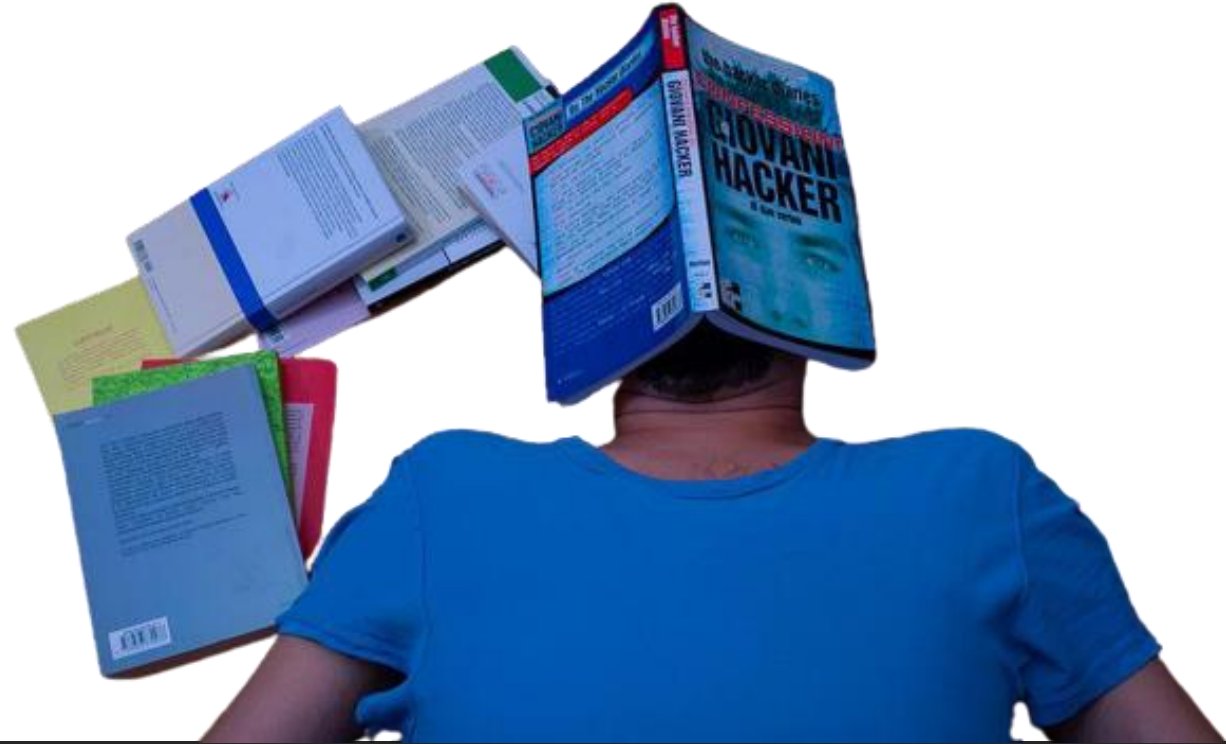Αθήνα
JUNE, 2022

- **Tired of the traditional teaching**

- **Unmotivated students**

- **Good feelings**

EPIPHANY

"A change is needed"
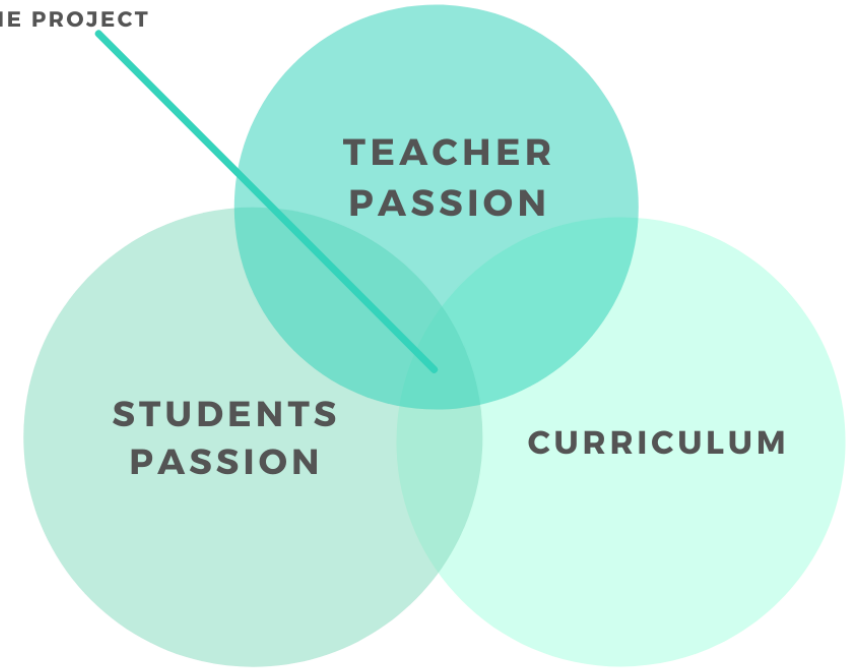
STEAM PROJECTS, WHY?

