

IO8: Electricity

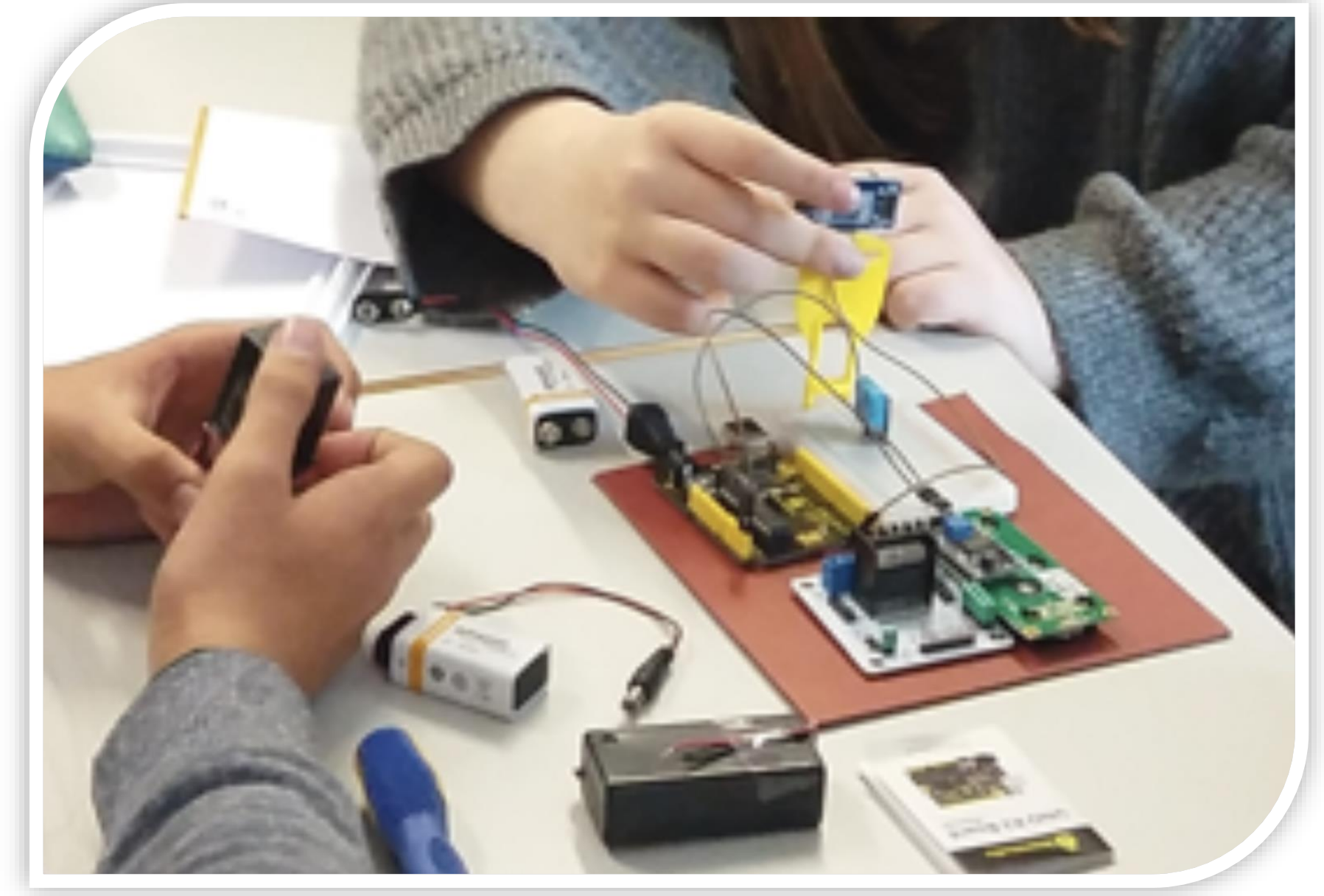
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Reverse Engineering (an interdisciplinary STEM approach)

Engage

How can the process of reverse engineering be used on Physics classroom?

