



PLAYING WITH PROTONS

Elena Elliniadou, MEd
Principal, ICT teacher trainer
2nd Primary School of Piraeus-Uruguay
elenelli9@gmail.com

Organized by



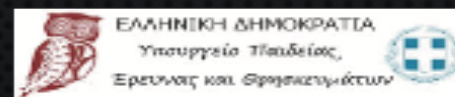
Hosted by



Funded by

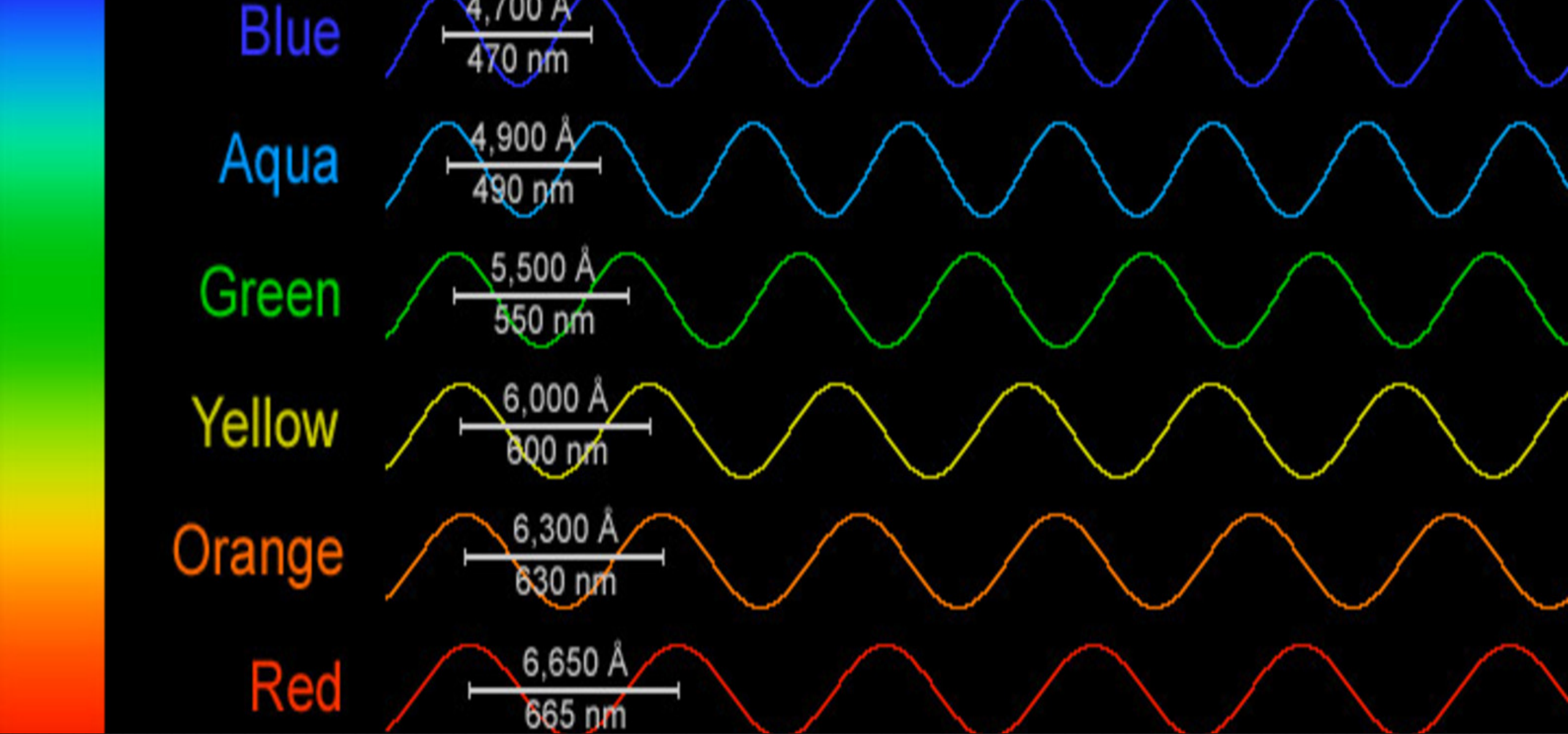


Under the auspices of



Supported by





ASTRONOMY EXPERIMENTS

- a. what scientific knowledge do we have about light?
- b. Why does the sky has such colors during sunrise and sunset?
- c. Why does the sky appear black on the moon?
- d. What is a spectrum and how is it connected to Astrophysics?

