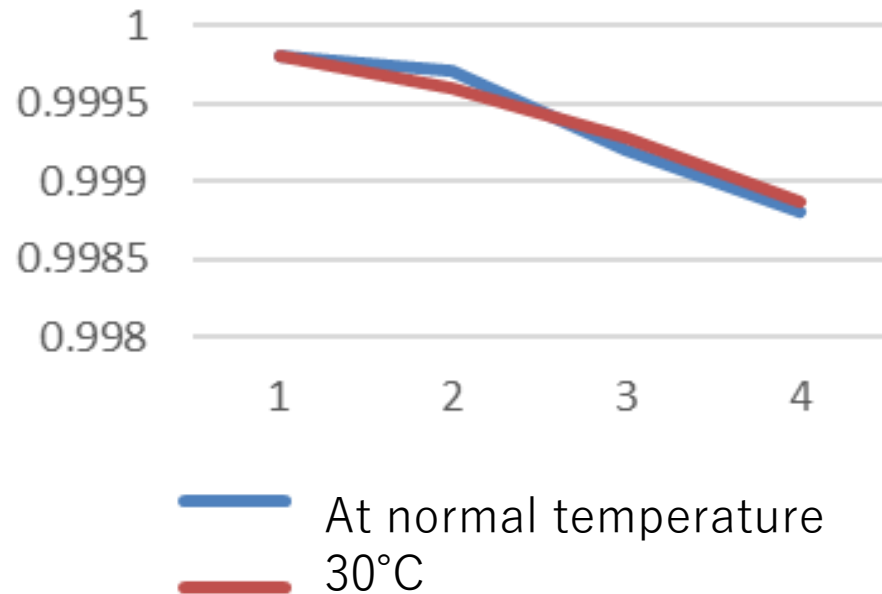
◇ 4 Keep temperature



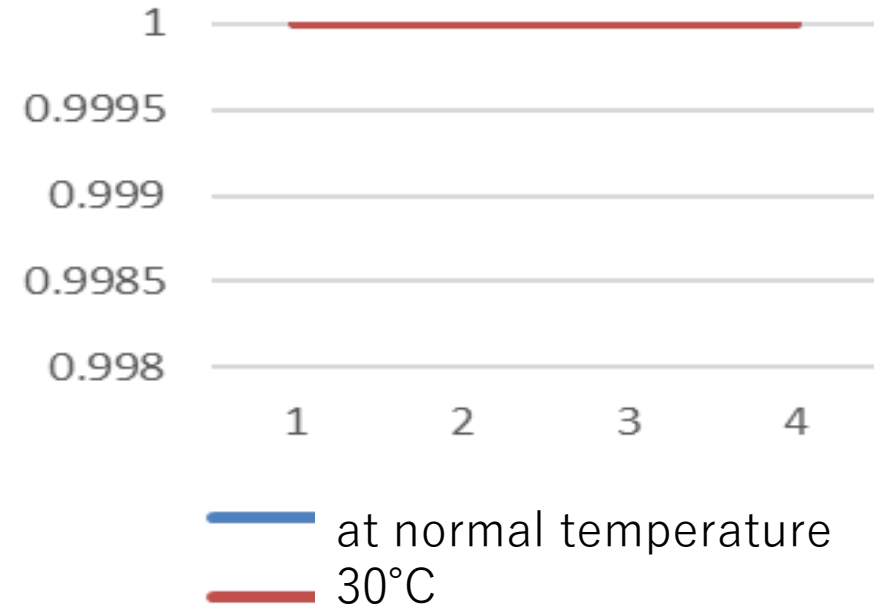
# RESULT

## polyethylene

Non - sterile



sterile

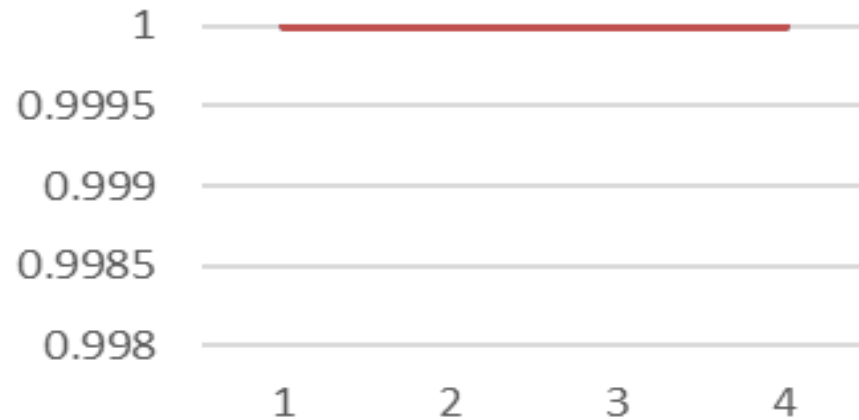


**Polyethylene is decomposed only in soil with fungus.**

# RESULT

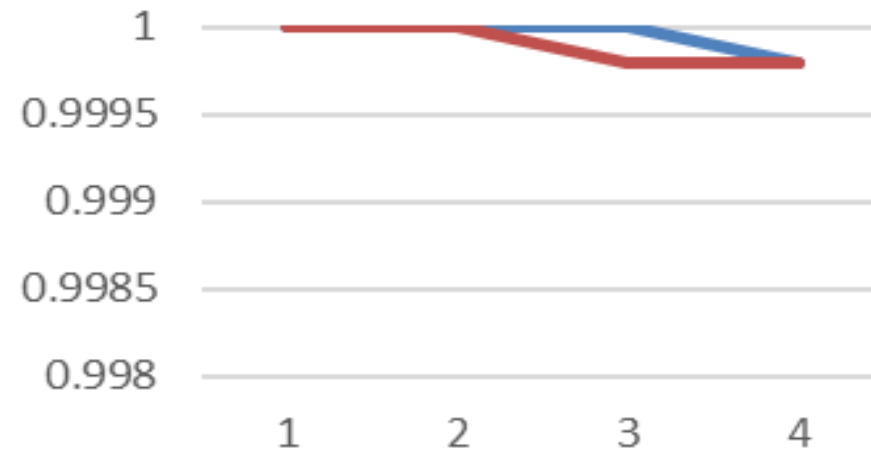
polyester

Non-sterile



— at normal temperature  
— 30°C

sterile



— at normal temperature  
— 30°C

**Polyester is not decomposed.**

# Conclusion

Decomposition was performed only on soil with bacteria.

➔ Decomposition involves the action of the bacteria.

Polyester did not decompose.

➔ Bacteria that degrade hydrocarbon structures may be present.

No change with temperature

➔ 30 degrees may not be the optimal temperature for bacteria.