



An Roinn Oideachais  
Department of Education

# Subject Inspection: Science Report

## REPORT

Ainm na scoile/School name	Cnoc Mhuire
Seoladh na scoile/School address	Granard Co. Longford
Uimhir rolla/Roll number	63730S
Dáta na cigireachta/ Date of evaluation	22-03-2023
Dáta eisiúna na tuairisce/ Date of issue of report	14/06/2023

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## What is a 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 under the following headings:

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

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.

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.

## Actions of the school to safeguard children and prevent and tackle bullying

During the inspection visit, the following checks in relation to the school's child protection and anti-bullying procedures were conducted:	
<i>Child Protection</i>	<i>Anti-bullying</i>
<ol style="list-style-type: none"><li>1. The name of the DLP and the Child Safeguarding Statement are prominently displayed near the main entrance to the school.</li><li>2. The Child Safeguarding Statement has been ratified by the board and includes an annual review and a risk assessment.</li><li>3. All teachers visited reported that they have read the Child Safeguarding Statement and that they are aware of their responsibilities as mandated persons.</li></ol>	<ol style="list-style-type: none"><li>1. The school has developed an anti-bullying policy that meets the requirements of the <i>Anti-Bullying Procedures for Primary and Post-Primary Schools (2013)</i> and this policy is reviewed annually.</li><li>2. The board of management minutes record that the principal provides a report to the board at least once a term on the overall number of bullying cases reported (by means of the bullying recording template provided in the <i>Procedures</i>) since the previous report to the board.</li><li>3. The school's anti-bullying policy is published on its website and/or is readily accessible to board of management members, teachers, parents and pupils/students.</li></ol>

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

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# Subject inspection

<b>Date of inspection</b>	21-03-2023 and 22-03-2023
<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, including focus group</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during three lessons</li><li>• Examination of students' work</li><li>• Feedback to principal and relevant staff</li></ul>

The focus of this subject inspection was on Junior Cycle Science only.

## School context

Cnoc Mhuire is a voluntary, co-educational secondary school that operates under the trusteeship of Catholic Education an Irish School's Trust (CEIST), with a current enrolment of 502. The school provides the Junior Cycle, an optional Transition Year (TY), the established Leaving Certificate and the Leaving Certificate Vocational Programme.

## Summary of main findings and recommendations:

### Findings

- Teaching and learning in Science was good. Individual lessons ranged from satisfactory to good. It was evident during lessons that students were acquiring a body of scientific knowledge.
- Assessment practices were satisfactory with an emphasis placed upon oral questioning: open and closed questions were regularly used to stimulate thinking and to gauge prior knowledge.
- Student agency is in its early stages of development. In a few lessons teachers facilitated collaborative laboratory work where students had the autonomy to design some aspects of the investigation method.
- Subject provision and whole school support for Science was good. All students had the opportunity to study Science and time given to the subject was in line with requirements.
- Planning and preparation for Science was satisfactory.

### Recommendations

- As the majority of lessons tended to be somewhat teacher led, teachers should ensure students are more active participants in their learning and further develop their scientific investigation skills.
- There were no examples of assessment for learning (AfL) strategies used during lessons. All teachers should ensure they regularly check for whole-class achievement of the intended learning and provide students with individualised strategies for improvement.
- Science students were assessed frequently each year. Senior management should refer to Circular 59/2021 and analyse the cumulative burden of multiple assessments and their impact on the time available for teaching and learning.
- There was no risk-based assessments of facilities. Senior management should ensure that teachers complete the Health and Safety Authority (HSA) room risk analysis annually.
- The quality of planning for junior cycle Science constrained the learning experiences in lessons. Teachers should conduct a review of planning.

