

**ENERGY FOR OUR FUTURE**

**~To Make Our Society Better~**

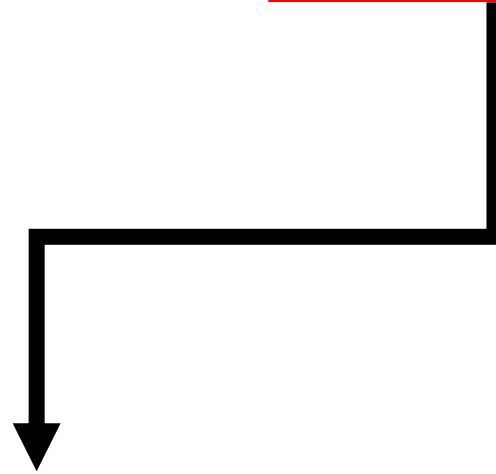
# Outline

- 1. Significance - Idea
- 2. Experiments
- 3. Future Prospects

# 1. Significance - Idea

- Why we started this research-
- What we suggest-

Our GOAL: To Make Society Better



Energy is Essential !



**However**

**However**

**MANY ENERGY PROBLEMS**

# (EX) Thermal Power Generation

Burning Fossil Fuel

A lot of CO<sub>2</sub>

**Global Warming**

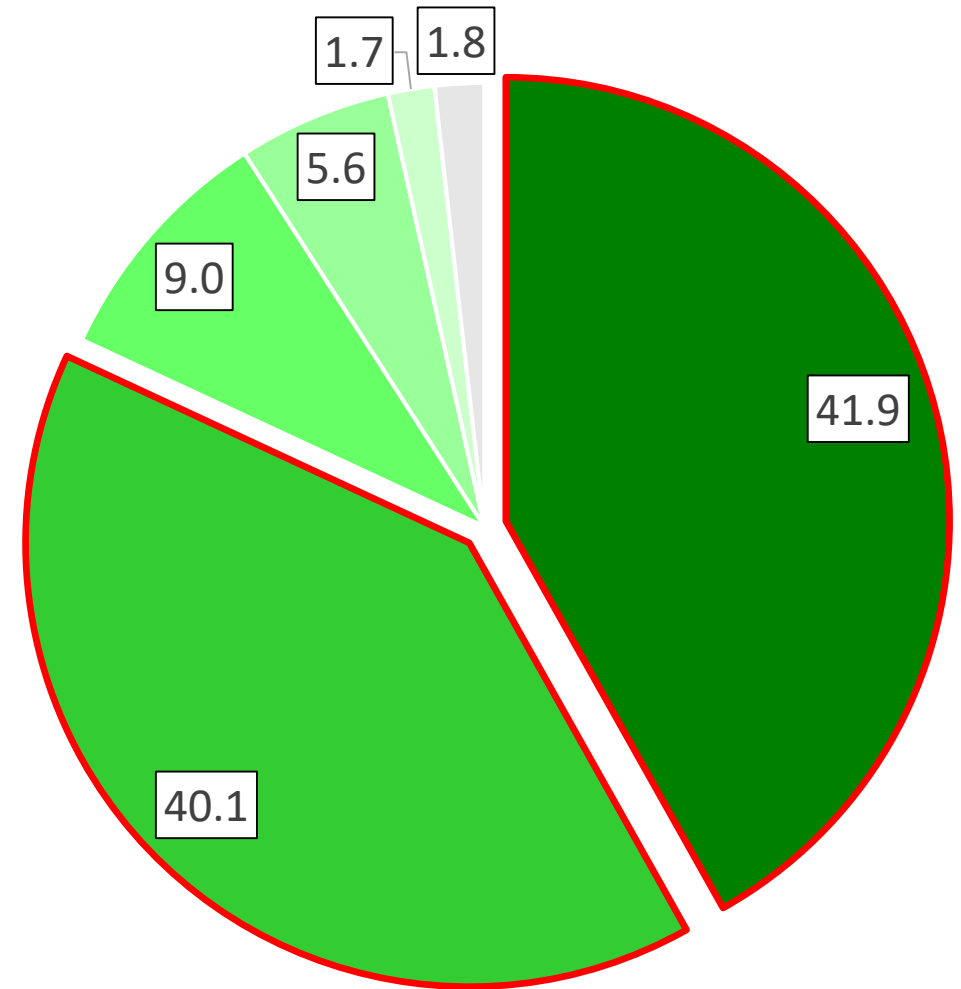


# Energy Consciousness

Do you agree?

**“Climate change and global warming have an great effect on me”**

(Conducted by “National Institute for Environmental Studies, Japan” in 2016.6)