Imagine that you work in an electrical equipment company and your team of engineers, technicians and electricians is asked to analyse and find out how a new product works (a mystery box), from a competitor company, which is being a sales success



The Mystery Box But how does it work?

Explore and Explain

1. Observe and explore the mystery box without opening it.
2. Describe your observations.
3. Build your own box with the same features as the mystery box.
4. Draw a picture or take a photo of your box.
5. Open the mystery box and look inside.
6. Compare the mystery box with your box and make conclusions.

The mystery box (look inside)



STEM Integration

Science

Electric circuits (series and parallel); tension and current measures, conductivity

Technology

Coding and learn about the use of different components

Engineering

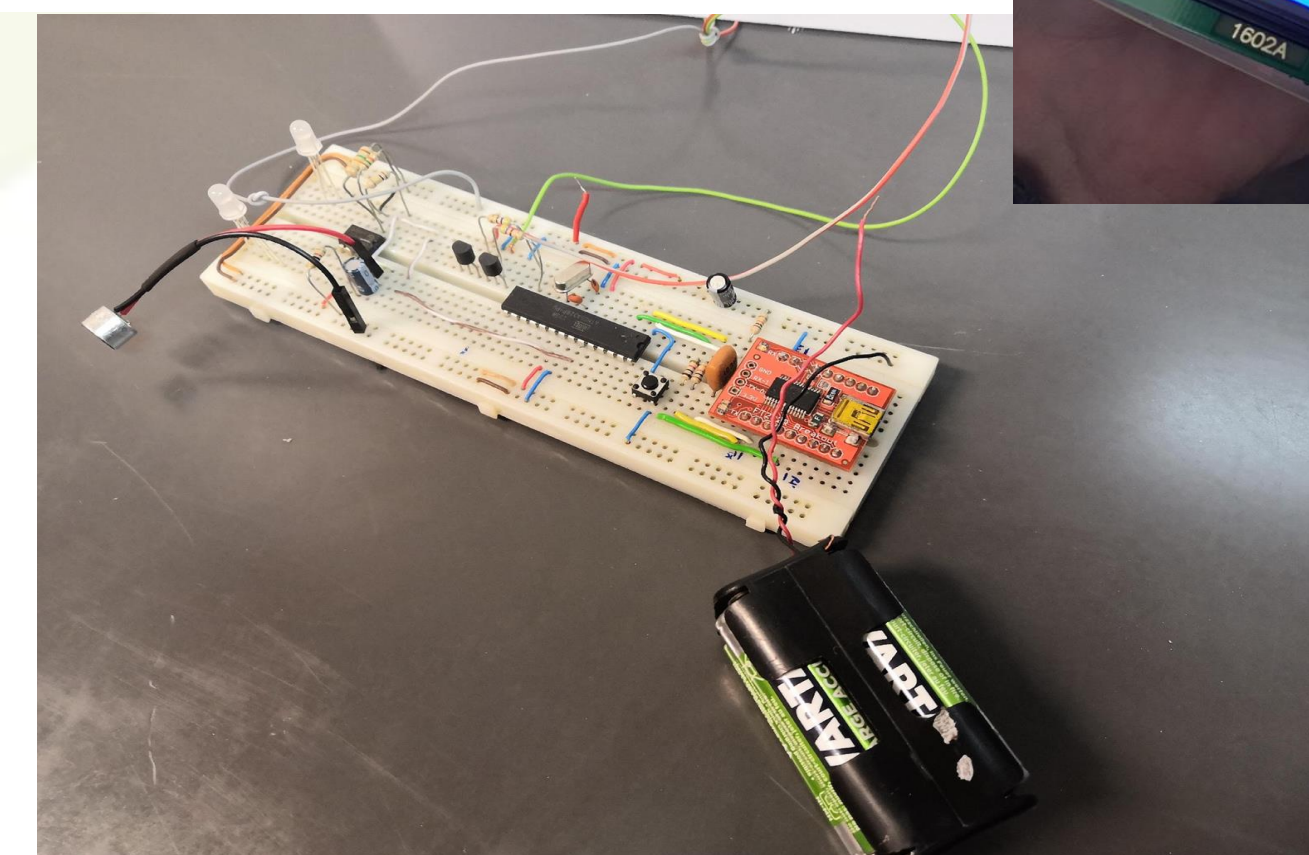
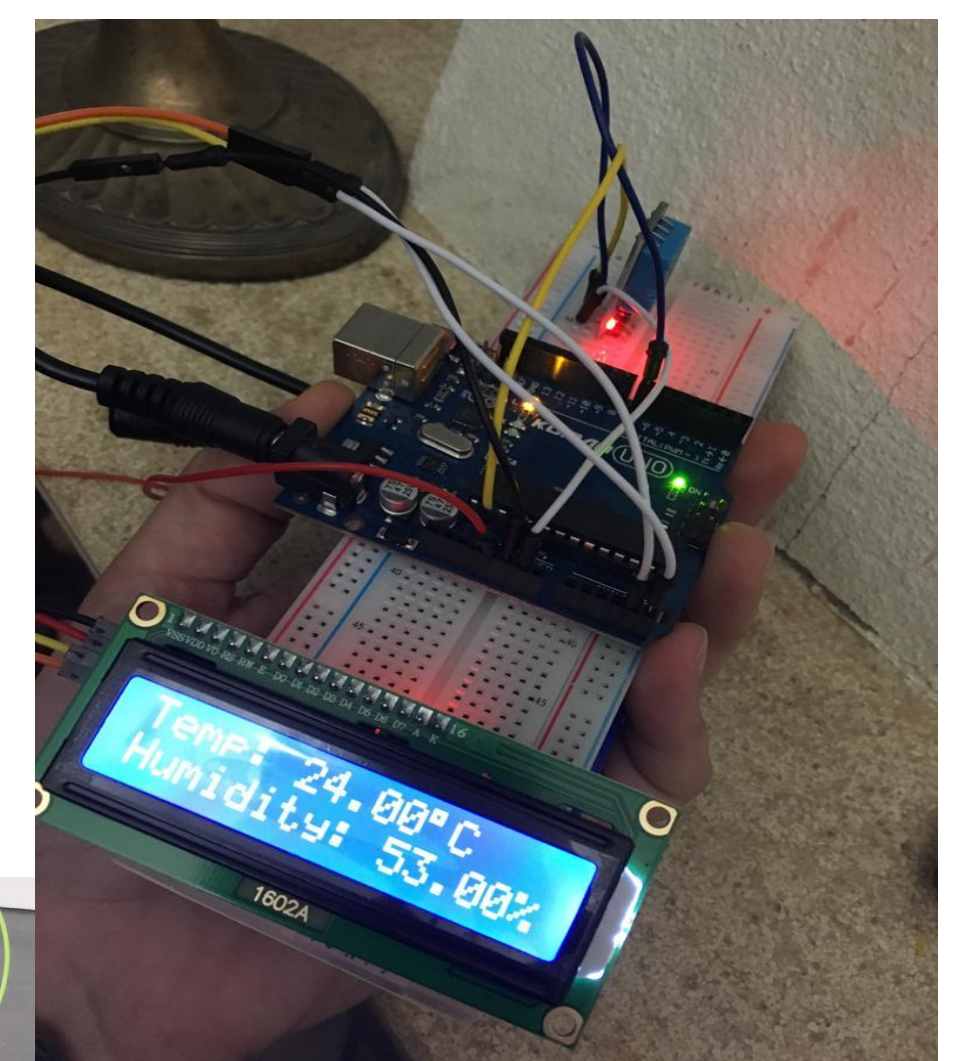
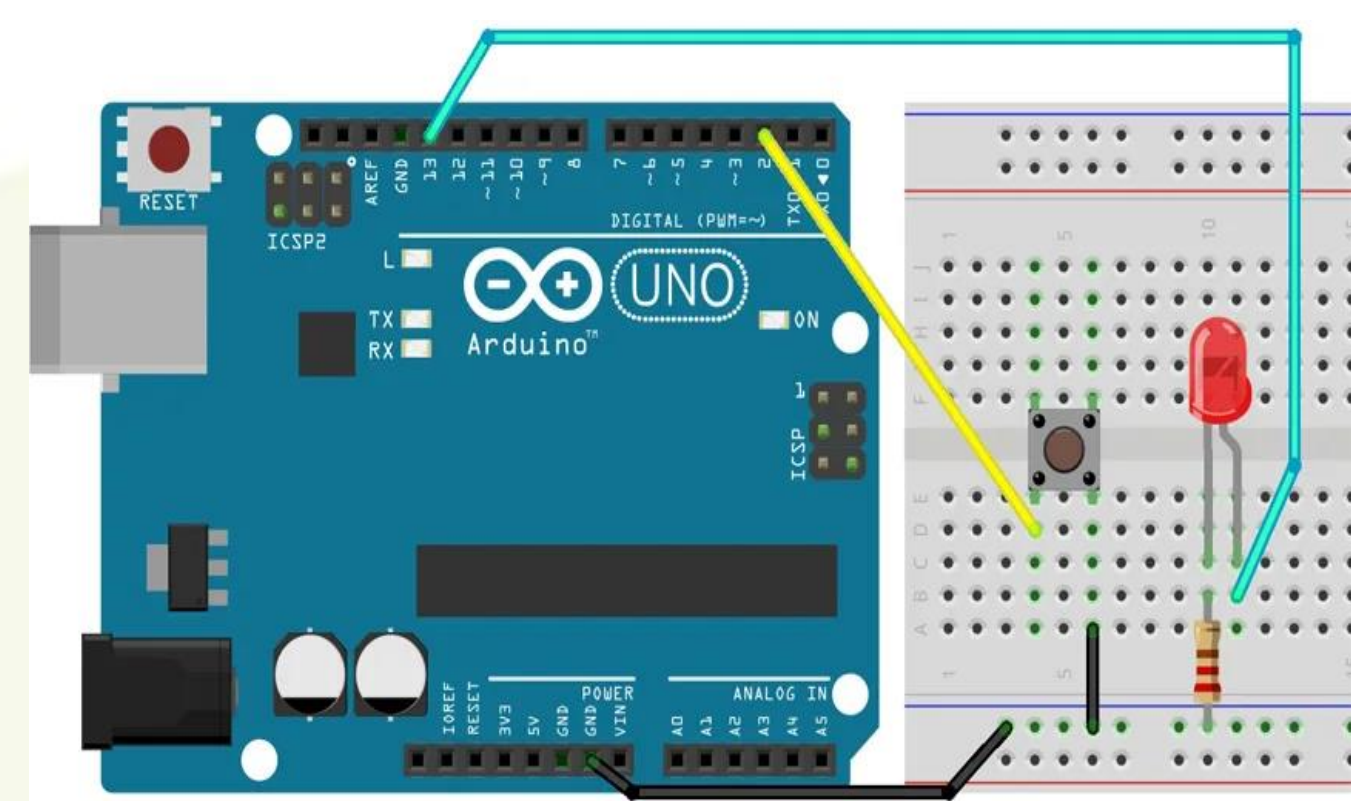
Design and improve the box functionality

Mathematics

Explore the relationship between current and tension in a circuit

Go further

Elaborate



Apply the concept of Reverse Engineering to a toy that you no longer use. Recycle the toy to build an innovative object.

Driven by curiosity students will...

Engage
Explore
Explain
Elaborate



INQUIRY

CONTACT US

We would love to hear your thoughts on Key Competence Development in STEM Education!

Did we spark your interest in collaboration? For further information, you can contact us anytime:



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