



EDUCATION - Project Ideas

- **Robot kits for middle school children with cerebral palsy**
- **Physical models for teaching and learning of vector calculus divergence, curl and gradient for engineering students**
- **Educating on climate action through data and the psychology of habits**

EDUCATION - Robotics for CP children

What is CP? Watch this to get an idea

<https://www.youtube.com/watch?v=mr8RJrGIngo>

Possible Problems:

1. Design assisted connectors for connecting blocks
2. Controller for CP children
3. Breadboard circuits for CP children

References

<https://www.degruyter.com/document/doi/10.1515/pjbr-2022-0104/html?lang=en>

<https://www.sciencedirect.com/science/article/pii/S1877050915038168>

<https://patents.google.com/patent/US3209097A/en>



EDUCATION - Models to teach Vector Calculus

What is Divergence and Curl

<https://www.youtube.com/watch?v=rB83DpBJQsE>

<https://www.youtube.com/watch?v=VJ2ZDLQk3IQ>

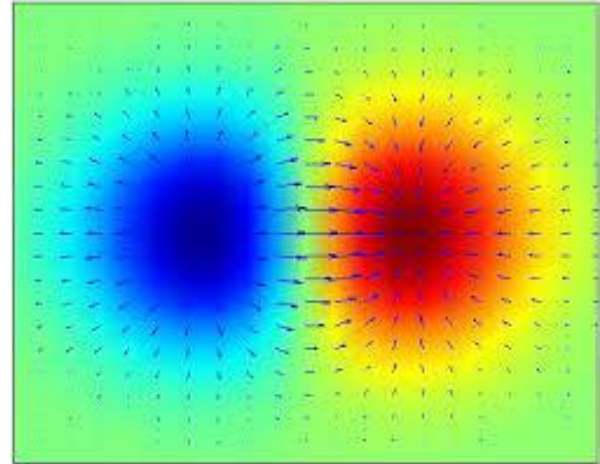
Possible problem statements

1. Soap bubbles for a study on vector calculus
2. Water flow through a sieve
3. Magnetic Pendulum and the magnetic field

References

<https://www.mwmresearchgroup.org/the-science-of-balloons-part-1.html>

<https://www.jove.com/science-education/14690/divergence-and-curl>



EDUCATION - educating for climate action



What is climate change and climate clock

<https://www.youtube.com/watch?v=vSF7oQuG4aU>

<https://www.youtube.com/watch?v=7sHAoQPtG50>

What action can you take?

Energy Literacy training

<https://energyswaraj.org/energy-literacy-training>

Take educated scientific action. Design an education system that changes habits

Choose one set and work on it



EDUCATION - Climate change

<https://climate.nasa.gov/news/2948/milankovitch-orbital-cycles-and-their-role-in-earths-climate/>

<https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>

<https://www.ipcc.ch/sr15/chapter/chapter-1/>