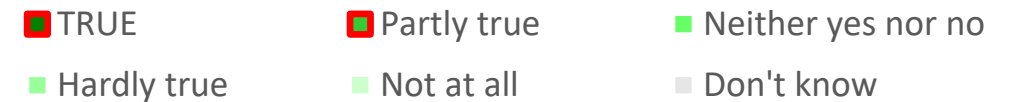
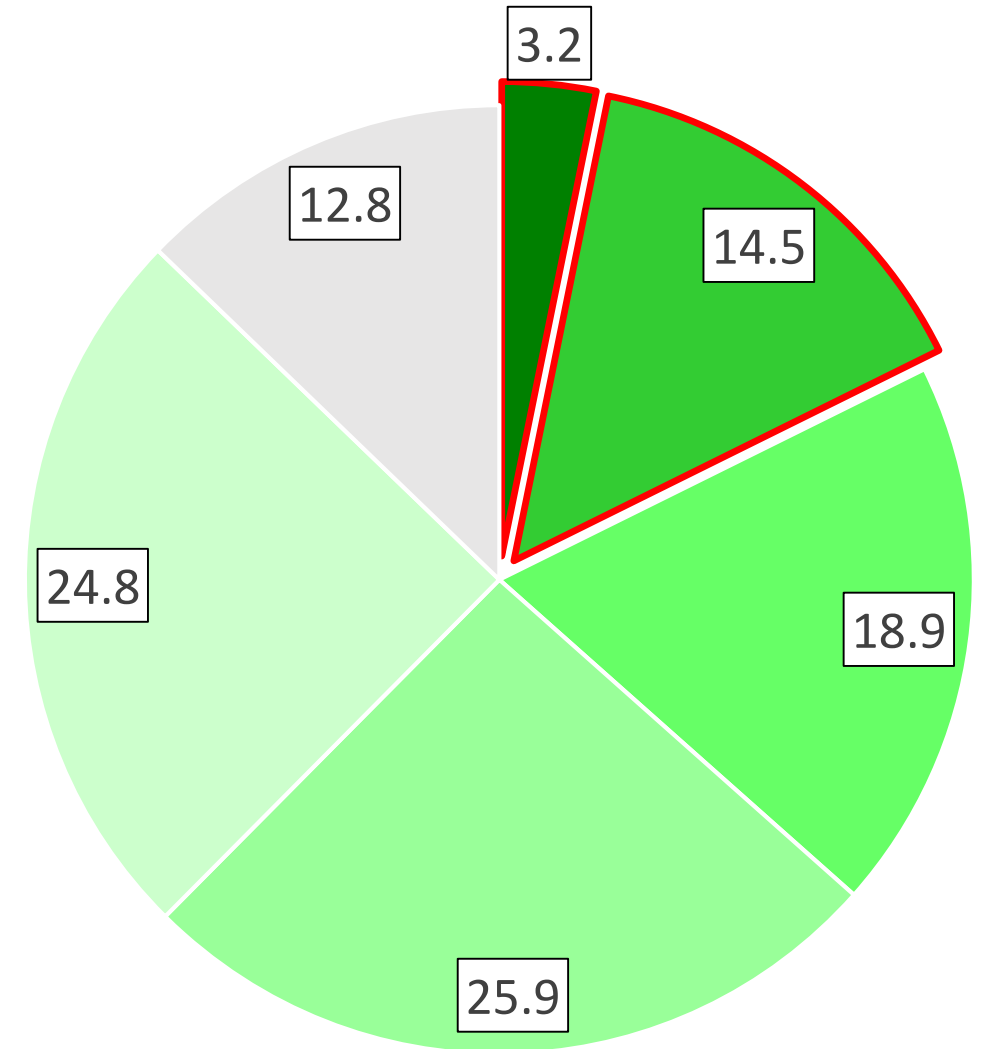
- Strongly agree
- Partly agree
- Neither agree nor disagree
- Partly disagree
- Strongly disagree
- Don't know



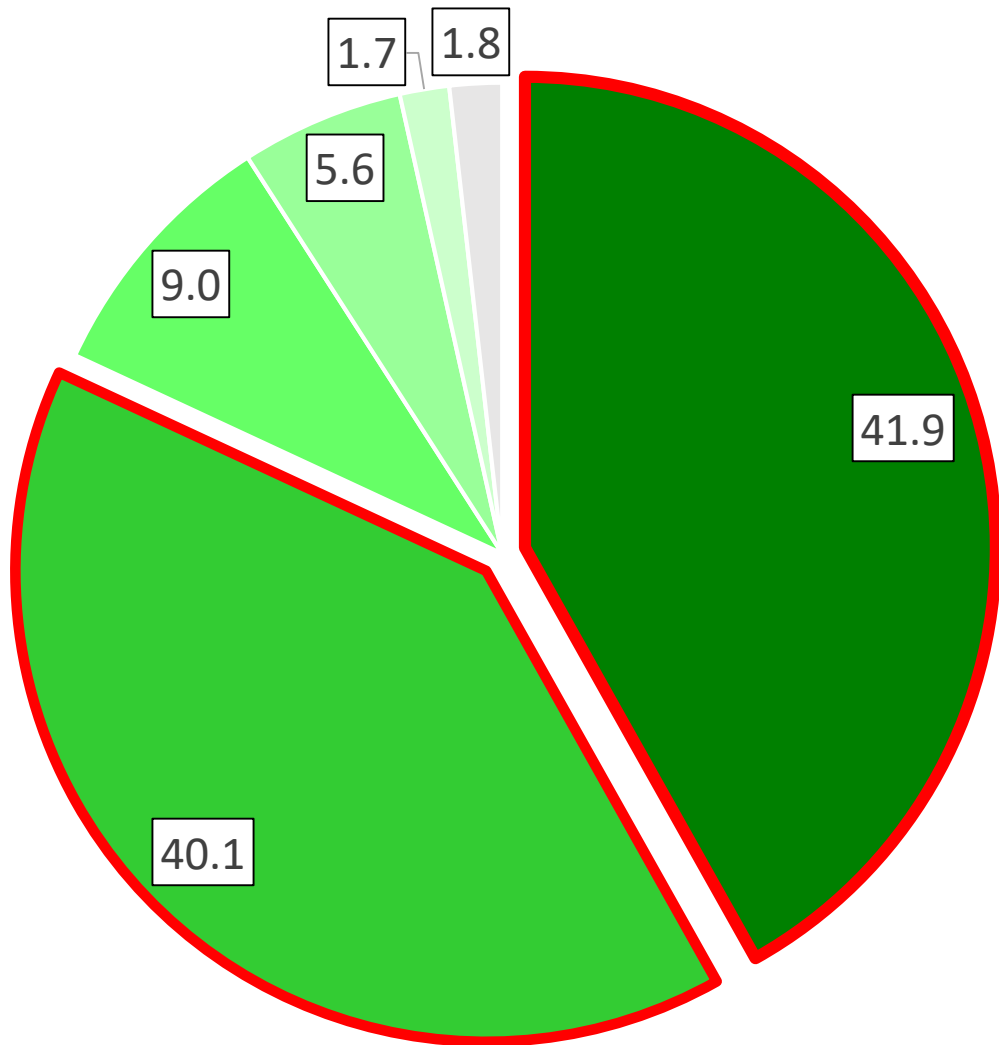
# Energy Consciousness

Is it true of you that  
“Many people around me take  
action against climate change  
and global warming” ?

