EduQube STEM Kit Lesson Plan

#	Description
1	PocketQube & Satellite Introduction
2	PocketQube Design – Understanding Engineering Issues
3	Mission Planning – Team Creation, Plan Experiments, Present Your Plan
4	Hardware Testing – Assemble and Test PocketQube Hardware
5	Experiments: i. Temperature ii. Accelerometer iii. Gyroscope iv. Barometer v. UV Sensor
6	Experimental Data Retrieval and Analysis
7	Hypothesis, Evidence, Simulation and Prediction

EduQube Engineering Platform

The EduQube Engineering Platform was inspired by OzQube-1.

- It's an embedded-electronics satellite engineering platform
- It's Arduino-based
- Contains high-quality sensors
- Is highly customisable
- Allows for expanded functionality

It's aimed at

- Universities
- Research organisations
- Not-for-profit organisations
- Companies

Our existing customers use this engineering platform to build and test their own PocketQube satellite designs.

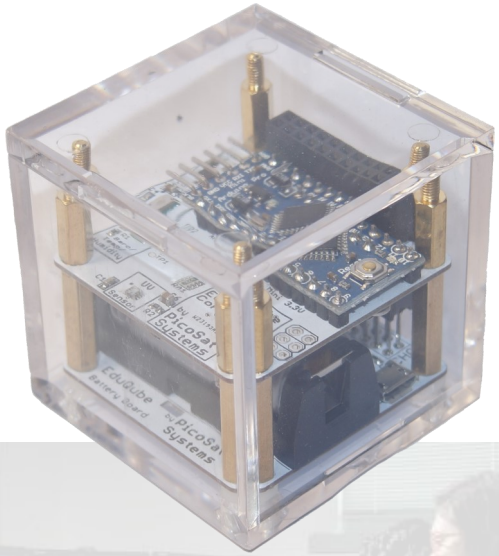
(Right) A top-down view of EduQube. Note the black connector at the top which allows additional circuit boards or 'breakout' boards with customisable electronics to be plugged in, expanding EduQube's functionality.

Picosat Systems

Small Satellite Solutions

EduQube

Picosat Systems Pty Ltd



The STEM Educational PocketQube Kit

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Engineering Platform

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EduQube

EduQube is an educational platform that can be used for secondary school student STEM study. It can also be used as a satellite engineering platform for research. EduQube is based on the miniaturised satellite PocketQube form factor, a 5x5x5cm cube design that weighs up to 180g.

EduQube was conceived from the development of OzQube-1, Australia's first PocketQube satellite, which has received wide-spread press coverage.

OzQube-1 is a space-bound PocketQube satellite, created by space enthusiast Stuart McAndrew. It is being built in his backyard shed here in Perth, and is planned to reach orbit some time in 2017 or 2018.

OzQube-1

EduQube STEM Educational Kit

EduQube uses the popular Arduino embedded electronics platform and contains a suite of electronic sensors that allows the measurement of various aspects of the world around us, while introducing students to the world of small satellite development.

The hardware is a companion to associated lesson plans (see overleaf) that are based on the Western Australian K-10 curriculum (ACSIS198-200) and are aimed at year 10 students. They cover:

- Hypothesis development, online research and question formulation
- Applying research to experimentation, using digital technology simulation and defining experimentation boundaries
- Recording data, using scientific instrumentation and identifying data margins of error

EduQube also teaches students computer programming and small satellite development. Add-on modules (e.g. camera, radio, etc.) allows students to expand beyond the included lesson plans.

Picosat Systems

Picosat Systems, co-founded by Stuart McAndrew and Conrad Pires in Perth, Australia, has been set up to develop and promote small satellite solutions. OzQube-1 is our technology demonstrator, designed to show the benefits of small satellites, and in particular, PocketQubes. EduQube is designed to educate the next generation of students and researchers in small satellite technology and solutions.

Help Launch OzQube-1 into Space

Donate at our GoFundMe page:

http://www.gofundme.com/ozqube1

Links

http://picosat.systems

http://ozqube-1.blogspot.com/

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