

Maker Motes Workshop Description



Overview:

The Maker Motes online course is a multi-disciplinary STEM curriculum where students learn about electronics, environmental science and data science by building their own Maker Mote, a portable environmental sensor which uploads data to the cloud. They can then log in to the Maker Motes website to read and analyse the environmental data (including temperature, humidity, noise, light and dust readings) from their Maker Mote, and thus learn more about their local environment in the process.

Age group: Anyone from age 8 and above!

Prerequisites: No prior experience with electronics, environmental science or data science is required.

Course Structure and Length: The Maker Motes curriculum consists of four lessons (1.5 hours each).

Learning Goals: By the end of this course, students will have gained knowledge and skills related to:

- Electronics
- Design thinking and problem-solving
- Environmental science
- Data analysis

Course Outline:

Lesson 1: Building your Maker Mote and uploading sensor data to the cloud

Lesson 2: Making your Maker Mote portable and energy-efficient

Lesson 3: Building a casing out of household materials to protect your Maker Mote from the elements

Lesson 4: Analysing sensor data on Maker Motes website

Learning Outcomes:

By the end of the Maker Motes course, students will have built their own Maker Mote, a portable environmental sensor that collects and wirelessly uploads environmental data to the Maker Motes website, where they can read and analyse the data to learn more about their local environmental conditions. Through this process, they will have learned about electronics, cloud computing, design thinking for problem-solving, and how to analyse environmental data and relate it to their lived experience of their surroundings.

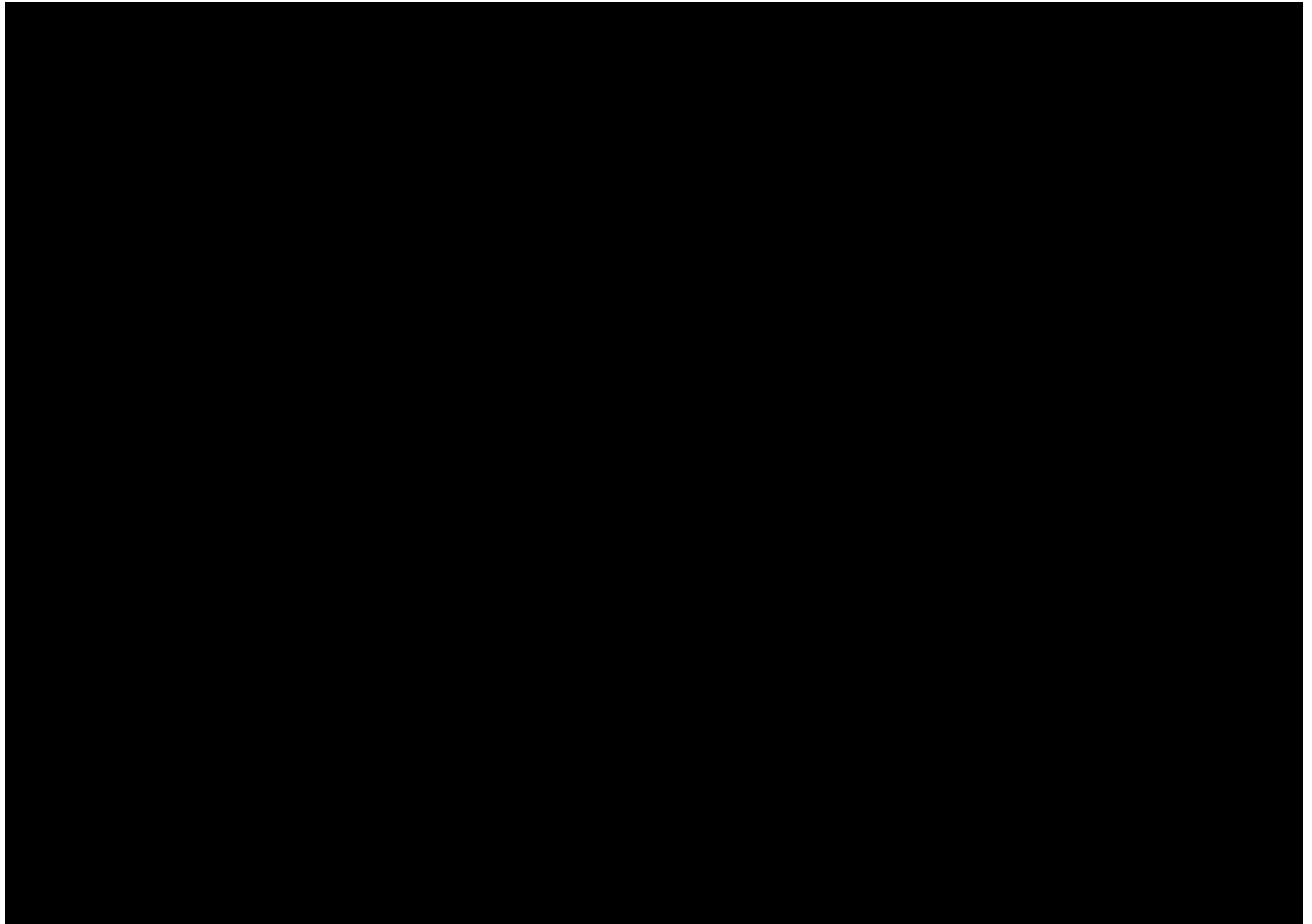
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A Maker Mote inside a greenhouse.