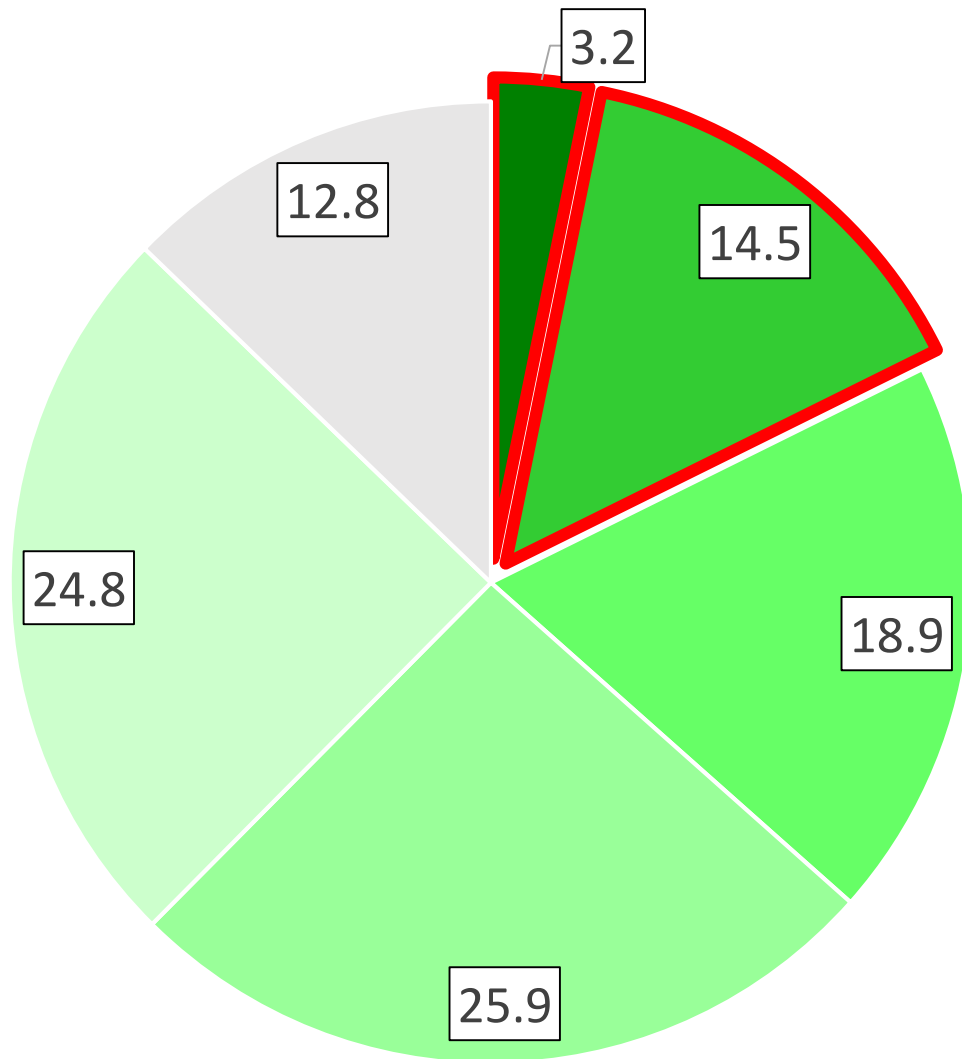
(Conducted by “National Institute for  
Environmental Studies, Japan” in 2016.6)



# Consciousness



# Action



Consciousness Action

**MORE TERRIBLE PROBLEM**

**||**

**NOT Taking Action**

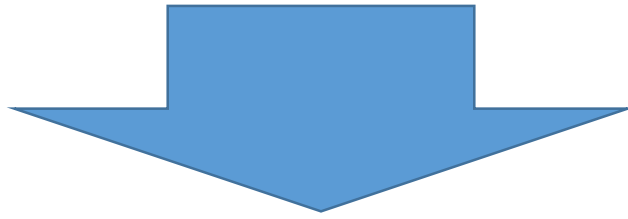
**against Problems**

40.1

18.9

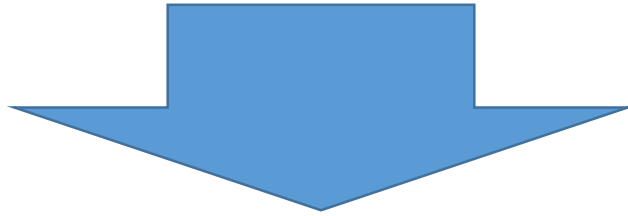
25

# HOW??



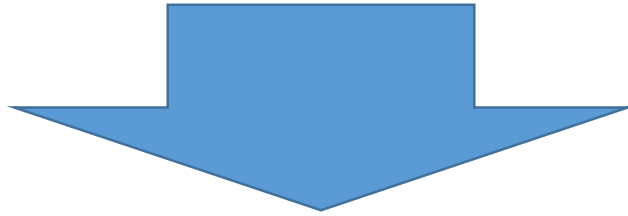
**Hope to get everyone  
interested in energy!**

**HOW** to get everyone  
interested in energy??



Hope to get everyone  
to feel energy closely !

