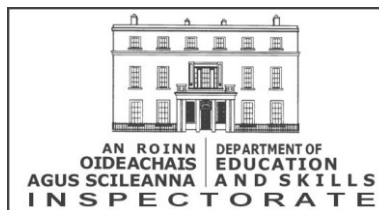


**An Roinn Oideachais agus Scileanna**  
**Department of Education and Skills**

**Subject Inspection of Science and Biology**  
**REPORT**

**Saint Mary's Secondary School**  
**Nenagh, County Tipperary**  
**Roll number: 65380E**

**Date of inspection: 5 May 2016**



# REPORT ON THE QUALITY OF LEARNING AND TEACHING IN SCIENCE AND BIOLOGY

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## INFORMATION ON THE INSPECTION

<b>Dates of inspection</b>	4 & 5 May 2016
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal and teachers</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during eleven class periods</li><li>• Examination of students' work</li><li>• Feedback to principal, deputy principal and teachers</li></ul>

## MAIN FINDINGS

- The quality of teaching and learning varied from good or very good, in almost all lessons, to satisfactory, in a few lessons, with teaching being carried out with enthusiasm and in a very student-centred manner.
- Assessment-for-learning techniques were widely used, in a seamless and integrated manner.
- Deliberate and overt interventions to support students' literacy development were seen in all lessons but with support for numeracy development less evident.
- Students' written work was generally of a high standard, especially where developmental written feedback was provided.
- An extensive range of co-curricular and extra-curricular activities is provided in order to develop and extend students' curricular experiences.
- Science department planning is very thorough and the science and biology folders are comprehensive.

## MAIN RECOMMENDATIONS

- Teachers should review the level of numeracy support provided and the means by which this is done.
  - In a small number of cases, more focussed written feedback should be provided to students to support them in improving their written work.
  - The work towards improvement carried out by the science department should be documented in more detail with targets, planned actions and success criteria clearly stated.
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## **INTRODUCTION**

St Mary's Secondary School is a girls' voluntary secondary school operating under the trusteeship of CEIST (Catholic Education An Irish Schools' Trust). The school has a current enrolment of 558 students. Science is an optional subject in junior cycle and Agricultural Science, Biology, Chemistry and Physics are offered as optional subjects in senior cycle. The curriculum of the school's optional Transition Year (TY) includes a number of modules in the sciences.

## **TEACHING AND LEARNING**

- The quality of teaching and learning varied from good or very good, in almost all lessons, to satisfactory, in a few lessons, with examples of very good practice evident in all the lessons observed.
- All the lessons were well planned and well prepared with the required resources to hand. Good classroom management was apparent at all times and high expectations of students were evident.
- There was a good structure to each lesson, the learning intentions were shared with students and these were reviewed at the close of lessons.
- The intended learning intentions remained the focus of the lessons and, in some of the lessons, were referred to on a number of occasions. This helped to keep the lessons on track and to maintain students' concentration.
- Teaching was carried out with enthusiasm and in a very student-centred manner. Active learning methodologies were predominant in all of the lessons and students were well challenged by their teachers.
- New material was well linked to students' earlier learning which provided a solid base to extend their knowledge and understanding.
- Frequent pauses to review and consolidate learning was a feature of two lessons. This technique gave students an opportunity to review their knowledge and understanding and was very useful to reinforce learning.
- Questioning was very well used in almost all the lessons, in a very diagnostic manner. There was a good balance between lower-order and higher-order questions, mostly directed to individual students. Students were allowed time to consider their answers before being asked to respond.
- Assessment-for-learning techniques were widely used, in a seamless and integrated manner, to gauge students' progress and level of understanding. Frequent examples were in evidence of teachers using the feedback from these techniques to adapt their teaching to ensure the needs of all students were met.
- A warm and supportive relationship between teachers and students facilitated the high level of good quality interaction that was observed.
- Teachers frequently moved among students, monitoring their work, providing guidance and support where necessary. Along with questioning and discussion, this facilitated the good quality differentiation and individualised support for students that was evident in the lessons.
- Deliberate and overt interventions to support students' literacy development were seen in all lessons. However, numeracy support was not evident other than where it was innate in

the topic being taught. Teachers should review the level of numeracy support provided and the means by which this is done.

- Students engaged very well in the learning process, worked hard in all lessons and showed evidence of good quality learning.
- Students' written work was generally of a high standard, especially where written developmental feedback was provided. In a small number of cases, it is recommended that more focussed written feedback be provided to students to support them in improving their written work.

#### **SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT**

- Whole-school support for the sciences was very good. The uptake of Science in junior cycle is very high. Modules in all four science subjects are on the school's TY programme and these subjects are offered as options for the Leaving Certificate. The number of students choosing each subject is very positive.
- The time allocated to the sciences is very good at all levels.
- The school and teachers are commended for the very good provision for co-curricular and extra-curricular activities. An extensive range of activities is provided in order to develop and extend students' curricular experiences.
- Teachers have enhanced their skills through a wide range of additional continuous professional development courses and membership of subject associations, with the support of school management.
- The schools laboratories are well maintained, well stocked and best use is being made of them. The teaching environment in the laboratories is enhanced by the charts and posters on display. The walls of the corridor outside the laboratories are used in a similar manner to promote the sciences.
- The very good information and communications technology (ICT) infrastructure in the school is used imaginatively by teachers to support the teaching and learning process and also to support administration and planning within the science department.
- The school operates an appropriate system of formally assessing students' progress and an appropriate level of communication is maintained with parents.
- Attention to health and safety issues is good and ongoing active management is evident.

#### **PLANNING AND PREPARATION**

- Science department planning is very thorough and the science and biology folders are comprehensive. The delivery of all courses is in accordance with common schemes of work, which facilitate the provision of common assessments, and which are kept under review.
- The schemes are written in terms of syllabus-based learning outcomes, putting an appropriate focus on students' learning. The lessons observed were in keeping with these schemes.
- Planning for improvement is evident in the science department folders, especially in the manner of analysis of the very positive outcomes in the certificate examinations. This

aspect of the department's work should be documented in more detail, with targets, planned actions and success criteria clearly stated, additional sources of evidence noted and monitoring processes described.

- The professional approach of the science department to its work is evident in the records of science department meetings, which indicate attention to pedagogical matters as well as managing the day-to-day running of the department.

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The draft findings and recommendations arising out of this evaluation were discussed with the principal, deputy principal and subject teachers at the conclusion of the evaluation. The board of management of the school was given an opportunity to comment in writing on the findings and recommendations of the report, and the response of the board will be found in the appendix of this report.

*Published September 2016*

## **Appendix**

**SCHOOL RESPONSE TO THE REPORT**

**Submitted by the Board of Management**

## **Part A Observations on the content of the inspection report**

The Board welcomes the Report on the Quality of Learning and Teaching in Science and Biology.

The Board, in particular, welcomes the positive findings in relation to the Quality of Learning and Teaching, Assessment-for-Learning techniques, interventions to support students' literacy development. The Board is pleased that the high standards of students' written work, the range of co-curricular and extra-curricular activities and the level of planning throughout the Science department was noted.

## **Part B Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.**

The school is committed to continuous improvement and the support of its students. To this end teachers make themselves available to view scripts with Leaving Certificate students each September. While providing such a facility supports the departing cohort of Leaving Certificate students, it has also contributed to improved teaching practice as it serves to identify misconceptions and aspects of the curriculum which students find most challenging.

The Science department has reviewed the level of numeracy support provided and expansion of this is currently in progress.