

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

**Subject Inspection in Science & Biology**

**REPORT**

<b>Ainm na scoile / School name</b>	Meánscoil Iognáid Ris
<b>Seoladh na scoile / School address</b>	Naas Co Kildare
<b>Uimhir rolla / Roll number</b>	61710C

**Date of Inspection: 16-05-2019**



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

## **SUBJECT INSPECTION**

Subject Inspections report on the quality of work in individual curriculum areas within a school. They affirm good practice and make recommendations, where appropriate, to aid the further development of the subject in the school.

### **HOW TO READ THIS REPORT**

During this inspection, the inspector evaluated learning and teaching in Science & Biology under the following headings:

1. Teaching, learning and assessment
2. Subject provision and whole-school support
3. Planning and preparation

Inspectors describe the quality of each of these areas using the Inspectorate's quality continuum which is shown on the final page of this report. The quality continuum provides examples of the language used by inspectors when evaluating and describing the quality of the school's provision in each area.

## **CHILD PROTECTION**

During the inspection visit, the following checks in relation to the school's child protection procedures were conducted:

1. The name of the DLP and the Child Safeguarding Statement are prominently displayed near the main entrance to the school.
2. The Child Safeguarding Statement has been ratified by the board and includes an annual review and a risk assessment.
3. All teachers visited reported that they have read the Child Safeguarding Statement and that they are aware of their responsibilities as mandated persons.

The school met the requirements in relation to each of the checks above.

## SUBJECT INSPECTION

### INSPECTION ACTIVITIES

<b>Dates of inspection</b>	15 & 16-05-2019
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal and key staff</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during six class periods</li><li>• Examination of students' work</li><li>• Feedback to principal and relevant staff</li></ul>

### School context

Meánscoil Iognáid Rís is a boys' post-primary school operating under the trusteeship of the Edmund Rice Schools Trust. The school serves the town of Naas and a wide rural hinterland. There are currently 1019 boys enrolled. The school provides the Junior Cycle, an optional Transition Year (TY), the Leaving Certificate and the Leaving Certificate Vocational Programme.

### SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

#### Findings

- The quality of teaching ranged from fair to very good in the lessons observed, the majority of lessons being good or very good, with examples of excellent teaching practice frequently evident; and students' learning was good or very good in the majority of lessons.
- Lessons were mostly well structured although, on a small few occasions, the sequence of lesson development was confusing.
- Teachers provided some good quality written feedback to students but this provision was uneven in some cases.
- The use of the colour-coded system to manage safe chemical storage has fallen into abeyance.
- Course delivery schedules have been diligently prepared, but are currently textbook based and apply to the full year.
- A high degree of reflection is apparent amongst the science team members, certificate examination outcomes and other data have been reviewed: it is now important to make use of the emerging information for planning purposes.

#### Recommendations

- Where necessary, more thought should be given to how students might be presented with a clear and coherent, incrementally developed lesson.
- The teachers of Science and Biology should adopt a more consistent approach to the provision of developmental feedback to students on their written work.
- The arrangements for storage of chemicals should be reviewed by teachers and the colour-coded system for segregation of certain chemicals should be reinstated.
- Course delivery schedules should be re-written in terms of learning outcomes, and common course schedules should be for the half year.

- Based on their analysis of available data, the science and biology departments should identify their strengths and areas for improvement, drawing up a target-based plan to achieve defined improvements.