Students' Alternative Conceptions about Light

- a. Light does not affect matter
- b. During refraction, light changes color and characteristics
- c. The speed of light cannot change
- d. Dark is an entity

OBJECTIVES & GOALS

exploring basic optics
without using mathematical interpretive models

Interpretation of the natural world phenomena



Light – Astronomy –Astrophysics

Understanding of the Universe

by studying the light that comes from
the Universe
by recreating in the lab the first stages
of the Universe (LHC)

Why is the sunrise colored in orange and in red?



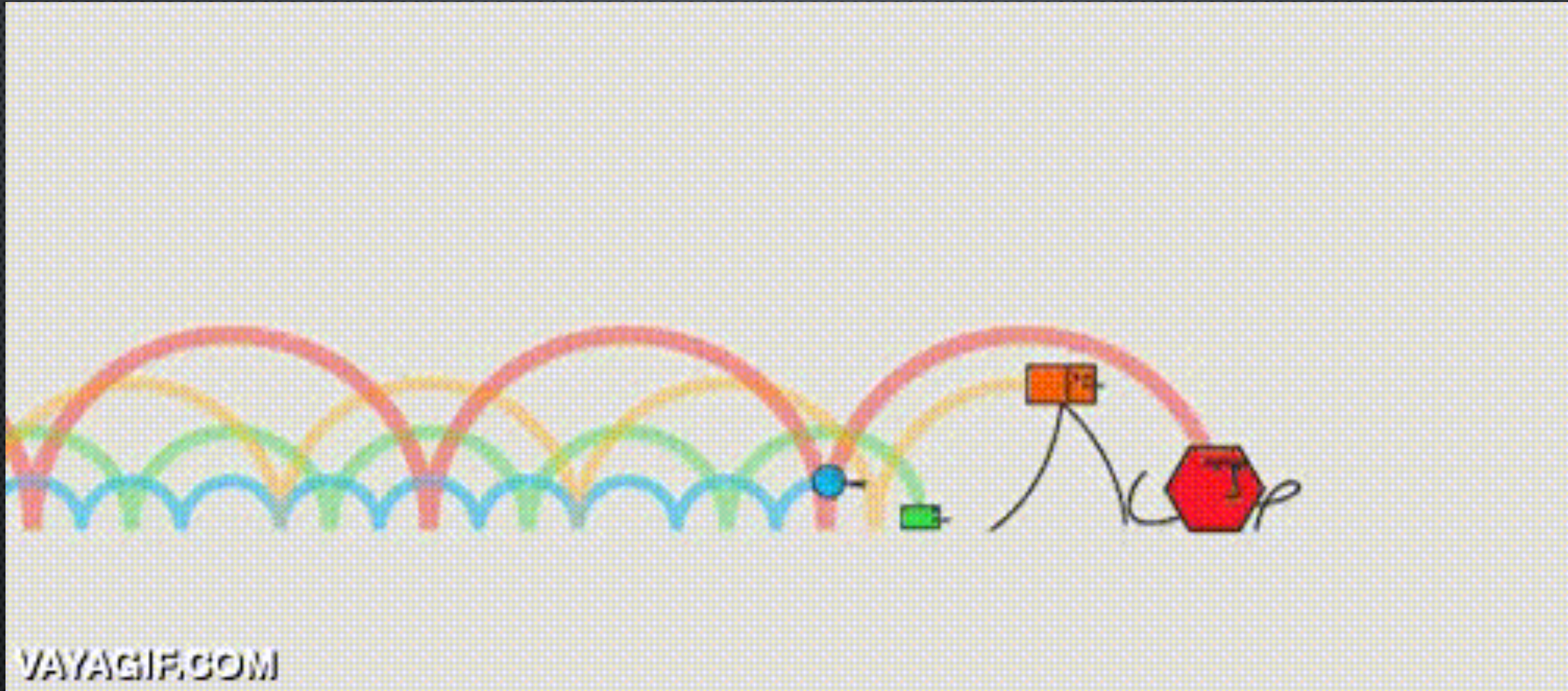
evaporated milk (not fresh)
1 glass bowl
1 flashlight

Why is the sky blue?

