

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

**Subject Inspection in Science & Biology**

**REPORT**

<b>School name</b>	Newtown School
<b>School address</b>	Newtown Road Waterford City Co. Waterford
<b>Roll number</b>	65010R

**Date of Inspection: 19-11-2019**



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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.

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.

## **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>	18 & 19 November 2019
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal, deputy principal and science teachers</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during seven lessons, including double periods</li><li>• Examination of students' work</li><li>• Feedback to principal, deputy principal and science teachers</li></ul>

### School context

Newtown School is a post-primary co-educational school in Waterford city providing education in the Quaker tradition. It provides the Junior Cycle programme, a compulsory Transition Year (TY) programme, the Leaving Certificate established and the Leaving Certificate Vocational Programme (LCVP). Currently, there are 408 students attending the school, some of whom are boarders.

### SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

#### Findings

- The quality of teaching, learning and assessment observed was good overall with elements of very good practice noted.
- Students demonstrated very high levels of interest and participation in learning, and they worked independently and collaboratively in a very purposeful and productive manner.
- Learner independence is promoted, and the very good formative feedback given to students on their work, including their experimental investigations reports, is greatly supporting students in taking responsibility for their own learning; the school could build on the strengths being achieved in learner independence even further.
- The subjects are well supported and provided for in the whole-school context, and plans are being advanced for building new school laboratories.
- Collaborative subject department planning has led to the preparation of detailed and well-informed subject plans that reflect curricular requirements and whole-school priorities, although there are some areas to consider to develop planning for skills even further.

#### Recommendations

- In order to extend learner independence even further, teachers should ensure that students have opportunities to make notes in their own words on the key learning during and after lessons, and build capacity for spontaneity in this regard.
- Collectively, and through the leadership of the subject coordinator, teachers should extend their common schemes of work by planning for how they will incrementally develop students' investigative and research skills, relative to the outcomes in the *Nature of Science* strand of the curriculum, including a set of associated possible practical investigations.

## DETAILED FINDINGS AND RECOMMENDATIONS

### 1. TEACHING, LEARNING, AND ASSESSMENT

- Lessons were well prepared. A good variety of student-centred and active methodologies was integrated into the learning experiences in the single and double lessons observed. Students were involved in directly or indirectly observing scientific phenomena or discussing scientific evidence, and this was interspersed with phases of instruction led by teachers. Good digital resources and materials for investigations and tasks supported learning, and worksheets provided a framework for productive engagement.
- In planning lessons, thoughtful consideration was given to how students would demonstrate their thinking and to differentiating classwork and homework so that learners were supported and challenged according to their ability. Teachers planned lessons for students to develop the key skills associated with the relevant curriculums as well as subject knowledge. These are all very good practices.
- Teachers created good opportunities for students to engage in and contribute to lessons. The sequencing of and progression in the learning activities and the encouragement for dialogue enabled students to articulate a good understanding of the scientific concepts.
- Learning was underpinned by high-quality relationships for learning and the respect which students showed towards each other and their teachers.
- Students demonstrated very high levels of motivation for learning and this was apparent in their productivity when working independently and collaboratively. They arrived promptly for classes and settled quickly into learning. Their readiness to actively participate in lessons was noteworthy, and this was particularly evident in their engagement with homework and their preparedness to respond to questions on what was revised since the last lesson.
- At times, it was observed that good learning could have been captured in writing by students at the point of learning, before moving on with the lesson. For instance, sometimes students would not get to consolidate what they had just learned into written sentences until homework or they were given notes to copy. It is recommended that teachers purposefully include opportunities for students to spontaneously make a note of the key points, using their own words, and that this becomes embedded in learners' practice.
- It is also suggested that where lesson notes are available digitally after lessons, teachers ensure that students are directed, according to ability, toward active note making so as to reduce the possibility for any unintentional reliance on teachers' notes. This would extend learner independence even further.
- Teachers gave regular written assignments and revision homework that were designed to extend and support learning. It is very good that regular formative feedback was given to students on their written assignments, including experiment reports. It is school policy to give feedback comments about: *'What's working well'* and *'Even better if'*. Through a balance of this and in-class assessment, students were successfully guided by their teachers to understand their strengths and where they needed to develop their responses or to make improvements to their written work. This is very good practice.
- Students demonstrated a good sense of responsibility for their own work. They took note of and completed work to a good standard, and worked productively with teachers in correcting the work. Learner independence was also promoted in the careful guidance given to students to think about their own verbal and written contributions. In some instances, students were able to indicate where they had taken steps to improve their written work based on feedback. To extend this good practice, teachers could, at times, be more explicit in their expectations of follow-on action to be taken by students after corrections are given.

