

An Roinn Oideachais agus Scileanna
Department of Education and Skills

Subject Inspection in Science & Chemistry

REPORT

Ainm na scoile / School name	Coláiste Choilm
Seoladh na scoile / School address	Dublin Road Swords County Dublin
Uimhir rolla / Roll number	603831

Date of Inspection: 16-01-2018



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 & Chemistry 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 was given an opportunity to comment in writing on the findings and recommendations of the report; a response was not received from the board.

SUBJECT INSPECTION

INSPECTION ACTIVITIES

Date(s) of inspection	15 & 16 January 2018
Inspection activities undertaken <ul style="list-style-type: none">• Review of relevant documents• Discussion with principal and key staff• Interaction with students	<ul style="list-style-type: none">• Observation of teaching and learning during seven class periods• Examination of students' work• Feedback to principal and relevant staff

School context

Coláiste Choilm, Christian Brothers School, under the trusteeship of the Edmund Rice Schools Trust, is an all-boys voluntary secondary school catering for 553 students. The school offers the Junior Certificate, an optional Transition Year (TY) and the Leaving Certificate programmes.

SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

Findings

- The overall quality of teaching, learning and assessment was good; all lessons had a clear theme or focus.
- Lessons were conducted in a respectful atmosphere and a good rapport was evident between students and teachers.
- While some very good use was made of active learning strategies, students were overly passive on occasion during lessons.
- Subject provision and whole-school support for science subjects is good; science teaching is supported by the provision of three well-equipped laboratories and good ICT facilities.
- Planning and preparation are of a good standard; the work of the subject department is very well coordinated and organised.
- At present, the schemes of work for Science are based mainly on lists of topics to be covered.

Recommendations

- Students should be given more opportunities for active learning in science lessons.
- A more comprehensive programme of work, which provides guidance on the teaching strategies, resources and assessment strategies which will support the implementation of the new specification for Junior Science, should be developed by the science department.

DETAILED FINDINGS AND RECOMMENDATIONS

1. TEACHING, LEARNING, AND ASSESSMENT

- The overall quality of teaching, learning and assessment was good.
- All lessons had a clear theme or focus. In some cases, the learning intentions were specifically noted at the start of lessons. Very good use was made of a brief review or test of previous content at the start of most lessons to set up the introduction of new material.
- Students cooperated very well with their teachers. Lessons were conducted in a respectful atmosphere and a good rapport was evident between students and teachers. Good classroom routines, such as roll call and seating plans, have been established.
- Lesson content was communicated clearly. Good use was made of information and communication technology (ICT) to present and illustrate lesson content. In one case, ICT was used more interactively as part of a class quiz; an increased level of student engagement was very evident when ICT was used in this more active way. A similar level of engagement was evident during some lessons when mini-whiteboards were used to assess students.
- Students' progress was mainly assessed through teacher observation and verbal questioning during lessons. Question-and-answer discussions of lesson content worked best when students were required to provide extended answers. In many cases, students were required only to give brief answers, and teachers tended to intervene quickly to provide more information or clarifications. Students' learning would be further enhanced by requiring, and allowing, them to say more in response to questions.
- Some class groups benefited from very good use of formative assessment of their written work. In some instances, constructive comments showed students what they needed to do to improve. In other cases, written work was simply monitored for completion. The assessment of written work using formative feedback should be used with all class groups. Students' skills of recording and reporting on their practical activities could be enhanced by greater use of peer or self-assessment strategies based on agreed success criteria.
- Practical student activities and teacher demonstrations were effectively used to support student learning in some lessons.
- In some lessons, or parts of lessons, very good use was made of active learning strategies which required students to think for themselves and engage with lesson content at a deeper level. For example, hands-on activities provided an opportunity for active learning where students had to record data and draw conclusions by themselves. At other times, students played a more passive role and were not sufficiently challenged. It is recommended that students be given more opportunities for active learning.
- In all lessons, homework was assigned to reinforce lesson material. In addition, during lessons, good use was made of worksheets to reinforce learning. In senior-cycle lessons, there was judicious use of past examination papers to prepare students for the certificate examinations.
- Students' awareness of the relevance of Science was supported by the use of many examples from everyday life. For example, in several lessons, general health or environmental issues were discussed as part of the scientific content being taught. Students' understanding of scientific language was supported by careful explanation of various specialist terms and phrases.

2. SUBJECT PROVISION AND WHOLE SCHOOL SUPPORT

- Subject provision and whole-school support for science subjects are good. Science is a core subject in junior cycle and three optional science subjects are provided in senior cycle. In addition, the school is supportive of students' participation in extra-curricular science events such as Science Week and SciFest.
- Science teaching is supported by the provision of three well-equipped laboratories and an adjacent demonstration room. Good ICT facilities, including internet access and data projectors, are available in all rooms. It is good practice that an annual budget is provided for the on-going replacement and renewal of laboratory resources.
- Overall timetabling of science subjects is within syllabus and specification guidelines. However, the time allocation given for Science in the current first year has been reduced. Management and the science department should continue to review the effect such a reduction may have on the implementation of the new Science specification.
- A health and safety statement is in place and all laboratories are equipped with relevant safety equipment. Procedures for dealing with accidents have been agreed.
- Teachers' professional development is supported by relevant in-service training. All teachers have engaged in whole-school upskilling on the new Junior Cycle Framework and specific training for the science teachers will be held shortly. As training is accessed, the subject department will be better equipped to plan for the implementation of the new Science specification.

3. PLANNING AND PREPARATION

- Planning and preparation are of a good standard. Good preparation for individual lessons was evident in the use of electronic presentations and various written resources such as worksheets and illustrations.
- The work of the subject department is very well coordinated and organised. A very good record of formal planning is maintained and senior management is kept well informed of issues as they arise. Laboratory resources are very well organised and teaching resources are shared electronically.
- It is commendable that formal planning is supplemented by ongoing informal liaison between the science teachers. For example, they have arranged to meet weekly at a time suitable to most teachers' timetables. The science teachers also arrange a rota for laboratory access amongst themselves and work closely to make the most effective use of laboratory resources.
- It is good practice that student attainment in certificate examinations is reviewed at both subject department and senior management level. Action planning for improvement is evident in the changes to the way examination coursework is organised. The uptake of higher-level science subjects is good and the grade profile achieved in the Junior Certificate has shown positive trends.
- Agreed schemes of work for each year group are used to ensure that students who study Science can have common end-of-year examinations. At present, the schemes of work are mainly based on lists of topics to be covered. A more comprehensive programme of work, which provides guidance on the teaching strategies, resources and assessment strategies

which will support the implementation of the new specification for Junior Science, should be developed by the science department.

4. CHILD PROTECTION

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

1. The school principal is aware that revised child protection procedures for primary and post-primary schools came into effect on 11 December 2017 and arrangements are in place to begin the process of implementing these procedures.
2. The name of the designated liaison person for child protection matters was prominently displayed near the main door of the school.
3. The school has a child protection policy in place.
4. All teachers are aware that they are mandated persons and of their responsibilities in that regard.

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

The draft findings and recommendations arising out of this evaluation were discussed with the 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 of quality the school's provision of each area.

Level	Description	Example of descriptive terms
Very Good	Very good 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 outstanding 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	Good 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	Satisfactory 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	Fair 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	Weak 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;