

Translate this site to get the lessons in your preferred language English - United States

Activity Library



Comparing Speeds

- Takes 45-90 minutes of classroom time.
- Free! No tools or microcontrollers needed.
- Meets middle school technology, math, and physical education standards.

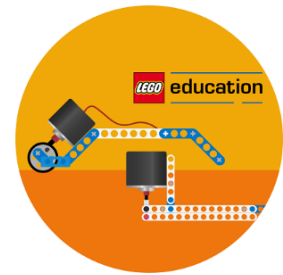
[GO TO LESSON PAGE >](#)



Exploring Our Oceans

- Each of the four lessons take approximately 1.5 days of classroom time
- Costs approximately \$4.00 per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

[GO TO LESSON PAGE >](#)



Distance Wheel and Angle Finder

- Takes 2 weeks of classroom time
- Costs approximately \$4.00 per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

[GO TO LESSON PAGE >](#)



EC Sensor

- Takes 1 week of classroom time
- Costs approximately \$3.00 per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

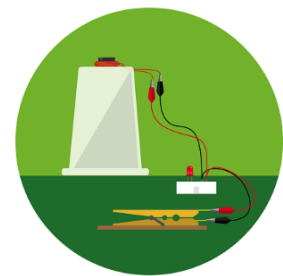
[GO TO LESSON PAGE >](#)



Light gate

- Takes 1 week of classroom time
- Costs approximately \$2.00 to \$3.00 USD per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

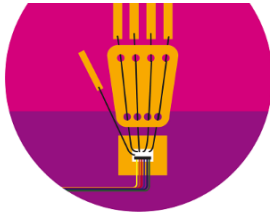
[GO TO LESSON PAGE >](#)



Telegraph

- Takes 1 to 2 weeks of classroom time
- Costs approximately \$3.00 USD per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

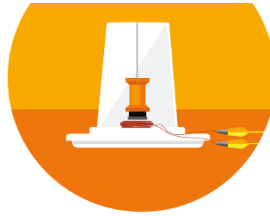
[GO TO LESSON PAGE >](#)



Sensorized Glove and Robotic Hand

- Takes 1.5 to 2 weeks of classroom time
- Costs approximately \$3.00 USD per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

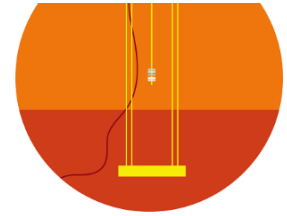
[GO TO LESSON PAGE >](#)



Seismograph

- Takes 2 to 3 weeks of classroom time
- Costs approximately \$2.00 to \$5.00 USD per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

[GO TO LESSON PAGE >](#)



Tuned Mass Damper

- Takes 2 to 3 weeks of classroom time
- Costs approximately \$2.00 to \$5.00 USD per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

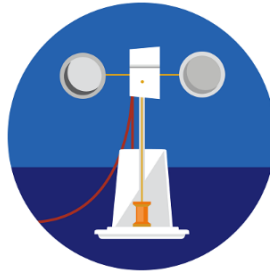
[GO TO LESSON PAGE >](#)



Windmill and Wind Turbine

- Takes 1 to 2 weeks of classroom time
- Costs approximately \$2.00 to \$5.00 USD per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

[GO TO LESSON PAGE >](#)

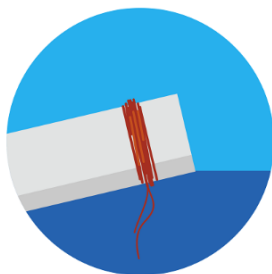


Anemometer

- Takes 1 to 2 weeks of classroom time
- Costs approximately \$2.00 to \$5.00 USD per student, excluding tools and microcontroller
- Meets middle school science, technology, engineering and math standards (STEM)

[GO TO LESSON PAGE >](#)

Master Skills Guides



Coil Winding

An electromagnetic coil is an electrical conductor used in applications where electric currents interact with magnetic fields. Learn several ways to wind coils for your Hacking STEM projects.

[DOWNLOAD THE GUIDE >](#)

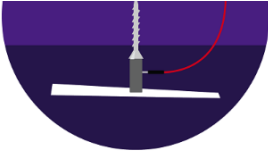


Making Flex Sensors

Learn to make a simple and inexpensive sensor out of copper tape, and a conductive anti-static material called Velostat. These sensors can be used for measuring force and pressure.

[DOWNLOAD THE GUIDE >](#)

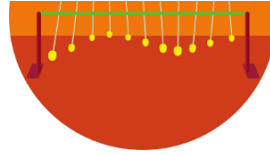
Bite-Sized Activities



Homopolar Motor

- ⌚ Takes about 15 minutes
- 🛒 Costs approximately \$2.00 USD per student

[DOWNLOAD INSTRUCTIONS >](#)



Wave Machine

- ⌚ Takes about 45 minutes
- 🛒 Costs approximately \$2.00 USD per student

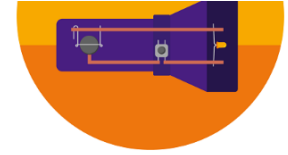
[DOWNLOAD INSTRUCTIONS >](#)



Solar House

- ⌚ Takes about 1 hour
- 🛒 Costs approximately \$2.00 USD per student

[DOWNLOAD INSTRUCTIONS >](#)



Flashlight

- ⌚ Takes about 30 minutes
- 🛒 Costs approximately \$2.00 USD per student

[DOWNLOAD INSTRUCTIONS >](#)



Light Quilt

- ⌚ Takes about 1 hour
- 🛒 Costs approximately \$2.00 USD per student

[DOWNLOAD INSTRUCTIONS >](#)

Need Help? Have Questions?



[VISIT THE SUPPORT PAGE >](#)



[EMAIL HACKING STEM >](#)



[JOIN THE CONVERSATION >](#)



[SUBMIT YOUR IDEA >](#)

All BBC Earth and BBC Learning content © 2018 BBC Studios is used under license to Microsoft, Inc. solely for use in the [Microsoft oceans-related educational modules]. All rights reserved. Any downloading, copying and/or reuse of such content is strictly prohibited to the furthest extent permitted by applicable law.

Follow this page

Share this page

What's new

- NEW Surface Pro 6
- NEW Surface Laptop 2
- NEW Surface Go
- Xbox One X
- Xbox One S
- VR & mixed reality
- Windows 10 apps
- Office apps

Store & Support

- Account profile
- Download Center
- Sales & support
- Returns
- Order tracking
- Store locations
- Support
- Buy online, pick up in store

Education

- Microsoft in education
- Office for students
- Office 365 for schools
- Deals for students & parents
- Microsoft Azure in education

Enterprise

- Microsoft Azure
- Enterprise
- Data platform
- Find a solution provider
- Microsoft partner resources
- Microsoft AppSource
- Manufacturing & resources
- Financial services

Developer

- Microsoft Visual Studio
- Windows Dev Center
- Developer Network
- TechNet
- Microsoft developer program
- Channel 9
- Office Dev Center

Company

- Careers
- About Microsoft
- Company news
- Privacy at Microsoft
- Investors
- Diversity and inclusion
- Accessibility
- Security

English (United States)

[Contact us](#) [Privacy and cookies](#) [Terms of use](#) [Trademarks](#) [About our ads](#) © Microsoft 2018