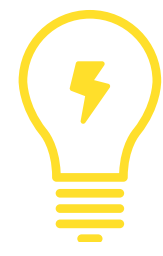


Low-Cost Experiments in STEM Education

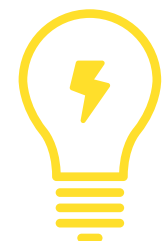


CATERINA STAFFIERI ● ISTITUZIONE SCOLASTICA "EMILE LEXERT" ● AOSTA ● ITALY

Fishing Energy



Before the game: Introductory lesson on Electricity, Magnetism & Electromagnetism (100 mins)



Brainstorming

Fishing ENERGY

Ready?

Time to fish energy!



1 - Form different teams!

2 - Perform the General Challenge

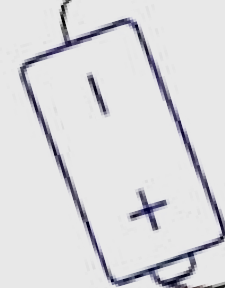
3 - Fish your next challenge!

4 - Fish and collect letters for the final riddle!

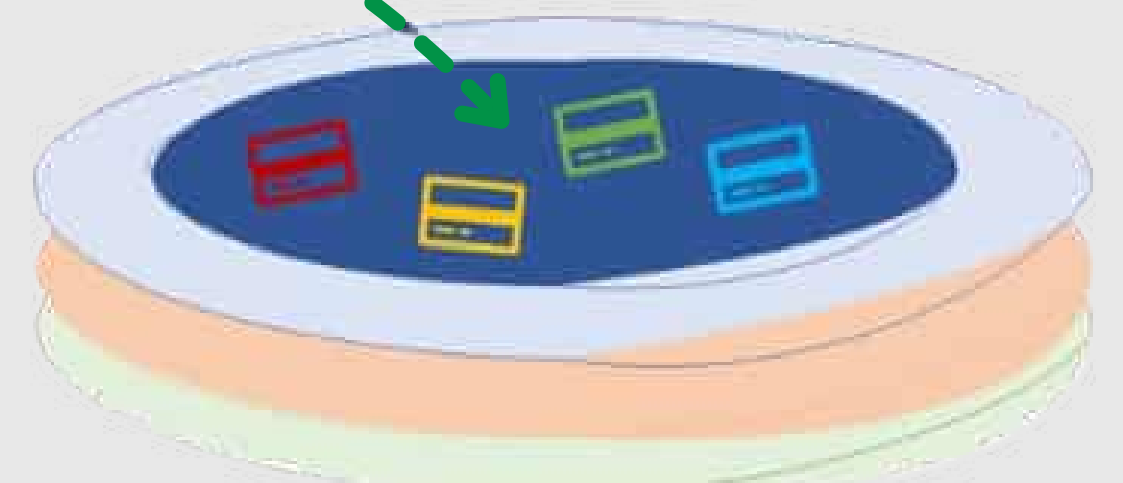
GENERAL CHALLENGE: Fish a challenge!

Build a fishing rod to fish your first challenge!

You will need:
a battery, a needle, a wire

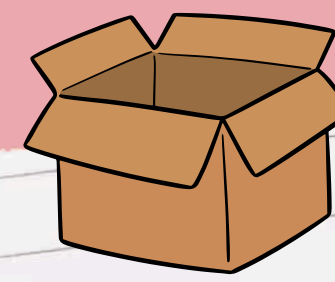


Will it be RED? YELLOW? GREEN or BLUE?



