



An Roinn Oideachais
Department of Education

Subject Inspection: Science & Biology Report

REPORT

Ainm na scoile/School name	Firhouse Community College
Seoladh na scoile/School address	Firhouse Road Dublin 24
Uimhir rolla/Roll number	70140L
Dáta na cigireachta/ Date of evaluation	05/03/2024
Dáta eisiúna na tuairisce/Date of issue of report	12/06/2024

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 & Biology 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>
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.	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> or <i>Bí Cineálta (2024)</i> and this policy is reviewed annually. 2. The school’s current anti-bullying policy is published on its website and/or is readily accessible to board of management members, teachers, parents and students.

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

Subject inspection

Date of inspection	04/03/2024 and 05/03/2024
Inspection activities undertaken • Review of relevant documents • Discussion with principal and key staff • Interaction with students, including focus group	• Observation of teaching and learning during five lessons • Examination of students' work • Feedback to principal and relevant staff

School context

Firhouse Community College is a co-educational secondary school under the patronage of Dublin and Dun Laoghaire Education and Training Board. The school has a current enrolment of 797 students. The school offers the Junior Cycle, Junior Certificate School Programme (JCSP), a compulsory Transition Year (TY), the Leaving Certificate (Established) (LCE), the Leaving Certificate Applied (LCA) and the Leaving Certificate Vocational Programme (LCVP).

Summary of main findings and recommendations:

Findings

- The quality of teaching and learning was good overall. Features of very good practice were noted in over half the lessons.
- Teachers created welcoming and productive classroom environments and facilitated purposeful learning activities. Students demonstrated good knowledge, motivation and made good progress as learners.
- Aspects of the support for students with special educational needs (SEN) were highly effective.
- The quality of provision and whole school support for Science and Biology was good.
- The time given to the subjects met requirements and there was very good access to the laboratories for lessons.
- Planning and preparation was good overall. Good collaborative practice was observed.

Recommendations

- Features of in-class assessment required improvement. Teachers should assess all students during lessons and provide formative feedback on their work.
- Teachers should provide further opportunities for independent learning. Students had not cultivated the ability to autonomously investigate in science. Teachers should facilitate students to gradually build the necessary skills of scientific inquiry over the three years of junior cycle.
- A recent health and safety risk analysis for the laboratories had not been completed. Senior management should expedite the completion of these, and they should be carried out annually going forward.
- As the science classroom-based assessment (CBA) was carried out in addition to the house exams last year. Senior management should lead a review of the assessment arrangements and should focus on the need to promote the importance of the CBA process.
- Science teachers should plan units of learning that link learning outcomes from across the specification, including the 'Nature of Science' strand. The units also require clarity around the intended learning and the related assessments.