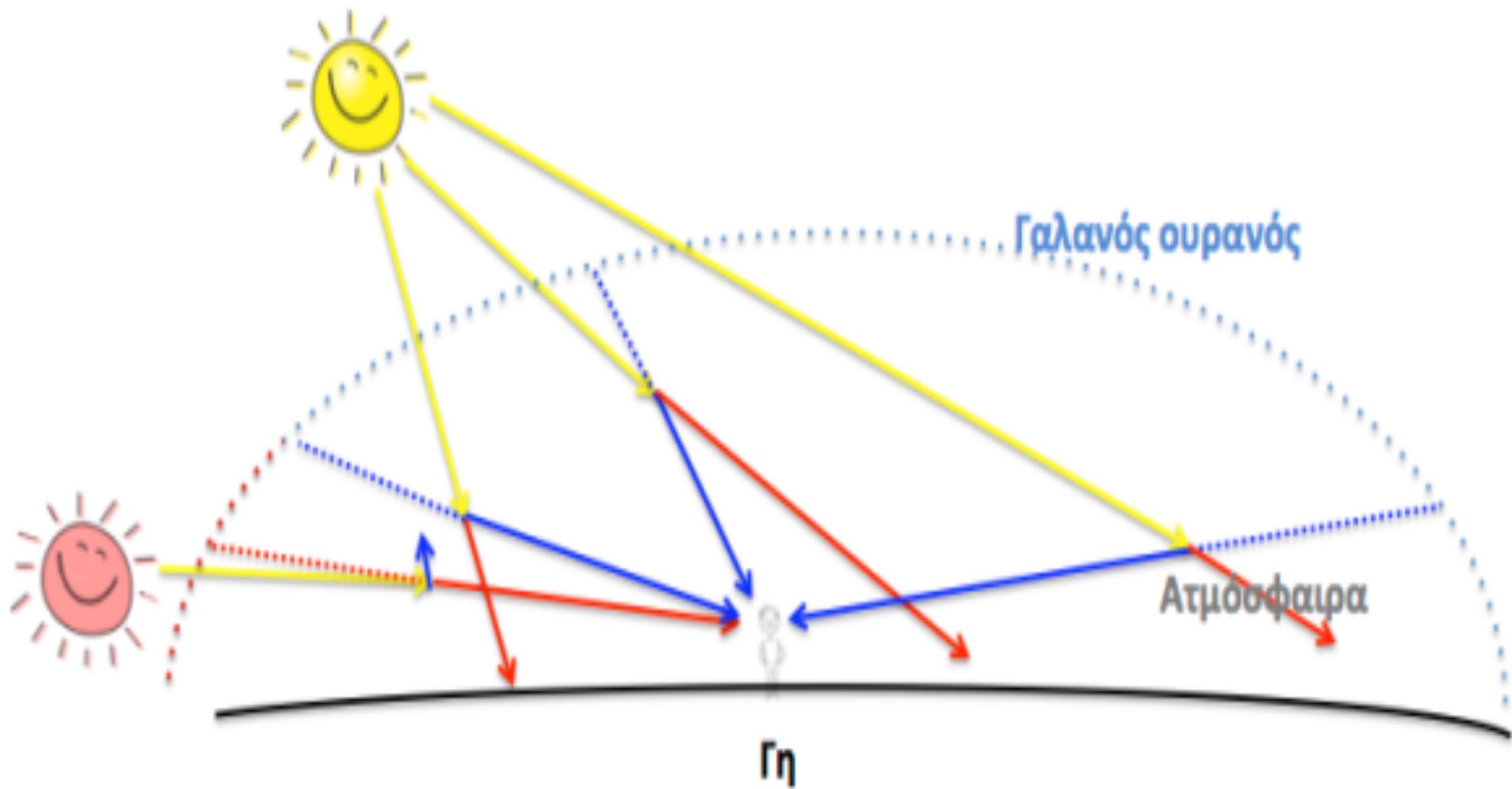


evaporated milk (not fresh)
1 glass bowl
1 flashlight
water

Tina Nantsou, Hill Memorial School



How can we demonstrate the different wavelengths of light?



Why does the sky appear black on the moon?

