



Discover Sensors Award Criteria December 2009

The Discover Sensors award is presented to a student science project which demonstrates a high level of application of investigative science methodologies that include the innovative use of one or more sensors for collection, recording and analysis of data.

The Discover Sensors project constitutes a partnership of the Second Level Support Service (SLSS), the National Centre for Technology in Education (NCTE), IBEC, the Education Centre Network and Discover Science and Engineering (DSE). The project aims to support investigative teaching and learning of science at Junior Certificate, aided by the use of sensor technology.

The Discover Sensors Award criteria are closely aligned with those of Junior Certificate Coursework B. These criteria will be useful for students who are planning to conduct an investigation of their own choosing for coursework B.

Award Criteria:

The award criteria for the Discover Sensors Scifest are given below, along with the scoring rubric.

Each project entering into the **Discover Sensors Award** must keep a blog of their Scifest project on Project Blogger. Full details of how to set up a blog and a step by step guide are available on the Project Blogger website (www.projectblogger.ie)

Criteria are based on following three key areas:

The student's application of scientific methods

The student's demonstration of scientific process skills

The student's presentation and analysis of data and results

Suggested Criteria and Scoring

	Score	Suggested Criteria
Introduction: State investigation as a problem statement Reasons for topic selection with outline of current knowledge and background research	5 5 Total 10	Formulation of justified researchable question(s) Demonstrated research of secondary information sources, e.g. books, scientific publications, internet, teachers, scientists etc.
Preparation and Planning: Conduction of a fair test with appropriate variables defined Adequate plan devised to test problem statement with complete list of experiment resources	8 7 Total 15	Demonstrated identification of variables and application of appropriate controls Demonstrated design of experiment: process, equipment, amount of data, range of data, units of data, sources of error and their impact on results
Procedure, Apparatus, Safety, Data collection /Observations: Experimental procedure detailed Safety issues Understanding of the use and operation of sensor/data-logging technology used to record results Clear, accurate and labelled diagrams with clear, accurate and labelled data tables and graphs	15 5 10 10 Total 40	Demonstrated collection and organisation of data
Calculations and Data Analysis: Accurate calculations shown Discussion of relationship between variables Analysis of trends/patterns in data - conclusions	5 5 10 Total 20	Demonstrated interpretation of data. Demonstrated description of relationships, quantitative and/or qualitative, between sets of data/variables. Demonstrated conclusions relating to proposed hypotheses.
Comments: Factors effecting results e.g. errors Suitability of procedure, suggest further work/refinement Implications of findings to real life	5 5 5 Total 15	Demonstrated appreciation of the limits of scientific evidence. Demonstrated the greater context within which an experiment is performed. Demonstrated evaluation of the design of the investigation, reflection on the adequacy, reliability and validity of the data and proposed and justified refinements.