Detailed findings and recommendations

1. Teaching, learning and assessment

- The quality of teaching and learning was good. Aspects of very good practice were noted in over half of the lessons.
- Interactions between students and their teachers were very respectful. Students were comfortable answering questions, even when they were unsure, and teachers provided supportive responses.
- All teachers engaged students in focused activities and students understood the purpose of their tasks. Students demonstrated good knowledge, motivation and made good progress. Effective practice was observed when the teacher facilitated the students to actively learn about a topic; for instance, by watching a well-chosen video along with anchor questions.
- Highly effective learner experiences were evident when senior biology students had an opportunity to dissect flowers in order to identify the parts of a flower and discuss their functions. Students also used different types of microscopes to explore the anatomy of the flower further and to observe pollen grains. This reinforced microscopy skills they had previously learned and provided students with experiential learning opportunities.
- Students undertook practical work efficiently and safely. Personal protective equipment was used. Students displayed a positive attitude to lab safety and used equipment appropriately.
- Learning intentions were well phrased and shared with students at the outset of all lessons. Where best practice was observed, assessment for learning (AfL) strategies were used to assess the students' progress. In most lessons, teachers referred back to the learning intentions without assessing students and this was less effective. The use of AfL strategies should be extended across the science department to gauge student progress and support their learning.
- Oral questioning was the dominant form of assessment observed. This usually generated individual student responses and there was a need to gather more answers to accurately measure student understanding. Copybooks contained limited formative feedback. Success criteria were used in almost all lessons to guide students in understanding teachers' expectations. To enhance assessment practices, teachers should use the success criteria to provide formative, student-centred feedback on the quality of students' work.
- Students' ability to investigate independently in Science and to carry out two-sided scientific research had not been sufficiently cultivated. Teachers should provide opportunities for students to develop investigation and research skills over time during science lessons.
- Laboratory reports in Biology were not always fully completed to a high standard. In some instances, students maintained their laboratory records in multiple copies and in a few instances, reports were missing. The biology teachers should agree on a common approach to maintaining laboratory reports.
- Teachers had good knowledge of the special education needs among their students. In over half of the lessons observed, teachers had used the students' targets, set by the SEN department and had contextualised them for students in their lessons. Teachers differentiated their lessons effectively through providing one-to-one support, strategic seating, pairing of students and by supporting students to work at their own pace. The team-teaching observed met the needs of identified students which was highly supportive.
- The students in the focus group were very positive about the subjects. They commented on the friendly and welcoming atmosphere, and that the subjects were enjoyable and interactive. They reported that they are frequently in the laboratory, often do experiments and engage in effective group work.

2. Subject provision and whole school support

- The quality of provision and whole school support for Science and Biology was good.
- Science was a core subject for junior cycle and TY students. There was very good access to and uptake of Biology at Leaving Certificate level. The school provided very

good information on optional subjects by way of a subject fair, teacher presentations and information from the guidance department.

- Senior management supported professional development for teachers. Sharing of expertise was common at staff meetings and during 'teach-meets'. Senior management also provided useful prompt questions for discussion at subject department meetings and during state exam result analysis.
- The science classroom-based assessment (CBA) had substituted for one in-house exam in the past, but it was carried out in addition to the house exams last year. There is a need to reduce the focus on terminal assessments and to raise the prominence of the CBA process. Senior management should examine the assessment policies and should plan for the replacement of in-house examinations with the CBA, in-line with circular 0028/2023.
- There was an extensive list of very worthy extra-curricular and cross-curricular events to promote uptake of science subjects, inspired by the national "STEM Education Policy Statement 2017-2026".
- At the time of the evaluation, some of the materials needed for students to engage in practical work was limited in availability. Science teachers should conduct an audit of resources and existing laboratory equipment and further resources required. Senior management and teachers should effectively collaborate to ensure there is adequate resource provision.
- Health and safety laboratory risk analysis had not been completed recently. The completion of these should be expedited and carried out annually going forward.
- The chemical storage should be updated without delay, in-line with the code of practice, "Safety in School Science". The department should consider colour coding the chemicals and then storing them in alphabetical order to facilitate retrieval.

3. Planning and preparation

- The quality of planning and preparation was good overall.
- Individual lessons were well planned and prepared.
- Teachers collaborated effectively using their online platform. The department met a number of times per year formally and minutes were kept. A number of science teachers had also arranged to meet on a fortnightly basis which was an effective use of their professional time. The science teachers should record decisions from their informal meetings in their plans.
- The science teachers engaged in action planning for improvement which is good practice. To enhance this, teachers should identify specific and measurable targets and actions that are reviewed after a period of implementation.
- The team-teachers met once a week to plan for their lesson. They identified the specific needs of their students and ways to support them which was highly effective. The plan was actioned during the team-teaching lesson observed. Commendably, the teachers involved in team-teaching met a number of times over the course of the year to review their progress and records of decisions were kept.
- The Leaving Certificate Biology plan required the addition of active learning methodologies and a focus on assessment. The plan for Biology in TY should be reviewed to ensure it builds on the content and skills from Junior Cycle Science without covering material in Leaving Certificate Biology.
- While extensive work had been done on the planning for Junior Cycle Science, improvements were needed to achieve a good standard. Science teachers need to enhance their units of learning by integrating learning outcomes from across the strands, including the 'Nature of Science' strand. The relevant action verb should be used to inform the intended learning and related assessments. It would also be highly beneficial to expand the list of learning experiences that teachers can select from.