**HOW** to get everyone  
to feel energy closely??

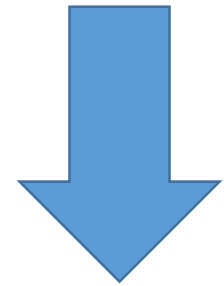


**Use Playground Equipment !**

# Ex) Swing “Play for Power”



**Row this swing**

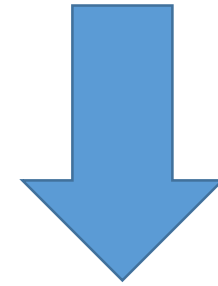


**Can Charge  
your phone**

# Ex) Seesaw

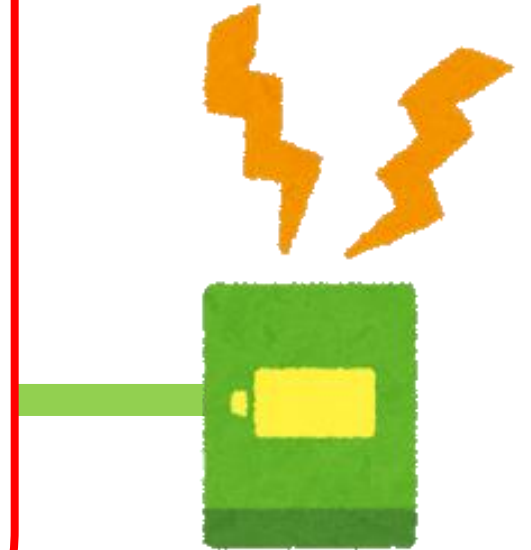


**Play for 10min**



**A few hours of  
classroom light**



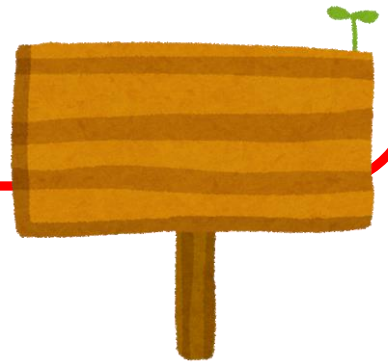


“発電公園”

“POWER GENERATION PARK”

# What is “POWER GENERATION PARK” ?

- **Playground Equipment that Can Generate Electricity**
- **Exhibitions of Energy Problems**

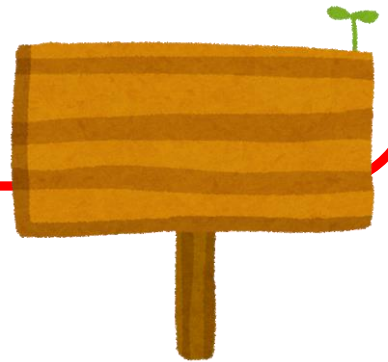


→ Install these

where many people gather

# What is “POWER GENERATION PARK” ?

- **Playground Equipment that Can Generate Electricity**
- **Exhibitions of Energy Problems**



