



La biodiversité,  
un défi pour  
demain

**DO GOLDFISH HAVE INTELLIGENCE?**  
**PROJECT OF 4<sup>TH</sup> GRADE**  
**P17 ACTIVITY**

THE PURPOSE OF THIS PROJECT IS TO DETERMINE WHETHER  
GOLDFISH HAVE THE INTELLIGENCE  
NECESSARY TO LEARN TO RESPOND TO STIMULI



QUESTIONS:

1. HOW DOES DEPENDENT LEARNING WORK?
2. HOW DID PAVLOV DISCOVER CONDITIONED REFLEXES IN DOGS?
3. DO GOLDFISH HAVE INTELLIGENCE?

MATERIALS WE WILL NEED:

- 2 FISH GLASSES
- WATER
- DECHLORINATION FLUID
- 2 GOLDFISH
- FOOD
- 1 BELL

In this experiment, goldfish will be tested to see if they will respond in the same way. What we can control instead salivation is the enthusiastic movement of the fish from the bottom or its middle glass to the surface every time we drop his food.

This experiment will determine if a goldfish can be trained to exhibit the same feeding behavior without the food.

Experimental procedure of the work

The duration of the experimental procedure is set at 3 weeks.

The two glasses with the goldfish will be placed in different rooms. The one glass will be placed in the room of D1 department and a card will be attached with the CCP (Main Experiment Goldfish) label and the second glass in the room of the D2 section in which a tab with the marking will be pasted CHE (Control Goldfish).

The separation into two rooms will be done because we want the sound of the bell to only heard in the one room with the one goldfish at a time.

We construct an observation table of the experimental process. The same blackboard will be used in both rooms

On the first day we ring the bell without feeding the goldfish and we record his reaction on the observation board. Its duration hit time is set to 30 seconds.

We feed the goldfish daily according to its needs.

On the second day we ring the bell for 30 seconds and feed the fish. We do the same the rest of the weeks. We record them every time our comments on the comments board.

In the last week we ring the bell in front of the glass for 30 seconds without feeding the fish.

We record the behavior of the goldfish in the observation table.

We compare the behavior of the two different fish to determine if there is a difference between the goldfish CCP and the CHE.

## Table of observations

### Πίνακας παρατηρήσεων

		Σίτιση (N/O)	Συμπεριφορά που παρατηρήθηκε
1η εβδομ άδα	Δ		
	Τ		
	Τ		
	Π		
	Π		
	Σ		
	Κ		
2η εβδομ άδα	Δ		
	Τ		
	Τ		
	Π		
	Π		
	Σ		
	Κ		
3η εβδομ άδα	Δ		
	Τ		
	Τ		
	Π		
	Π		
	Σ		
	Κ		

Source:

[https://el.wikipedia.org/wiki/%CE%9F\\_%CF%83%CE%BA%CF%8D%CE%B B%CE%BF%CF%82\\_%CF%84%CE%BF%CF%85\\_%CE%A0%CE%AC%CE%B2 %CE%BB%CE%BF%CF%86](https://el.wikipedia.org/wiki/%CE%9F_%CF%83%CE%BA%CF%8D%CE%B B%CE%BF%CF%82_%CF%84%CE%BF%CF%85_%CE%A0%CE%AC%CE%B2 %CE%BB%CE%BF%CF%86)