## Detailed findings and recommendations

# 1. Teaching, learning and assessment

- Teaching and learning in Science was good. Individual practice ranged from satisfactory to good. There were positive interactions and good rapport between students and teachers.
- The majority of teachers provided a clear sense of the intended learning for a lesson or series of lessons. Some consideration of students' needs and abilities was evident, for example when a differentiated task was set during a lesson. Most teachers effectively used videos, songs and models to engage learners. In one example, these multi modal approaches were enhanced with the provision of a teacher-designed worksheet to focus learners' attention and to maximise engagement.
- Assessment and feedback practices were identified as areas for improvement. All teachers used open and closed questions to stimulate thinking and to gauge prior knowledge while students shared answers confidently and asked questions. There was no evidence of the use of AfL strategies during lessons observed or teacher oversight or formative feedback on student work evident in the copybooks reviewed during the inspection. All teachers should ensure they regularly check for whole-class achievement of the intended learning and provide students with individualised strategies for improvement.
- In less than half of the lessons observed, teachers empowered students to independently complete tasks aided by effective use of success criteria. Students benefited when success criteria were provided as the teachers' expectations were clear and concise, and this provided a scaffold and a focus, as well as a checklist for students to recognise achievement. The potential of this approach to enable teachers to gather evidence of learning, to adapt teaching and to make judgements about the quality of student learning was not fully realised.
- It was evident during the lessons that students were acquiring scientific knowledge although there was scope for teachers to support students to develop skills and understanding of concepts, and to apply these in their learning. Lessons tended to be somewhat teacher led and there was a need to balance teacher input and student participation and ensure students are more active participants in their own development. All teachers should facilitate experiential learning through the provision of concrete experiences prior to the introduction of abstract concepts.
- In a significant minority of lessons, students worked collaboratively to complete laboratory work and they had some input into the design of the investigation which was effective practice. Where this approach was evident, students worked efficiently and effectively while the teacher ensured safety was to the fore. Students were guided to assume roles during the investigative work which was beneficial. Students were effectively facilitated by the teacher to discuss the experimental design, improvements that could be made and they developed their ability to present their data in graph form. Conversely, on another occasion, students observed a demonstration of an investigation which was less than satisfactory. All teachers should identify and use approaches that support students to develop scientific investigation skills and move from guided to open inquiry.
- A review of copybooks indicated that some students had a good ability to record their laboratory reports. All teachers should support students to develop their capacity to report on and present their laboratory findings in an environment that facilitates student autonomy.
- During discussion with students, they described their classroom based assessments (CBAs) with a sense of pride and enjoyment. Students reported that they would welcome the opportunity to do more experiments in the laboratory. Students found classwork can be a little rushed at times and would benefit from a variation in the pace and a more widespread access to resources on their online platform. Students recognised the benefits of digital technology in lessons and would welcome an increased use of technology that benefits their learning and enhances understanding.

## 2. Subject provision and whole school support

- Subject provision and whole school support for Science was good. All students studied Science and time given to the subject was in line with requirements. There were appropriately qualified teachers deployed across all classes.
- There were two laboratories, with interesting displays and student work on show. Senior management supported the department to obtain the necessary resources to teach the specification. Access to the laboratory was not equal across all classes. Senior management and teachers should ensure all learners have regular opportunities to carry out investigations in the laboratory.
- Senior management effectively shared information about students' educational needs with teachers. They also scheduled opportunities for subject planning at the start of the year. While senior management provided teachers with time to engage in continuing professional development (CPD), greater consistency of engagement across the department with CPD is required to support the development of teaching, learning and assessment in Science.
- Senior management encouraged a focus on teaching and learning during whole-school meetings and time was regularly given at staff meetings for in-house sharing of expertise which is very good practice.
- Science students were assessed using summative written assessments twice a year, engaged in continuous assessment and CBAs. Senior management should lead a review, informed by Circular 59/2021, to analyse the cumulative burden of multiple assessments and their impact on the time available for teaching and learning.
- There were no risk-based assessments of facilities. Senior management should ensure that teachers complete the HSA room-risk analysis annually. Additionally, chemicals were organised and colour coded but no specialised cabinets were used; flammable and corrosive cabinets should be obtained and used without delay.

## 3. Planning and preparation

- Planning and preparation for Science was satisfactory.
- Individual lessons were well prepared. The subject teachers worked collaboratively, cooperatively and shared roles and responsibilities. The co-ordinator role rotated among some members of the subject team in the past which builds capacity and is good practice.
- Minutes were available from formal meetings held this year. These contained a record of organisational matters discussed. Science teachers should add teaching, learning and assessment to the agenda of all formal meetings in order to disseminate good practice.
- The quality of planning for junior cycle Science constrained the learning experiences in lessons. To improve the planning for Science, the teachers should conduct a review. The revised plans should include units of learning that describe effective learner experiences and specific assessments. The detail in these units should support the achievement of the selected learning outcomes with due regard to the identified action verbs. Each unit should also include explicit links to the "Nature of Science" learning outcomes.

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 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
Very Good	<i>Very good</i> 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 <i>outstanding</i> 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
Good	<i>Good</i> 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
Satisfactory	<i>Satisfactory</i> 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
Fair	<i>Fair</i> 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
Weak	<i>Weak</i> 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**

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

- A plan to implement fair/equal access to the Science laboratories has been developed and is in place i.e. roster
- First year Science students have completed multi-modal approaches for “Earth and Space”
- Risk assessment of facilities to be conducted in the autumn on school reopening.