## 2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Subject provision and whole school support for science subjects is good. In leading teaching and learning, senior management expects and encourages teachers to use the agreed whole-school practices that have proven successful in improving students' learning. Through school self-evaluation (SSE), focus has been placed on integrating priorities for formative assessment, differentiation, numeracy and literacy into classroom practices. The subject department has engaged actively with this process. There are records of discussions on the implementation of SSE in the minutes of the subject department meetings together with criteria for success.
- Opportunities for continuing professional development (CPD) are availed of by science teachers, including workshops in the implementation of the new Junior Cycle curriculum. Recent whole-school CPD has focused on developing differentiation, formative assessment and teaching students with additional educational needs. These are supporting teachers in responding to changes in education and the evolving needs of students.
- The sciences are very well provided for in the school's curriculum. Students have very good access to the subjects as Science is a core subject for certification in the Junior Cycle programme, the sciences feature in the TY programme and all four senior cycle science subjects, including Biology, are available to students as options for Leaving Certificate. The timetable allocation to the subjects is very good.
- There are three laboratories. The facilities and learning environment in two of these are good, but the opportunities for student practical work in one laboratory is very limited. Laboratory access is rotated and this is managed informally among teachers; this could perhaps be formalised. Plans are being advanced for a new school building and science laboratories are planned in the new building. Laboratory resources for student practical work are managed well.
- The laboratories are fitted with modern digital resources for teaching. They are also resourced with scientific models and displays, including biological specimens. Some teachers have developed a library of interesting science texts for reading and research. These deepen the learning of scientific concepts and provide purposeful challenges for the able learner.

## 3. PLANNING AND PREPARATION

- Structures are in place to support subject department planning and review, and to support the whole-school SSE process in parallel subject planning.
- Collaborative subject department planning has led to the preparation of detailed and well-informed subject plans and schemes of work that reflect curricular requirements and whole-school priorities. It is very good practice that an agreed 'general assessment schedule' for the science subjects has been developed.
- Individual lesson planning is in line with the subject plan and schemes.
- There are, however, some areas to consider to develop collaborative planning for Junior Cycle Science even further so as to achieve agreed practices with class groups with regard to student practical work for the learning of scientific skills. This learning experience is provided for in the common schemes of work, but could be more explicit. For example, the range of experimental investigations completed and reported on by some class groups was more extensive than others. Planning specifically for the *Nature of Science* strand of the curriculum would support teachers in implementing a more uniform set of experiences in practical work.
- It is therefore recommended that collectively, and through the leadership of the subject coordinator, teachers extend their common schemes of work by planning how they will incrementally develop students' investigative and research skills' outcomes in the *Nature of*

*Science* strand of the curriculum, including a set of associated practical investigations. It is also suggested that biology teachers integrate planning for skills as well as concepts in the plan for TY Biology.

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.

# **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 this report which reflects the positive work being done in the classrooms and in class planning. The Board would like to acknowledge the good work and engagement of staff, students and senior management with the SSE program in the school to progress teaching and learning.

### **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 will take on board the recommendations contained in this report as a guide for further future improvement. The school will use this report to inform future planning in the Science department and across all the departments in the school.

## 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 of quality 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;