

## Skipping Stones

### 1 Purpose

Skipping stones is familiar to us.

The principle isn't known well.

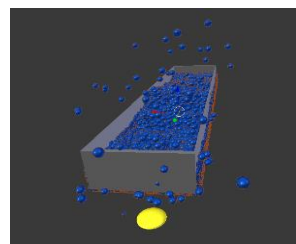
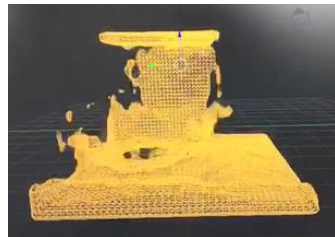
We tried to search the best incidence angle and speed.

### 2 Hypothesis

- ① The best incidence angle is 15 degrees based on previous studies.
- ② As the incident speed becomes faster, the number of times of skipping increases.

### 3 Experiment

- ① The first picture shows how the rigid body affects the fluid. However, we couldn't find any change of movement of the rigid body caused by the reaction.
- ② The second picture shows the rigid body reflected back by the reaction from the domain. But, it wasn't from the fluid.
- ③ The third picture shows the fluid displayed in a particle system. However, the rigid body wasn't affected by the reaction from the fluid, either.



### 4 Result and Consideration

The rigid body affected the fluid. However, the fluid didn't affect the rigid body in Blender. Therefore, we abandoned the experiment of skipping stones by using Blender.

### 5 Outlook

We had no choice but to give up skipping stones in Blender, while we can probably reproduce it by other software.

## A School of fish

### 1 Purpose

We couldn't reproduce skipping stone.

We thought we could simulate a school of fish.

We inspected the benefit of school in terms of survival.

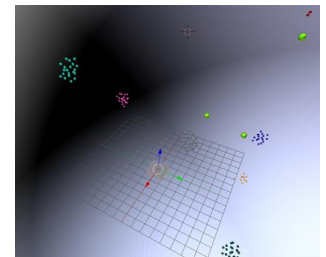
### 2 Hypothesis

Making a school of fish has some advantages based on survival because fish swim in schools in the natural world.

### 3 Method

#### Experiment 1

We set the ratio between predators and prey. We set the number of schools and changed the number again.

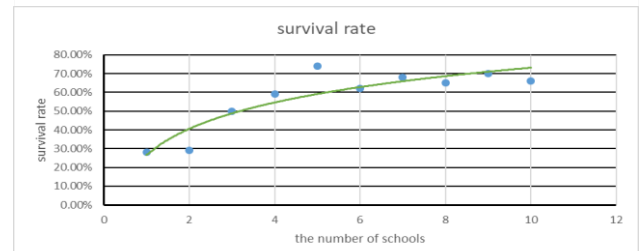
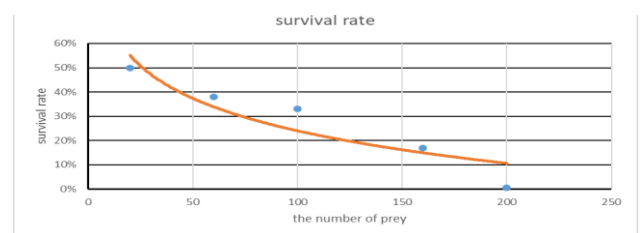


#### Experiment 2

We set the number of both of the fish, and changed the number of schools.

We did these experiments because it was easy to appraise the result.

### 4 Result and Consideration



In these experiments, the survival rate decreased when schools of prey became large. In short, we couldn't find the benefit of school from a viewpoint of survival rate.

### 5 Outlook

We're going to search the benefits of school of fish from other views.