→ Stations, Airports, Tourist Spots

# Thanks to “POWER GENERATION PARK”

**Children**

- ▪ ▪ Feel energy closely through playing

**Parents**

- ▪ ▪ Charge their smartphone  
with the electricity  
their children generate



# 2. Experiments -3 Stages-

**1. Make a Model and Experiment**

**2. Get Everyone to Experience**

**3. A survey about changes of  
consciousness**

# 1. Make a Model and Experiment

**A model of a roller slide  
which can generate  
electricity**

**(Support: Himeji Technical  
High School)**



# 1. Make a Model and Experiment

- Mass of a body
- Inclination



## Measure

- Rotating speed
- Voltage

Changing

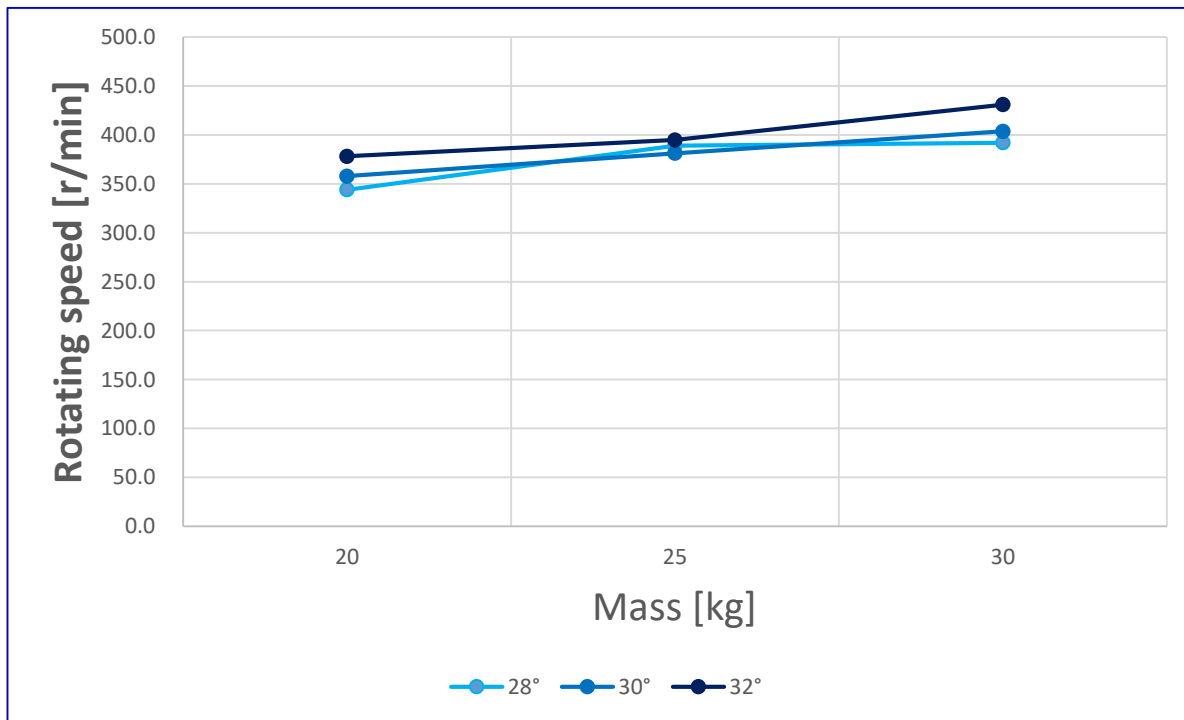
\* “Inclination” : An angle of a slope

\* “Voltage” : Electric potential difference between two points



# 1. Make a Model and Experiment

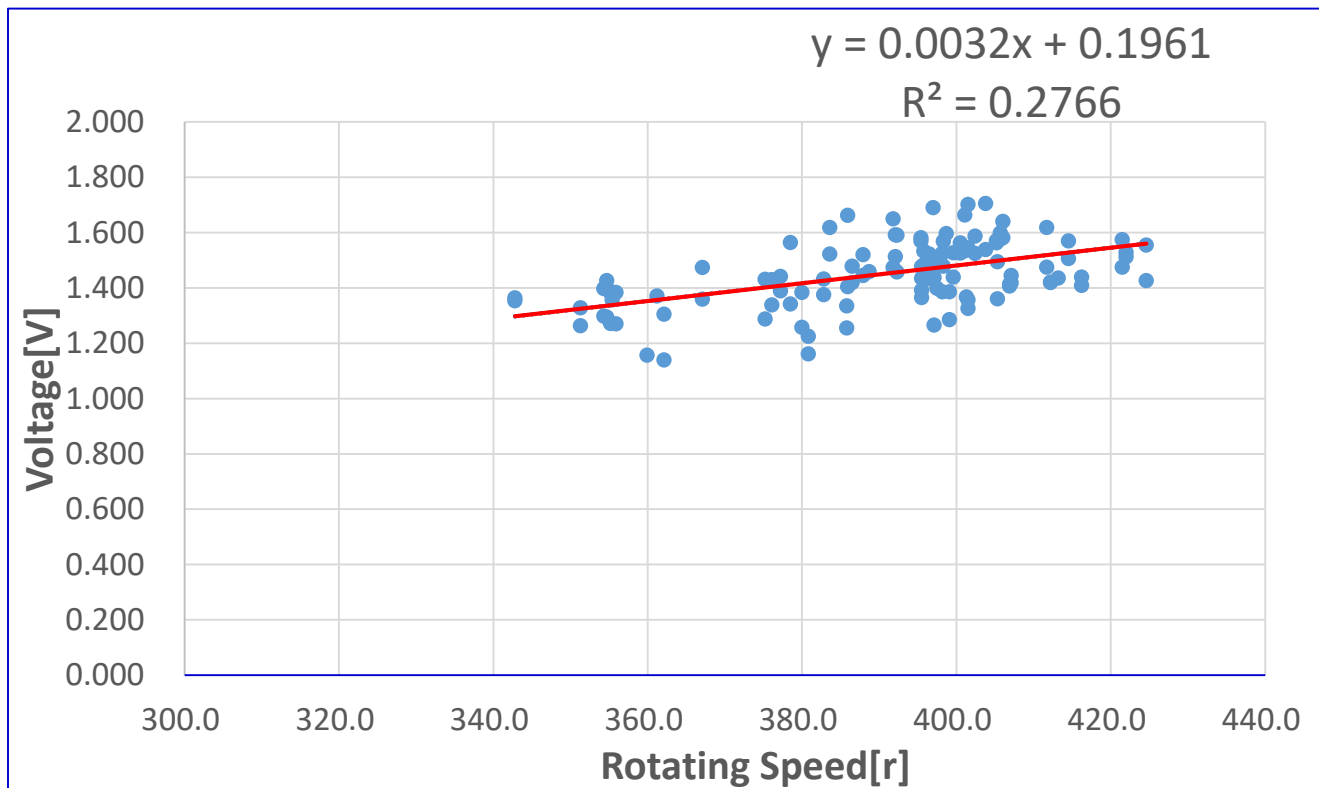
## (1) The Changes of Rotating Speed because of Mass or Inclination



- **[Mass]**  
Mass increased  
→ Rotating speed increased
- **[Inclination]**  
NO clear relations between  
inclination and rotating speed

