

Experiment Share - Wednesday Feb 16th 2022, 17:00 CET (Paris time)

Recording: <https://youtu.be/DrN8Zc45HA8>

Link to this document: <https://tinyurl.com/experimentshare-feb16>

Experiment Share Welcome Page: <https://tinyurl.com/ExperimentShare>

Order of Experiments

Panagiotis (Takis) Lazos - Greece - Standing wave on a string

Gordana Varnica - Serbia - Simple demonstration by laces

Astrinos Tsoutsoudakis - Greece - Rolling up

Marco Kirschner - Germany - Low cost acoustic Michelson interferometer

Caroline Neuberg - England - Density Bottle

Iuliana Roman - Romania - Polarization of Light

Jeane de Fatima Moreira Branco - Brazil - Does the soap bubble freeze?

David Featonby - UK - Bubbles

Paul Nugent - Ireland - More Science and Magic

Michael Gregory - France - Silent Experiments

Panagiotis (Takis) Lazos - Greece - Standing wave on a string**Description**

The one end of the string is attached to the shaving machine. We hold the other end with our hand. By adjusting the tension of the string we can produce standing waves. The bigger the tension the fewer the nodes (and the antinodes) of the standing wave. Try to find which student can produce the most nodes!

Materials

A shaving or hair trimmer machine and a string

Gordana Varnica - Serbia - Simple demonstration by laces**Description**

The only thing that teachers have to say to the children a day before is: Come to school with sneakers with laces! Then kids have to make the right triangle on the floor by their laces and, by measuring the the sides of triangle, they have to improve Pitagora's theoreme. After that, they are cutting piece of wool or rope three times longer than the hypotenuse and make the circle around the triangle by it. The center is in the middle of the hypotenuse

Materials

laces, wool string, scissors, chalk

Astrinos Tsoutsoudakis - Greece - Rolling up**Description**

If a cylinder is placed on an inclined plane with its long axis across the plane then it rolls straight down the incline, but what if it can roll straight up ?

Materials

An empty can and some modelling clay.

Marco Kirschner - Germany - Low-Cost Acoustic Michelson Interferometer

Description

A cheap and easy way to model the Michelson interferometer using sound waves

Materials

Wooden boards, two phones or tablets

Caroline Neuberg - England - Density Bottle

Description

A fascinating experiment on density, using 2 types of beads and what looks at first like a clear liquid. Initially the 2 types of beads are floating in the middle of the colourless liquid. Once shaken (but not stirred :-)) the beads separate and one type sinks to the bottom of the fluid whilst the others float to the top. After a few moments, both types of beads rejoin in the middle of the bottle.

This is due to the fact that the liquid is actually a mixture of rubbing alcohol (isopropanol) and salty solution. Water and the alcohol are miscible. Both the water molecules and the alcohol molecules have -OH groups that easily hydrogen bond to each other. However, the sodium chloride salt ions, Na^+ and Cl^- , will bind with the water molecules forcing the alcohol molecules out of the water solution. This causes two layers to form: alcohol on top and the more dense water and salt layer on the bottom.

Materials

- Plastic bottle washed with distilled water;
- Rubbing alcohol (91% isopropyl alcohol); same volume of the alcohol as of distilled water.
- Salt solution: distilled water; pure salt (sodium chloride) 25% concentration (125 g water to 30 g salt)
- Ironing beads or Perler beads
- Pony beads

Iuliana Roman - Romania - Polarization of Light

Description

I will try to show some short experiments about how to polarize Light and how to prove that a certain light is polarized.

Materials

3D glasses, clear duct tape, pieces of glass, transparent plastic objects

Jeane de Fatima Moreira Branco - Brazil - Does the soap bubble freeze?

Description

Does the soap bubble freeze?

Water has an anomalous behavior, it is denser in liquid form than in solid form (normal is the opposite, the solid is denser than the liquid), due to the formation of hydrogen bonds (also known as hydrogen bonds) .

By putting a little soap mixed with water, to make soap bubbles, a fun that children love.

We have a new question: Will the soap bubble freeze?

A thin layer exposed to the cold of Canada -18° was the challenge accepted by Ana Cerniauskas

To carry out this experiment, take a glass of water.

add a teaspoon of detergent or washing powder

Choose your favorite cookie shape

Dip the mold into the glass and hold it and take it to the area where you can have contact with the cold -18°

Watch what will happen?

Note: go bundled up so you don't get cold.

As water is cooled, the average speed of the molecules decreases and their average free path also decreases. Stronger hydrogen bonds begin to form. The water molecules are organized so that each molecule is surrounded by four other water molecules.

Materials

Glass of water

One teaspoon Detergent or washing powder

A cookie shape of your choice

Dip and hold and take to the area where you may have contact with the cold -18°

Watch what will happen?

Note: go bundled up so you don't get cold.

David Featonby - UK - Bubbles**Description**

good mix is soap solution plus water 50/50 plus two teaspoons of sugar

Materials

- 1 Blowing bubbles big and small
- 2.Spheres or hemispheres
- 3 Joining bubbles
- 4.catching bubbles

Paul Nugent - Ireland - More Science and Magic**Description**

Experiments that use everyday common household items that can easily be recreated, Experiments that explain the science of magic and the magic of science. Emphasis on fun.

Michael Gregory - France - Silent Experiments**Description**

An attempt to create a simple triboelectric series in silence, using the straw trick for static electricity to create a test charge against which to test the charge of other materials.

The idea of sharing experiments in silence is an attempt to find ways to include teachers who lack confidence in English to share more experiments.

Materials

Empty plastic bottle
Plastic Drinking Straws
Paper
Balloons
Wool scarf