## **DETAILED FINDINGS AND RECOMMENDATIONS**

### **1. TEACHING, LEARNING, AND ASSESSMENT**

- The quality of teaching ranged from fair to very good in the lessons observed, with the majority of lessons being good and very good. Examples of excellent teaching practice were frequently evident. Students displayed evidence of good and very good quality learning in the majority of lessons.
- Preparation for lessons was comprehensive in most instances. The required resources had been prepared in advance and were to hand. Teachers were fluent with the concepts and language of their topics. Continuity with earlier learning was mostly good and students' prior knowledge was sought and used to progress lessons.
- The best lessons were well structured, with a clear opening, developmental and closing phase. Learning outcomes were shared with students early in the lessons although, on occasion, more emphasis on these would have given clearer direction to the lesson. On a small few occasions, the sequence of lesson development was confusing and more thought should be given to how students might be presented with a clear and coherent, incrementally developed lesson.
- Teachers' presentations were mostly clear and concise, and teachers used appropriate, accurate topic-specific terminology. Information and communications technology (ICT) was well used to provide visual support and lessons were well illustrated.
- Teachers made use of a wide variety of teaching methodologies to capture and hold students' attention. Teaching strategies were appropriate to the focus of the learning and to students' needs. Active, student-centred approaches predominated and the use of strategies such as group and pair work were frequent.
- Classroom management was almost universally very good. Students engaged very well in the learning process and availed of opportunities to put their learning into practice.
- There was a very good rapport evident between teachers and students in almost all lessons which enabled the high levels of very productive interaction observed in these lessons. Students made many very useful contributions to these lessons and these contributions were affirmed and used by teachers to progress the lesson.
- Very high-quality questioning was observed in a number of lessons. A variety of questioning strategies were used, for example lower-order questions were used to test recall. Higher-order questions were used to tease out issues and to develop and assess students' understanding of topics; and very good opportunities were provided for students to engage with their teachers and their peers in a very challenging interactive environment.
- Practical work was observed in one lesson and this was carried out safely and efficiently. A plenary session was held in advance to ensure that all students fully understood what was expected of them, and again following the practical activity to rationalise the outcomes and consolidate the learning.

- Most ongoing assessment in the classrooms was achieved through questioning and though the very good level of teacher movement that was evident. Detailed support was provided as necessary to individual and small groups of students keeping them on track; and it was through this mechanism that most of the differentiation observed was achieved.
- Most teachers afforded a good level of attention to students' written work and especially to their laboratory notebooks, which were generally of a high standard. Teachers provided some good quality written feedback to students which is designed to promote improvement, but this needs to be done in a more consistent manner, to agreed standards, and applied to students' homework and notes copybooks, which ideally should be separate copybooks.

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

- Provision for the sciences is very good: science is a core subject for junior cycle and for TY students. All science subjects are available to senior Leaving Certificate students. Time allocation to the sciences is at or above syllabus requirements.
- The school's five laboratories are well used and well maintained. Appropriate health and safety equipment was observed in the laboratories visited. Students, for the most part, have weekly access to a laboratory
- The use of the colour-coded system to manage safe chemical storage has fallen somewhat into abeyance and it is recommended that storage of chemicals be reviewed and updated and the colour-coded system reinstated.
- Teachers provide very good support for a wide range of extra-curricular activities, broadening students' experience of the curriculum and supporting their learning. It is very positive that STEM-related activities are prominent along with activities to develop awareness of environment-related issues, for example beekeeping.
- Teachers, with the support of senior management, have availed of extensive and relevant continuous professional development opportunities, both in-house and externally.
- There are good systems in place for formal assessment of students and reporting on their progress.

## **3. PLANNING AND PREPARATION**

- There is a high level of collegiality and mutual support amongst the science-teaching team and good science and biology departments are in place.
- The departments are well organised, and the role of co-ordinator is rotated every year. It is suggested that the rotation period be extended to two or three years to improve continuity within the departments and give co-ordinators better leadership opportunities before handing over to a colleague.
- A high degree of reflection is apparent amongst the science team members, as evidenced by their work on reviewing past certificate examination outcomes, which have been very positive; and the work put into adopting teaching and learning strategies in keeping with new syllabus requirements and good practice.

- To solidify this work towards improvement, it is recommend that the course delivery schedules be re-written in terms of learning outcomes as described in the relevant subject specifications, rather than being textbook based, and associated with relevant teaching methodologies and assessment strategies. Common course schedules should be for the half year, rather than the full year, enabling common assessments at the end of the first term as well as at the year end.
- Based on their analysis of available data, the science and biology departments should identify their strengths and areas for improvement, drawing up a target-based plan to achieve defined improvements.