# 1. Make a Model and Experiment

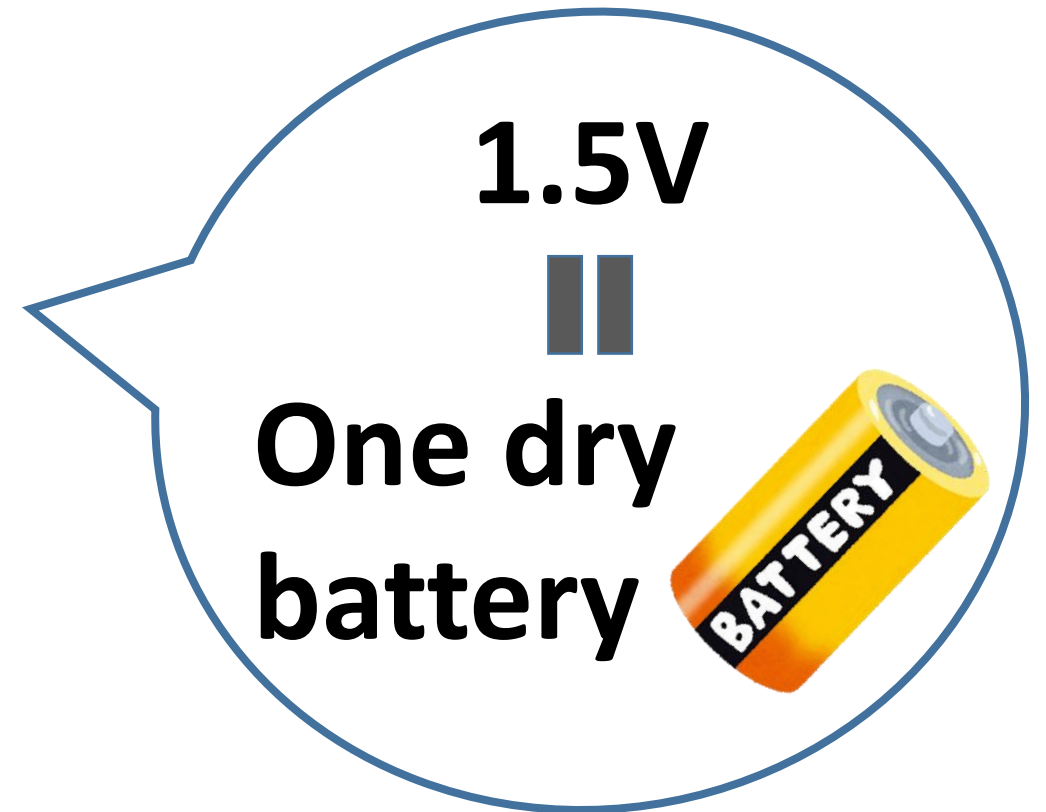
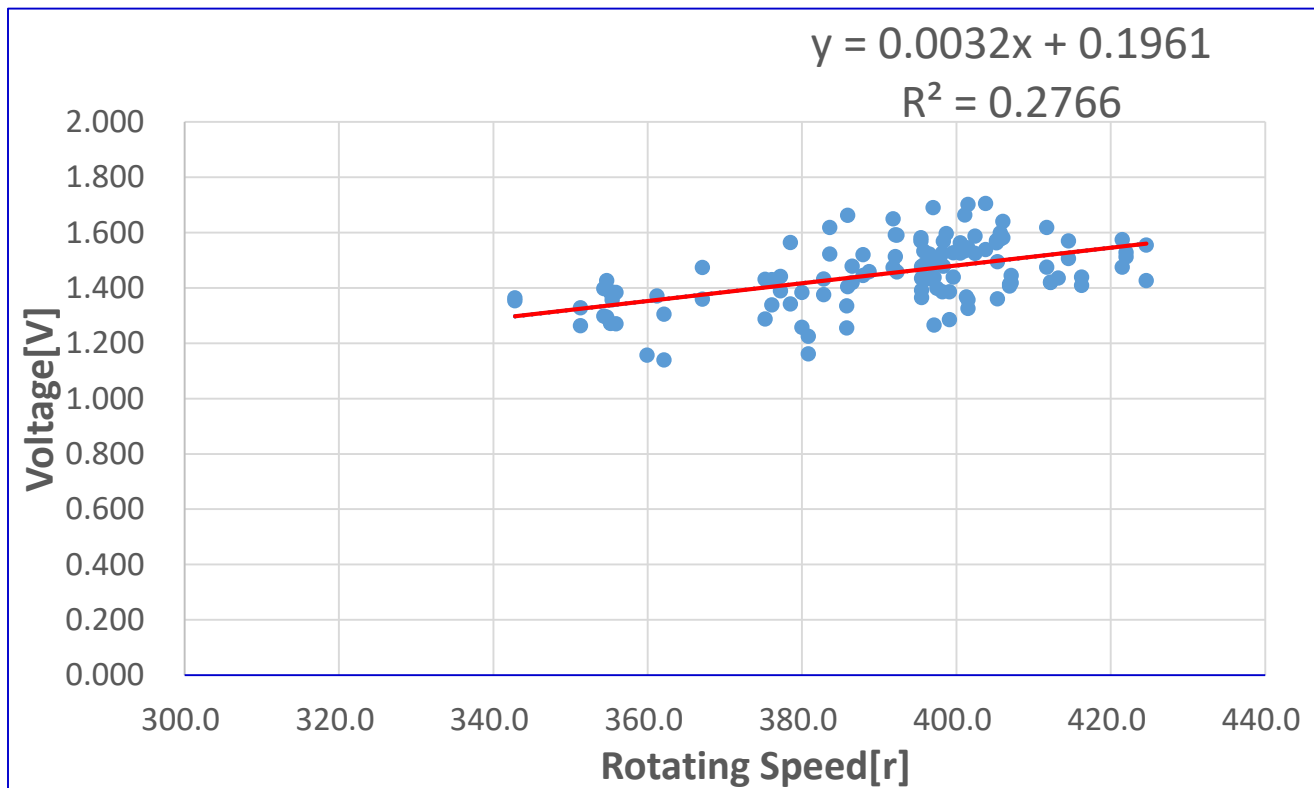
## (2) The Changes of Voltage because of Rotating Speed



**Rotating speed  
increased**  
↓  
**Voltage increased**

# 1. Make a Model and Experiment

## (2) The Changes of Voltage because of Rotating Speed



# 1. Make a Model and Experiment

## (2) The Changes of Voltage because of Rotating Speed

Make all of ten motors run...

**15V**



Regulating...