- **A LOT OF TRAINING**

- **KIKS**

- **STEM4YOUTH**

- **OPENSTEAM GROUP**

OUR EVOLUTION

- **ASK STUDENTS**

- **KNOW THE EDUCATIONAL LAW**

- **ASK YOURSELF**

- **MAKE A LIST OF AVALAIBLE MATERIALS AND RESOURCES**

- **CURRENT AFFAIRS**

THE PROJECT

TEACHER PASSION

STUDENTS PASSION

CURRICULUM

CHOOSING A PROJECT

- **DEPARTMENT SUPPORT**

- **HEADTECHER´S TEAM SUPPORT**

- **RELATED COLLEAGUES**

- **INSTITUTIONS: UNIVERSITY, TOWNHALL, RESEARCH CENTERS, ENVIROMENTAL ASSOCIATIONS**

JOINING FORCES

- **PRELIMINARY ACTIVITY**

  - NOT RELATED TO THE PROJECT

  - COOPERATIVE ACTIVITY

  - MOTIVATING

    - [AN EXAMPLE](#)

DESIGNING PROJECT

- **EDP PROCESS**

1.-IDENTIFY THE PROBLEM (We throw these questions to the whole class)

•What is our problem or our need in general?

•The solution, what criteria should it meet?

•What problems, what consequences or implications does it have?

•What materials, tools, digital equipment do we have?

•What scientific principles "underlie" the problem?

2.-EACH TEAM ANSWERS THE QUESTIONS IN A DOCUMENT.

3.-WE PUT THE ANSWERS IN COMMON AND THE TEACHER DISCARDS THE WRONG ONES.

DESIGNING PROJECT

DESIGNING PROJECT

- **EDP PROCESS II**
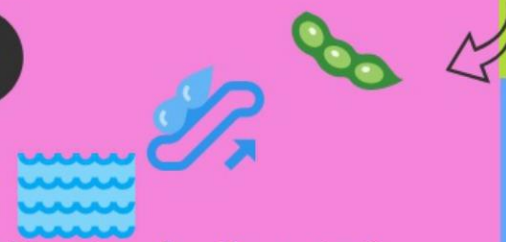
DESIGNING PROJECT

- **EDP PROCESS III**

SUB-PROBLEMS

1.-Not forgetting our criteria for the solution and the inconveniences to work, we break the problem into smaller problems.

2.-Without losing sight of our general objective and the time available, but emphasizing the criteria and drawbacks of each part, we draw a draft of each subproblem, and if possible some subsolution, even if it is intuitively.

explore

- **EDP PROCESS IV**

DESIGNING PROJECT

EXPLORE SCIENCE

- 1.-Design of the practices that deal with the scientific principles that students must know in order to solve their subproblems.

- 2.-The practices must make them assimilate the scientific content, and it is easy because they are in context.

- 3.-Questions and REFLECTION of what has been done in practice
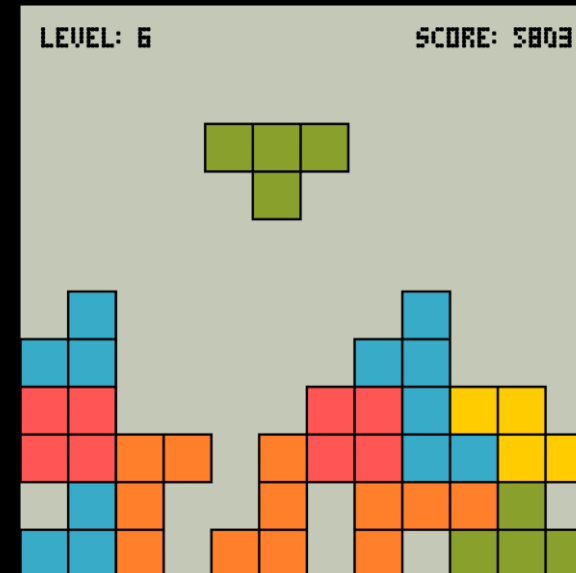
Gravity & Free Fall

DESIGNING PROJECT

- EDP V SUB-SOLUTIONS

1.-Elaboration of the draft with the subsolutions to each subproblem.

2.-To build: EDP Process.

