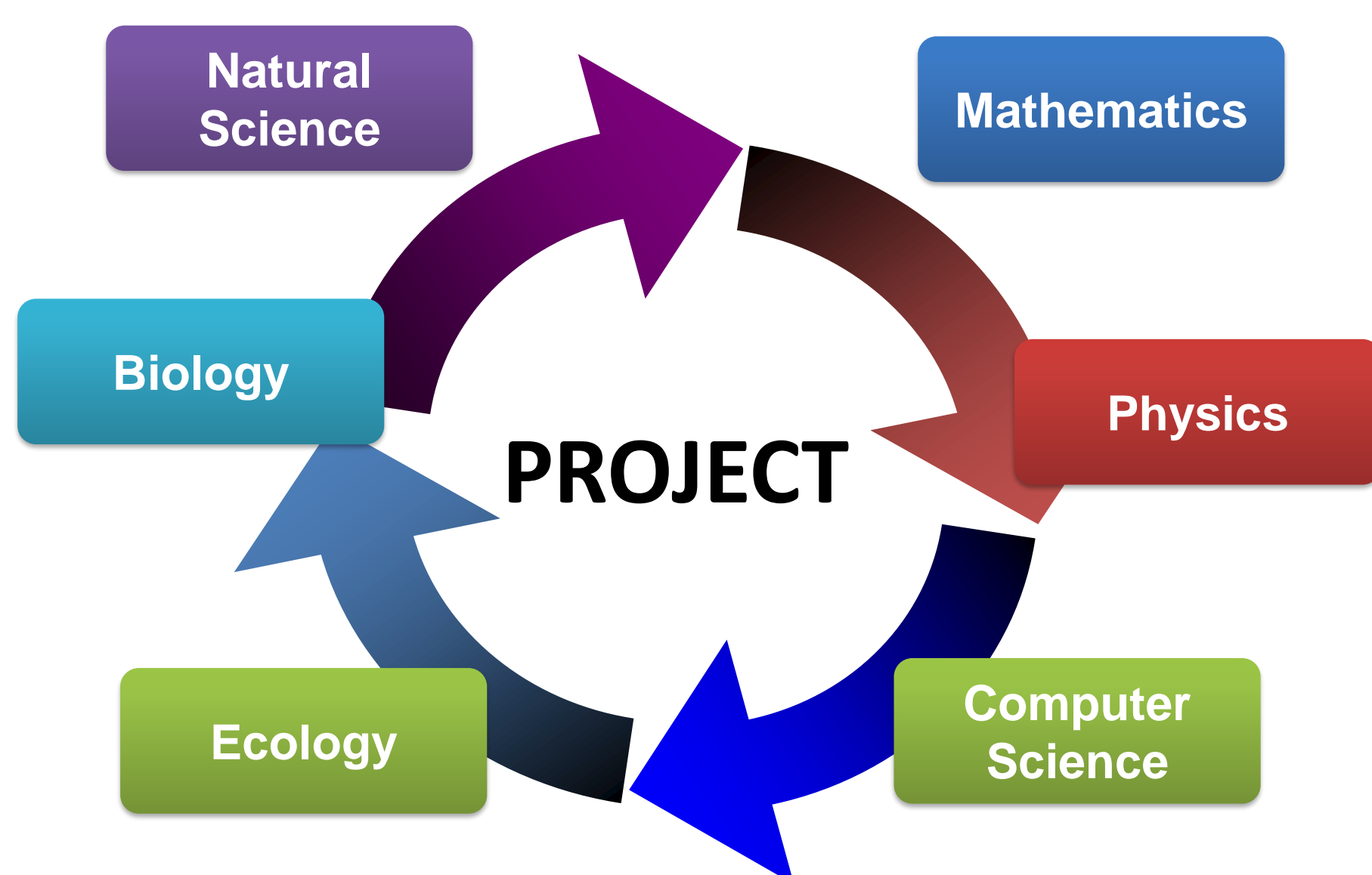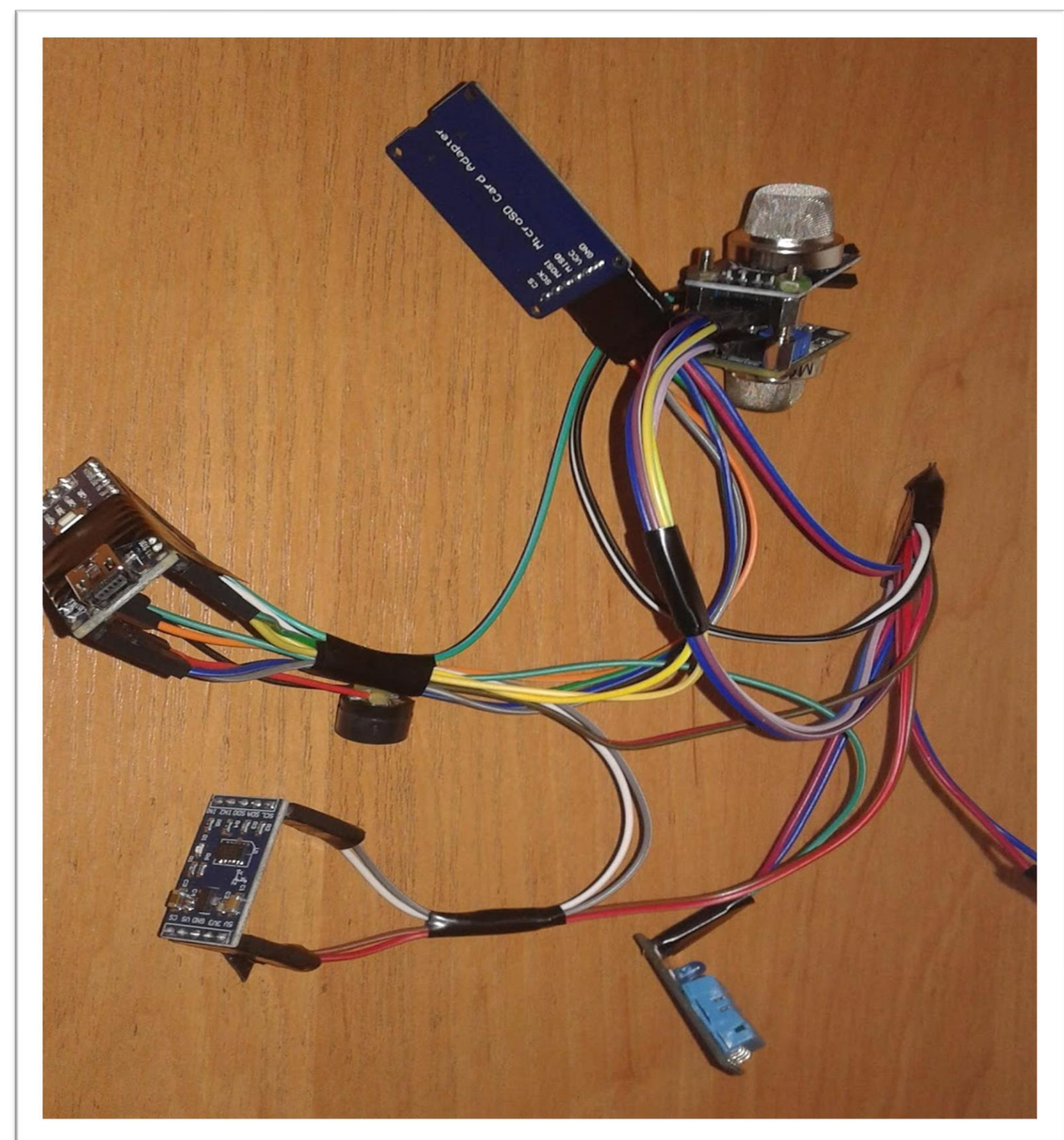# Technologies in STEM education

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The aeronaut based on Arduino

An electronic aeronaut gone up into the sky a device, which consists of a set of microelectronics: a microcomputer, the sensors for collecting data about atmosphere (pressure, temperature, humidity, smoke) and a video camera. The video camera is used to film a panorama of video surface below at the same time. Our students use their own observations to check how pressure, humidity and temperature can be changed by an increasing altitude. The obtained data can be used at the lessons of Physics, Biology, Geography, Natural Sciences, Mathematics, Computer Science, Ecology. The sensors information also made it possible to assess air quality and compare it over different places of the city.

The sets of microelectronics have become as the motivational tools of the project. They have helped to expand the range of activities at and beyond the lessons, as so as coordinaly improve the computer skills of the students. Moreover after the project the communication between students have become much better. Working with microcontrollers has given our students knowledge about the relationship of various school subjects. The data from sensors about the atmosphere and aerial photographs have been received by themselves.

Natural Science · Mathematics · Physics · Computer Science · Ecology · Biology · **PROJECT**

The project introduced students to the basics of electronics, explained what programming is and why it is needed, showed the connection between different sciences.