**1.5V**



**One dry  
battery**



# 1. Make a Model and Experiment

## (2) The Changes of Voltage because of Rotating Speed

Make all of ten motors run...

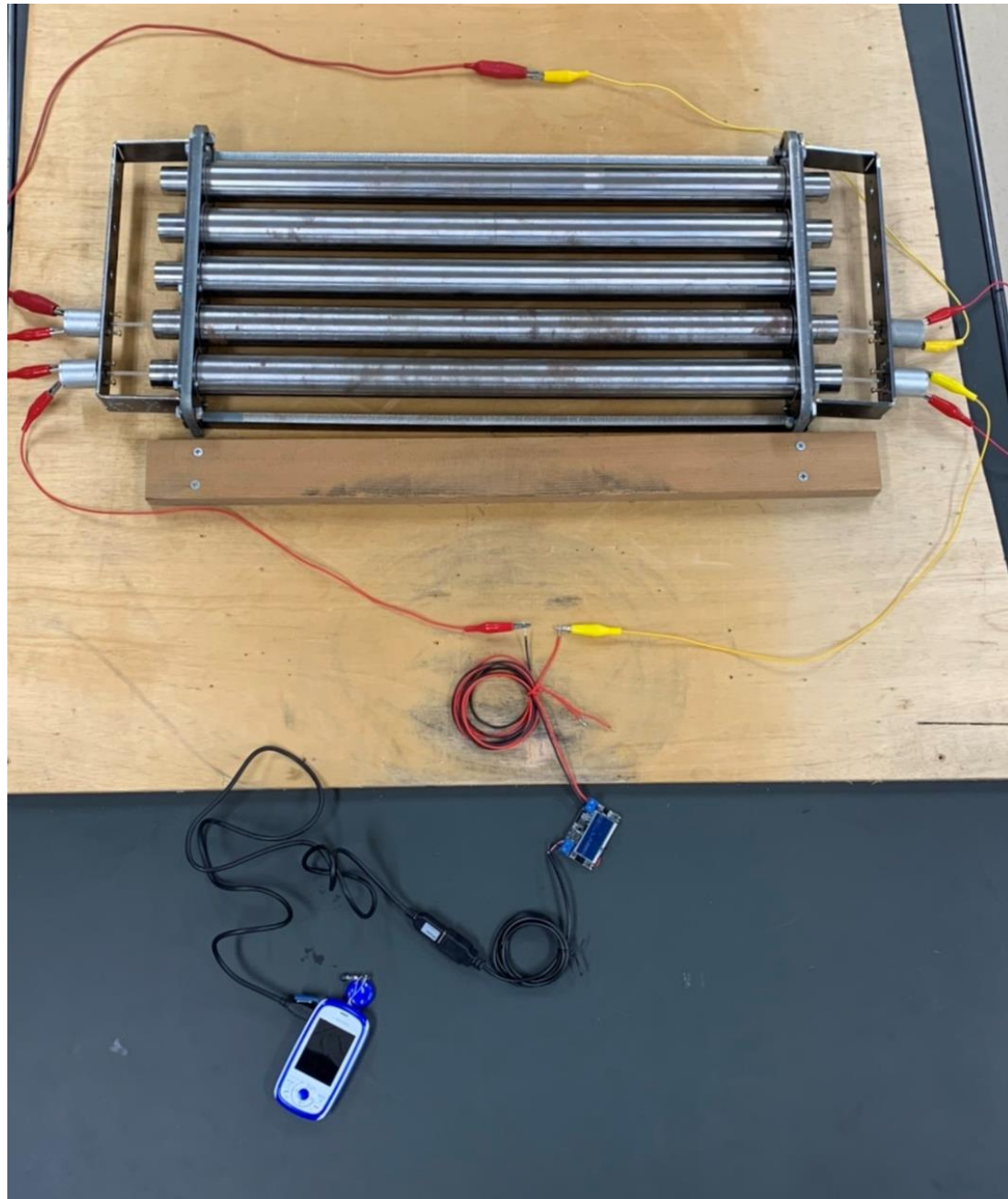
**15V**



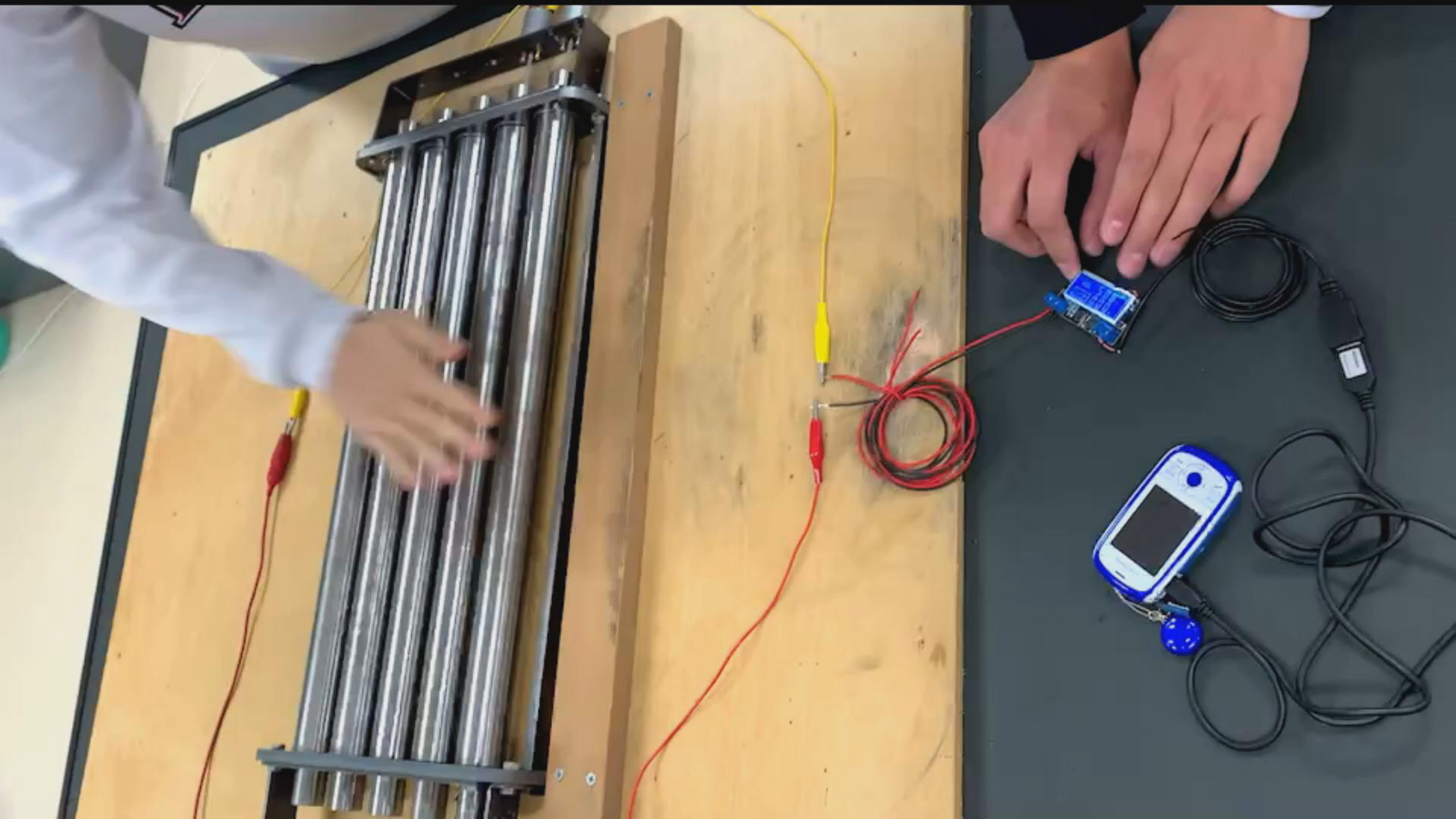
Regulating...

**Can Charge Smartphones (5V)!**





**Charge**  
**“KIDS PHONE”**  
**(Docomo HW-01D)**  
**Experimentally**



# 3. Future Prospects



# 3 Stages

**1. Make a Model and Experiment**

**2. Get Everyone to Experience**

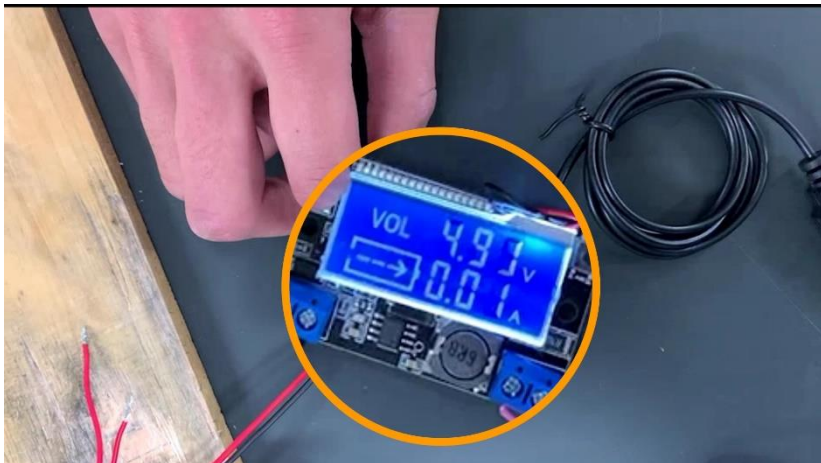
**3. A survey about changes of  
consciousness**

# 1. Make a Model and Experiment

<The Problem>

Can charge only temporary

→ Use the system of storage of electricity



## 2. Get Everyone to Experience

**The model we made  
+  