Design-Build-Test-Improve

DESIGNING PROJECT

- EDP VI:

THE FINAL PRODUCT

1.- Combine all sub-resolutions

2.- Test and improve

DESIGNING PROJECT

- EDP VII:

PRESENT THE FINAL PRODUCT

If you can´t explain it simply, you don´t understand it well enough. Albert Einstein

1.-Relying on any type of digital presentation, each group exposes its model and all the steps taken.

2.-Dissemination:

•Show to the group –class

•Exhibition in the center to classmates, families and teachers.

•Talk about the project in local radios

•Disseminate a video recorded on school TV on the website and Social Networks

- Participate in events/competitions/fairs whether regional, national or international.

- Share all the experience in the OpenSTEAMGroup repository

ASSESMENT

DAILY WORK

- The rest of the sections are a direct consequence of this and therefore our most important work as teachers falls on this point.

- Our job is to constantly manage the evolution of each group and each member

- Moving around the tables

- Controlling online cooperative work from the computer

- Periodic reflection of their work

- It is essential to assess their deliveries as they occur in order to correct the failures in time within a formative evaluation process.

ASSESMENT II

LABORATORY PRACTICES

• Design of activity, question, reflection... in which the students demonstrate reliably the assimilation of the scientific principle that we were looking to understand what underlies the project.

• As teachers it is most gratifying to see that they have established this learning by discovery when they implement it in the final product solution.
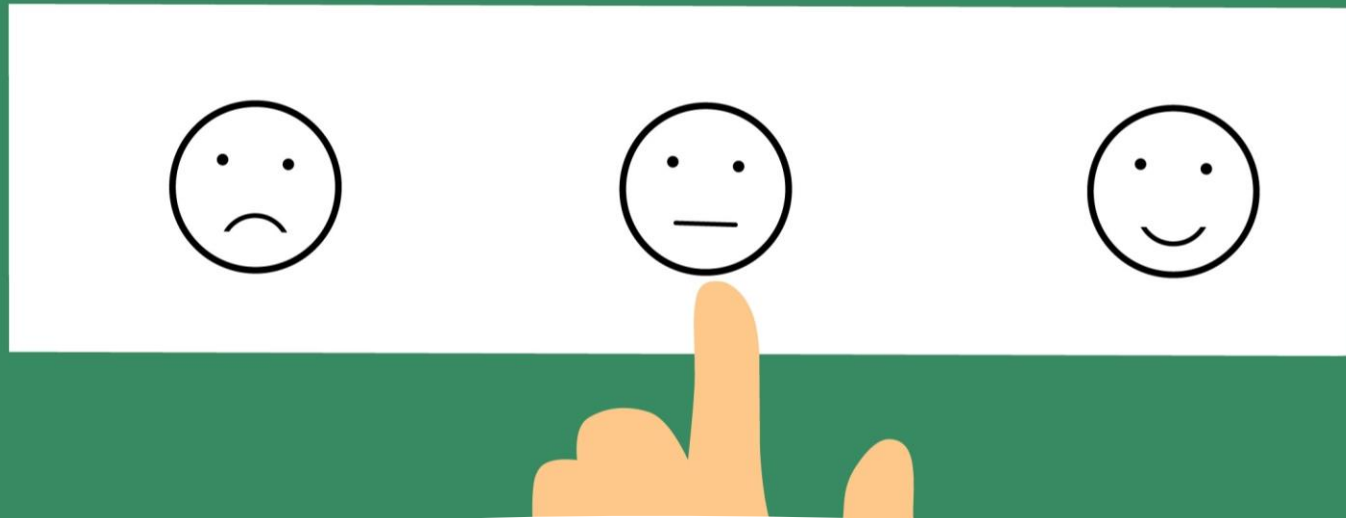
ASSESMENT III

PORTFOLIO

- It is an activity that forces them to reflect and therefore to become aware of their work and then measures to improve it. In turn, it is a way for teachers to "get into their head" and discover what they need.

