INTELLECTUAL OUTPUT O3

SCENTIFIC CREATIVITY

4 Creativities Project
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INTRODUCTION

The aim of FCREATIVITIES project is to improve the teachers' abilities to generate a creative education, leading to the creation of students who are able to think, analyze and solve daily problems. We ***will develop new scientific skills*** and competencies through the incorporation of new proposals, spaces, methodologies, and resources that will increase the students' ability, creativity and the skills for innovation. These activities will be used ***with 10 to 12 years old students,*** promoting their motivation and creativity. The activities will be composed for ***six working activities*** which will contain the different activities that we will elaborate with our students.

With the **scientific creativity** promotion we will improve the thinking capacity of our students and the ability to go from basic notions to more complex ones; they will learn to resolve problems in a real situation; they will practice the construction of their own learning; they will train their **deductive capacity** and this will take them to create strategies and solutions of their own and they will get better with their physical environment and their appreciation from different spaces, shapes, parts and the group in general. Scientific creativity will take place inside the classroom through scientific experiments workshops.

All the **experiments** will be presented in an experiment manual. The format will be a paper card, it will contain all the material that we will need to accomplish the experiment, how you do it, **how it is related to everyday life** and other relevant details.

The experiments that will conform the manual will be the following ones: **bacteria everywhere. Cells. Let's make a periscope. Light and air. Prehistoric illumination. Can we imitate a heart? Global warming.**

Scientific activity will be **boosted through observation, manipulation and resarch.** That will lead students to discover their immediate environment. Experimental and research activities will offer students the opportunity for learning in an independent and significant way.

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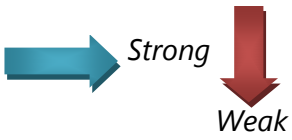
Title of the experiment

Let's explore the story of air pressure and paper tower – Science Explorers

Description and application in everyday life

Pressure is a way of measuring how much force is acting over an area. How can the forces be?



Air surrounds us at all times. As air gets warmer, it expands. This expansion causes the density of the air to decrease, which results in **lower pressure.** When air gets colder, on the other hand, it shrinks. This shrinking causes the air to become denser, which leads to **higher pressure.**

This experiment has an intuitive practical application in everyday life including some science behind the fun of air pressure. It is an easy and friendly way of improving the capacity of (creative) thinking of students, as well as increasing the own knowledge.

Self-awareness and cognitive skills are fully promoted based on the classroom learning-centred approach. The capabilities to explore science through attractive methods are recommended in order to boost participation of students, as well as encourage curiosity and inspiration.

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Aims

1. Sparkling children's creativity and learning;

2. Increasing the students' ability and interest for science;

3. Make full use of practical and scientific skills;

4. Promote interactivity in the classroom;

5. Enhance the teachers' abilities to build a more inclusive (science) classroom etc.

Steps we must follow

The following steps are required to carry out the experiment in a friendly, intuitive, scientific and attractive way:

1) Take a paper towel and shove it into the bottom of a glass;

2) Pack in tight enough and make sure that it will remain in the bottom of the glass even when the glass is turned upside down;

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3) Fill a sink or container of water (the depth of the water should be equal to or greater than the height of your glass);

4) Place the glass, upside down, into the water. It is important to place the glass straight down into the water without tilting it to the side;

5) Then lift the glass from the water. Remove the paper towel (if the experiment was correctly done then you will notice that the paper towel is still dry).

Experiment adaptation to national context

The teacher divides students into 2 groups in order to provide ''friendly scientific responses'' to the following questions:

1) How and why does the paper towel stay dry?

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2) Why does the air pressure in the glass push the water away?

Teacher's notes: *Because the air pressure in the glass pushes the water away the water cannot go into the glass to get the paper towel wet. Even if the water on the outside of the glass completely submerges the glass, the air pressure in the glass prevents the water from entering.*

Materials needed

In order to achieve the maximum benefits of the experiment the following materials are needed:

- Paper towel;
- Glass;
- Sink or other recipient (container);
- Water

☺ Curiosity and motivation!

Tips

In order to carry out the experiment safely the following measures must be taken into account:

- *Please make sure that there is no plug or electricity near the sink or recipient of water;*
- *Please make sure there is an experienced supervisor (teacher-facilitator) to ensure the safety of students.*

Free images on https://www.freeimages.com/search/clean-air

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