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



An Roinn Oideachais
Department of Education

A summary report for the students of Firhouse Community College about their learning in Science and Biology

05/03/2024

What kind of inspection did your school have?



Recently, an inspector called to your school to carry out a subject inspection. The inspector visited some classes and had a talk with the principal and teachers. They also met with a focus group of students who study Science and Biology. The inspector wanted to hear what the focus group of students had to say about their learning experience in that subject.

What were the main findings of the inspection?



The inspector saw many things during the inspection. The main findings were:

- Lessons were welcoming and productive. Students were motivated to learn.
- Students with special educational needs were well supported.
- Teachers worked well together to plan for Science and Biology.

What did the inspector recommend to make teaching and learning better in Science and Biology?



- Teachers should provide more feedback to students on their progress.
- Students need more practice designing experiments in Science.
- The management should ensure a health and safety risk analysis is carried out.
- A review of the assessment arrangements should be carried out.

Thank you for taking the time to read this report.
A special thank you to the students who participated in the focus group.

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	Examples of descriptive terms
Excellent	Provision that is excellent is exemplary in meeting the needs of learners. This provision provides an example for other schools and settings of exceptionally high standards of provision.	Excellent; exemplary; outstanding; exceptionally high standard; with very significant strengths
Very good	Provision that is very good is very effective in meeting the needs of learners and is of a very high standard. There is potential to build on existing strengths to achieve an excellent standard.	Very good; of a very high quality; very effective practice; highly commendable; very successful
Good	Provision that is good is effective in meeting the needs of learners. There is need to build on existing strengths in order to address the aspects to be developed and achieve a very good standard.	Good; of good quality; effective practice; competent; useful; commendable; good standard; strengths outweigh the shortcomings; appropriate provision although some possibilities for improvement exist
Requires improvement to achieve a good standard	Provision that requires improvement to achieve a good standard is not sufficiently effective in meeting the needs of learners. There is need to address certain deficiencies without delay in order to ensure that provision is good or better.	Fair; less than effective; less than sufficient; evident weaknesses that are impacting on learning; experiencing difficulty; shortcomings outweigh strengths; must improve in specified areas; action required to improve
Requires significant improvement to achieve a good standard	Provision that requires significant improvement to achieve a good standard is not meeting the needs of learners. There is immediate need for significant action to address the areas of concern.	Weak; poor; ineffective; insufficient; unacceptable; experiencing significant difficulties; serious deficiencies in the areas evaluated; requiring significant change, development and improvement to be effective

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 of Firhouse Community College welcomes the Science and Biology Subject Inspection report.

It acknowledges the positive findings of the report, in particular, the highly effective support for students with SEN, the highly supportive and commendable team teaching in place to meet the needs of identified students, the highly effective learner experiences evident in the senior Biology lesson, the effective practice of teachers facilitating the students to actively learn about a topic, students positive attitude to lab safety and the effective collaboration within the Science department including the effective use of their professional time.

The Science department were happy to see the extensive list of very worthy extra-curricular and cross-curricular events to promote uptake of Science subjects noted in the report and will continue to put the best interests of students at the heart of all the work they do.

In addition, the Board note the very respectful interactions between students and teachers in supporting a cooperative learning environment in lessons where students were motivated to engage.

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 along with the senior management team will support the Science department in implementing the recommendations.

Every effort will be made to provide formative feedback to our students. Strategies already in place to address this include the use of rubrics and also the use of stickers with criteria for success so that students and teacher can track their progress.

The Science Department are engaging in reflective practices by modifying their Units of Learning to include an extensive list of learning experiences that teachers can choose from.