Exhibitions of energy  
problems**

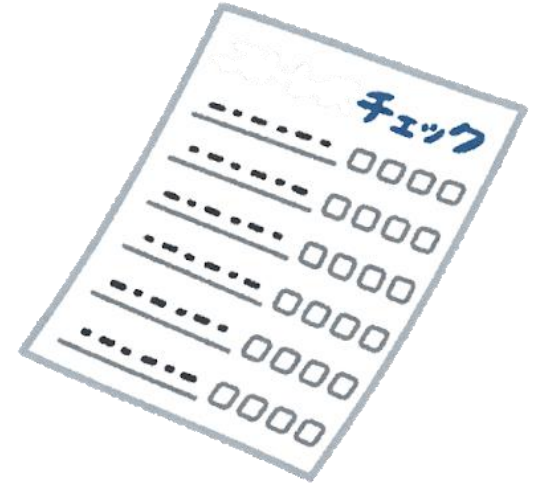


→ Will be installed at the stations

### 3.A survey about changes of consciousness

#### Method

Carry out a survey  
of people who use the model



## 3.A survey about changes of consciousness

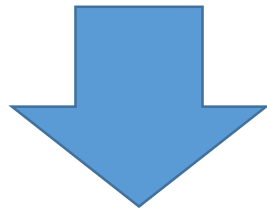
### Contents

- **Energy Consciousness**
- **Whether they take some actions while thinking of environment or energy**  
Ex) Saving electricity  
Buying products considering environment

# FINAL GOAL

As “Power Generation Park” becomes more common...

**Consciousness of energy problems will increase!**



Can approach solving the problem

“NOT Taking Action against Energy Problems”

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(一般財団法人 家電製品協会)