# How does the fish escape? using visual sense? or using lateral line sense?



When you drop a glass marble from upper right, how does the fish escape?

## [Hypothesis 1]:

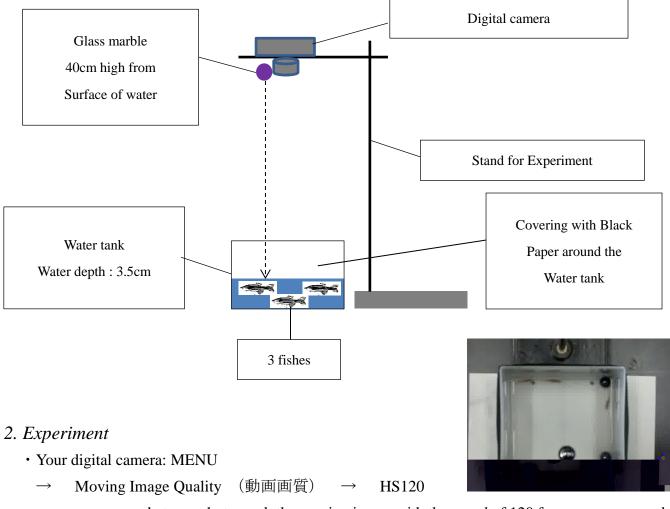
The fish sees the glass marble and escapes before it falls into water (using visual sense).

### [Hypothesis 2]:

The fish feels the movement of water when the glass marble falls into the water, and escapes (using lateral line sense).

	Group	А	or	Б	
	TEAM (			)	
Members (				)	

# 1. Experimental apparatus



- means that you photograph the moving image with the speed of 120 frames per a second, that is 1/120 [sec]  $\doteq 8.3$  [mm sec].
- Recording on  $\rightarrow$  Drop a glass marble  $\rightarrow$  Recording off
- Repeat this 5 times

## 3. Analysis of the result

- Analyze your recorded moving image with

   Video analysis and Modeling Tool 

  https://physlets.org/tracker/
- Measure the swimming speed of the fish before and after that a glass marble fell to the surface of water.

### 4. Discussion and Conclusion

- Discuss whether fish use visual sense or using lateral line sense when danger approaches.
- Talk about your conclusion with scientific evidences in each group.



iscussion and Conclusion (your record)						