The draft findings and recommendations arising out of this evaluation were discussed with the principal, deputy principals and the 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.

## THE INSPECTORATE'S QUALITY CONTINUUM

Inspectors describe the quality of provision in the school using the Inspectorate's quality continuum which is shown below. The quality continuum provides examples of the language used by inspectors when evaluating and describing the quality of the school's provision of each area.

Level	Description	Example of descriptive terms
<b>Very Good</b>	<b>Very good</b> applies where the quality of the areas evaluated is of a very high standard. The very few areas for improvement that exist do not significantly impact on the overall quality of provision. For some schools in this category the quality of what is evaluated is <b>outstanding</b> and provides an example for other schools of exceptionally high standards of provision.	Very good; of a very high quality; very effective practice; highly commendable; very successful; few areas for improvement; notable; of a very high standard. Excellent; outstanding; exceptionally high standard, with very significant strengths; exemplary
<b>Good</b>	<b>Good</b> applies where the strengths in the areas evaluated clearly outweigh the areas in need of improvement. The areas requiring improvement impact on the quality of pupils' learning. The school needs to build on its strengths and take action to address the areas identified as requiring improvement in order to achieve a <i>very good</i> standard.	Good; good quality; valuable; effective practice; competent; useful; commendable; good standard; some areas for improvement
<b>Satisfactory</b>	<b>Satisfactory</b> applies where the quality of provision is adequate. The strengths in what is being evaluated just outweigh the shortcomings. While the shortcomings do not have a significant negative impact they constrain the quality of the learning experiences and should be addressed in order to achieve a better standard.	Satisfactory; adequate; appropriate provision although some possibilities for improvement exist; acceptable level of quality; improvement needed in some areas
<b>Fair</b>	<b>Fair</b> applies where, although there are some strengths in the areas evaluated, deficiencies or shortcomings that outweigh those strengths also exist. The school will have to address certain deficiencies without delay in order to ensure that provision is satisfactory or better.	Fair; evident weaknesses that are impacting on pupils' learning; less than satisfactory; experiencing difficulty; must improve in specified areas; action required to improve
<b>Weak</b>	<b>Weak</b> applies where there are serious deficiencies in the areas evaluated. Immediate and coordinated whole-school action is required to address the areas of concern. In some cases, the intervention of other agencies may be required to support improvements.	Weak; unsatisfactory; insufficient; ineffective; poor; requiring significant change, development or improvement; experiencing significant difficulties;

# **Appendix**

**SCHOOL RESPONSE TO THE REPORT**

**Submitted by the Board of Management**



## **Area 1 Observations on the content of the inspection report**

The Board of Management welcomes the report and has commended the teachers of Science/Biology on the hugely positive observations within the report. It welcomes especially the commendations in relation to the following:

- 1.The quality of teaching and learning was in the vast majority of cases very good and examples of excellent teaching practice were frequently evident.
- 2.There was very good rapport evident between teachers and pupils.
- 3.Very high quality questioning was observed in the majority of lessons
- 4.Classroom management was almost universally very good.
- 5.Provision for the Sciences are very good
- 6.Teachers with the support of senior management have availed of extensive and relevant continuous professional development opportunities both in-house and externally.
- 7.There is a high level of collegiality and mutual support amongst the science-teaching team and good science and biology departments are in place.

## **Area 2 Follow-up actions planned or undertaken since the completion of the inspection activity to implement the findings and recommendations of the inspection.**

The Board of Management has requested that the teachers of Science/Biology consider the recommendations as part of their subject planning. An action plan will be put in place to implement the following recommendations as set out in the report. Special attention will be given to the following:

1. A more consistent approach to the provision of developmental feedback to students on their written work.
2. Course delivery schedules will be re-written in terms of learning outcomes, and common course schedules will be for the half year.
3. Storage of chemicals will be reviewed by the subject department and a system for segregation of certain chemicals will be put in place.