ASSESMENT IV

SELF-ASSESSMENT, CO-EVALUATION AND HETERO-EVALUATION

- Teachers provide them with which items they should qualify, as well as a rubric to help them. Both in the self-evaluation and in the co-evaluation they must provide in writing a brief justification of the grade awarded in each item.
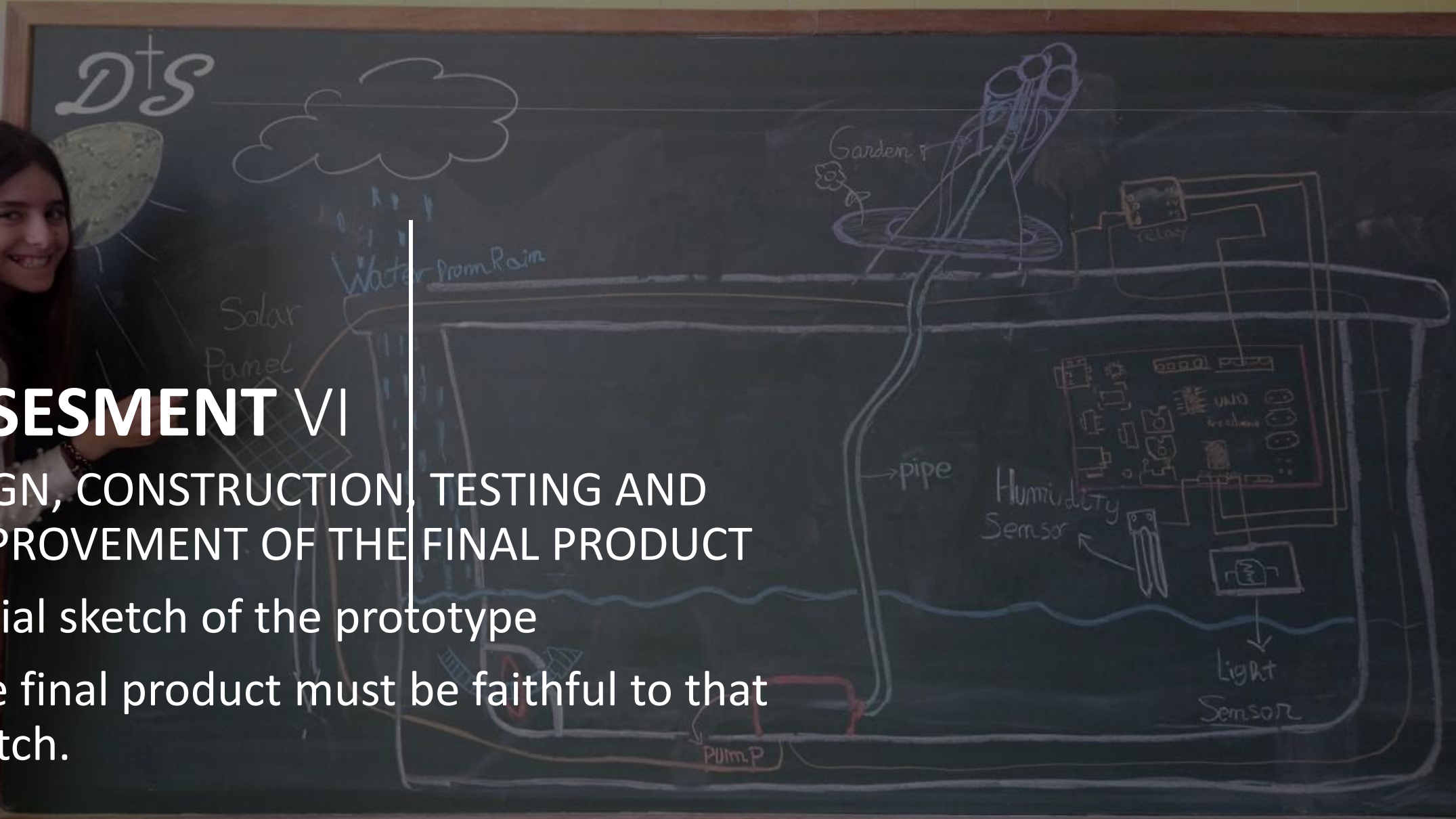
ASSESMENT V

TESTS

- The tests will be consistent with what is being worked on and usually of a competency nature without discarding memoristic aspects.

ASSESMENT VI

DESIGN, CONSTRUCTION, TESTING AND IMPROVEMENT OF THE FINAL PRODUCT

- Initial sketch of the prototype

- The final product must be faithful to that sketch.

- **TIPS AND TRICKS**

NOTICE TO THE FAMILIES	WELL-MEASURED TIMES
ALWAYS EXAMPLES	COLLOQUIAL LANGUAGE IN THE RUBRICS
DESIGN THE STUDENTS GROUPS BY THE TEACHERS	QUALIFICATION IN EACH ACTIVITY
INTERDEPENDENDCE OF THE COOPERATIVE WORK	A LOT OF REFLECTION
GREAT DETAIL OF THE INSTRUCTIONS	ORDER AND DOCUMENTATION

DESIGNING PROJECT IV

- **EXAMPLES**

Pool – Open STEAM Group (unican.es)

Sanjo big journey +

Twitter

VSG

Floating Nest

Bionic Hand

DESIGNING PROJECT VI