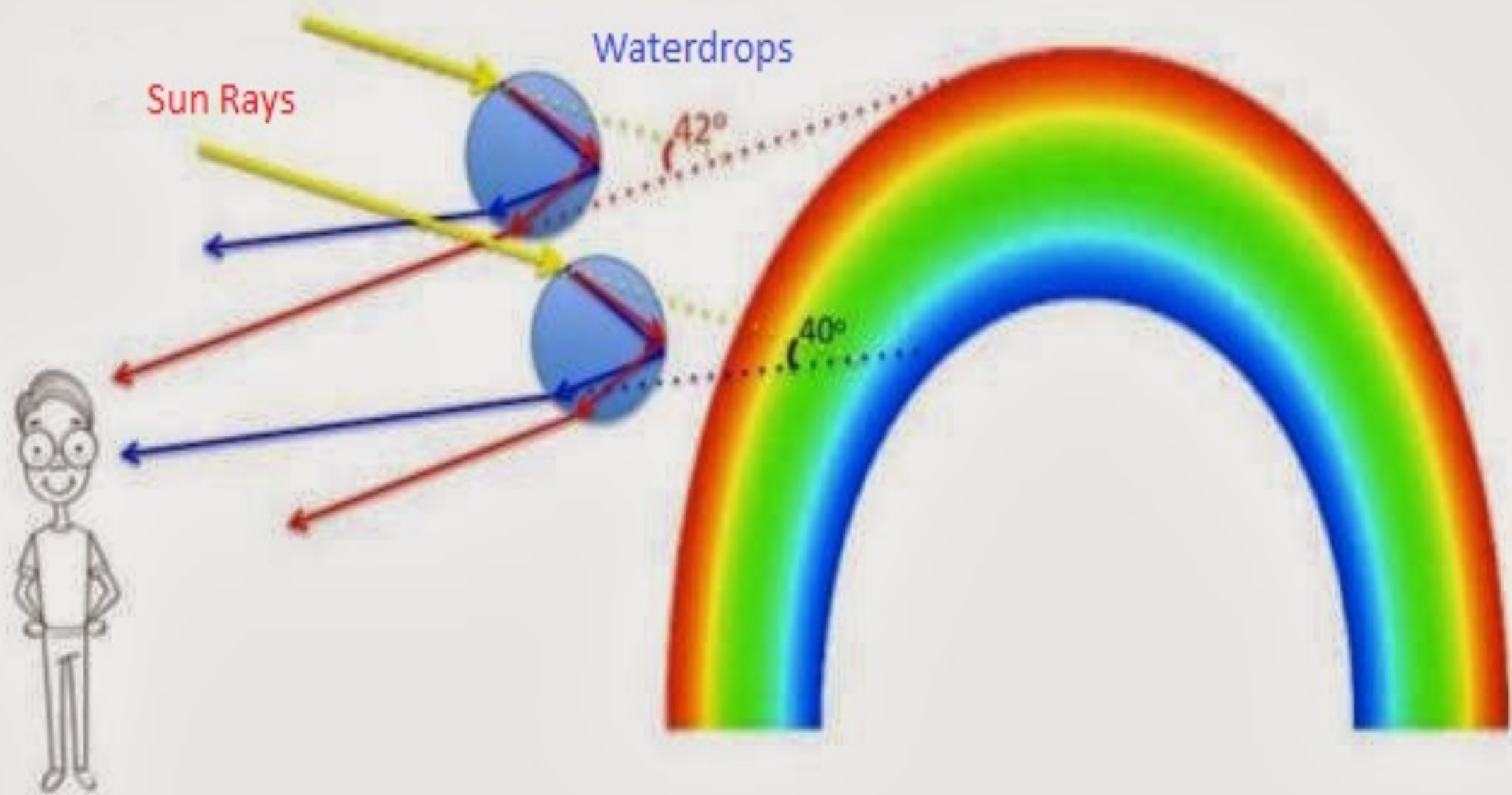


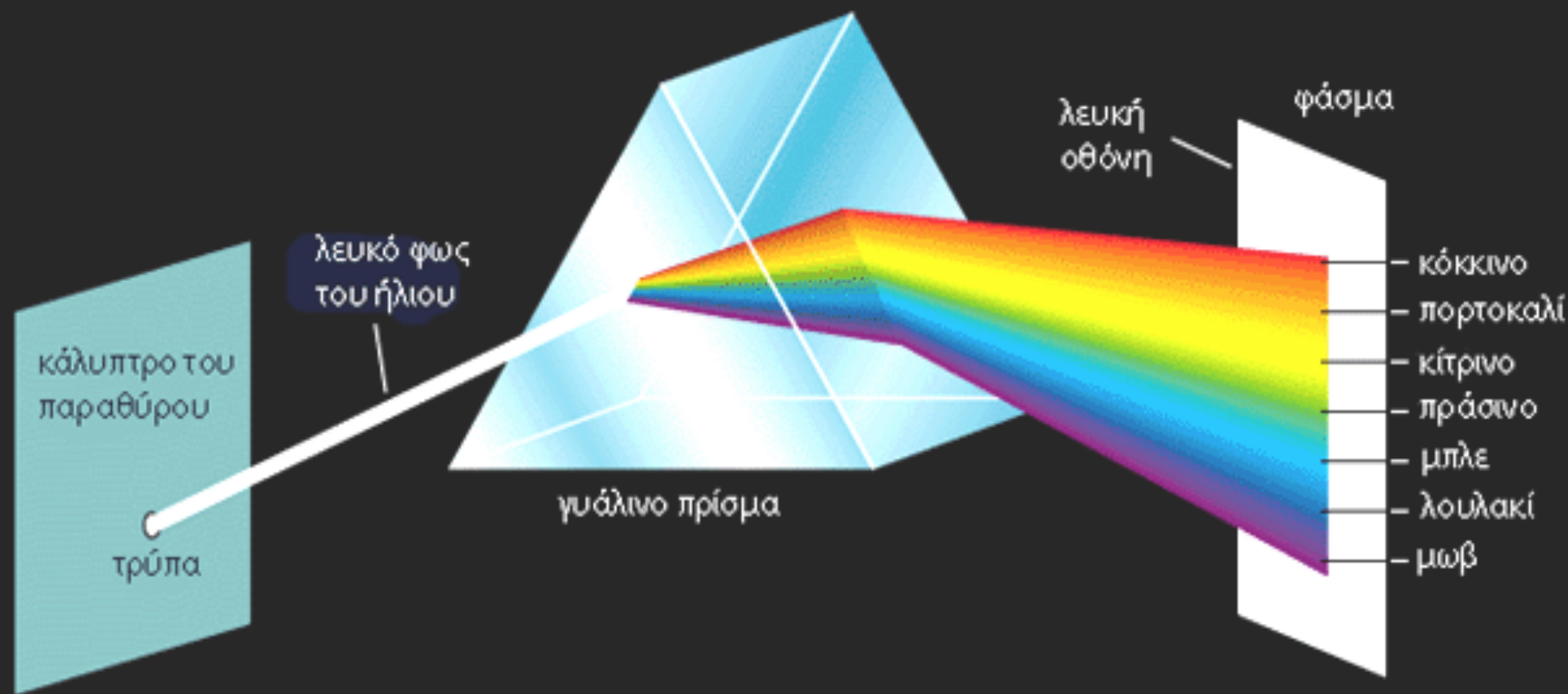
a spectrum on the ceiling



Nantsou Tina, National Observatory of Athens

CD/DVD
1 strong flashlight
White ceiling
Dark room





Resources

- Nantsou Tina, Science Experiments for Kids, <https://tinanantsou.blogspot.gr/>
- Nantsou Tina (2017), Astronomy Experiments via Everyday Materials (Christina Papadopoulou)
- <https://drive.google.com/file/d/1paWwlvfNs6l5EkCm7yj6n62ruTaFIANz/view?usp=sharing>
- 2nd & 6th Primary Schools of Artemis, Greece
- <https://artemisprotons.wikispaces.com/home>
- 2nd Primary School of Piraeus –Uruguay
- [Project Playing with Protons](#)
- Playing with Protons, <https://playprotons.web.cern.ch/>



Thank you

Elena Elliniadou, MEd
Principal, ICT teacher trainer
2nd Primary School of Piraeus-Uruguay
elenelli9@gmail.com

PLAYING WITH PROTONS



facebook.com/playprotons



twitter.com/playprotons

Organized by _____



εΞΕΡΕΥΝήσεις
εκπαιδευτικά προγράμματα για παιδιά

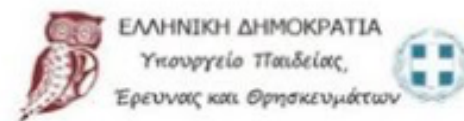
Hosted by _____



Funded by _____



Under the auspices of _____



Supported by _____