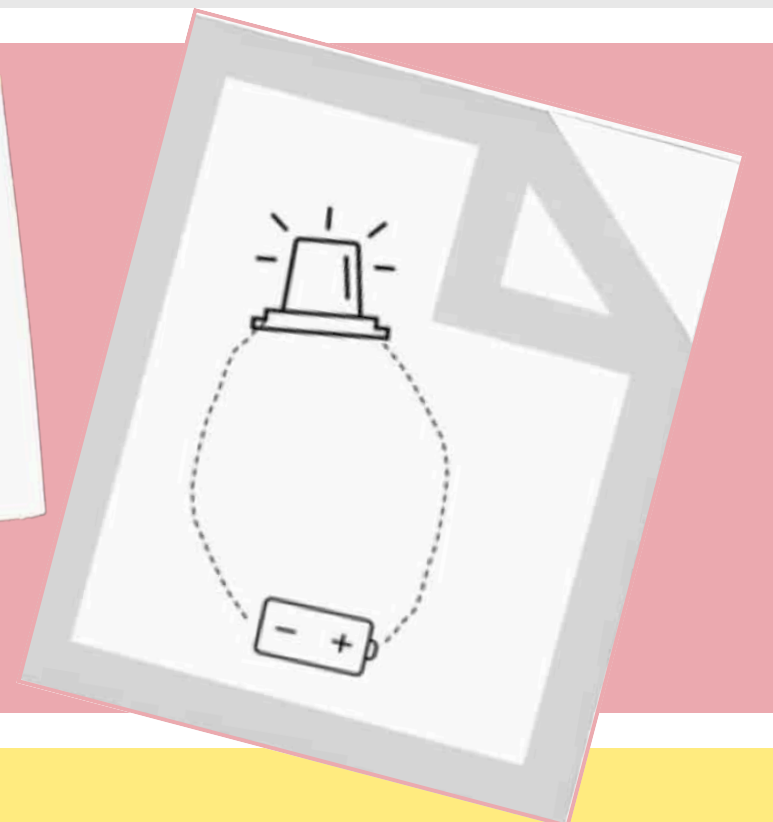
RED CHALLENGE: Find the conductive materials!

- * Build a paper circuit and test different materials to see which ones are conductive!
- * Did you find them?
- * Show it to your teacher and get your clue!



You will need

a paper
a battery
an led
various materials



YELLOW CHALLENGE: Series or Parallel?

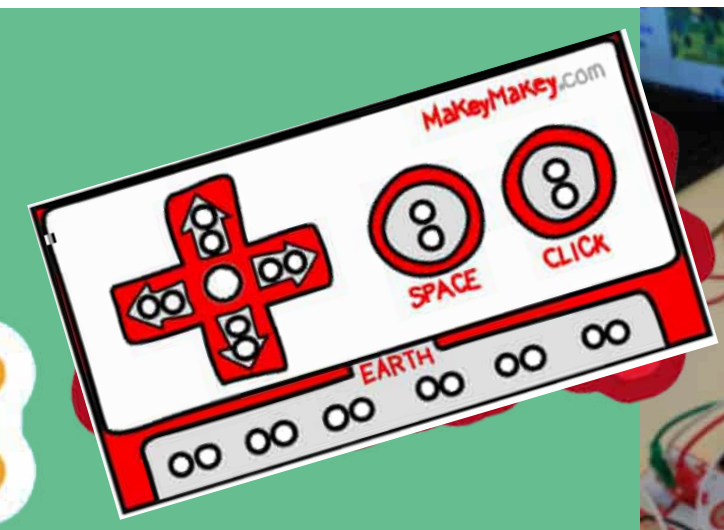
1. Create the two circuits: a) In parallel b) In series
2. Make a presentation in Google Classroom! - Explain Ohm's Law

You can use the PhET simulation to understand the concepts better and create your presentation!



GREEN CHALLENGE: Make your own story!

- * "Coding" a story of a famous scientist related to the subject of electricity/electromagnetism using Scratch!
- * Control different functions with Makey Makey kits and connect it to the Scratch program!



Time to run your code!

BLUE CHALLENGE - BONUS: Build the Voltaic Pile!

- * Build the experiment!
- * What do you see?
- * Fill in the Laboratory report!



- Copper Coins
- Paper towel
- Salted water
- Bottle/Cup
- Aluminum Foil
- One LED
- Tweezers

You will need



Did you collect the letters? Time to solve the riddle!