

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

**Subject Inspection in Science**

**REPORT**

<b>Ainm na scoile / School name</b>	Greenhills College
<b>Seoladh na scoile / School address</b>	Limekiln Avenue Greenhills Dublin 12
<b>Uimhir rolla / Roll number</b>	70130I

**Date of Inspection: 03-05-2019**



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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 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.

## **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>Date of inspection</b>	03-05-2019
<b>Inspection activities undertaken</b> <ul style="list-style-type: none"><li>• Review of relevant documents</li><li>• Discussion with principal, deputy principal and key staff</li><li>• Interaction with students</li></ul>	<ul style="list-style-type: none"><li>• Observation of teaching and learning during two double class periods</li><li>• Examination of students' work</li><li>• Feedback to principal, deputy principal and relevant staff</li></ul>

### School context

Greenhills College is a boys' post-primary school with 165 students in the patronage of Dublin and Dun Laoghaire Education and Training Board, participating in the Delivering Equality of Opportunity in Schools (DEIS) action plan for inclusion. It provides the Junior Cycle programme, Junior Certificate School Programme (JCSP), Leaving Certificate Vocational Programme and Leaving Certificate Applied.

### SUMMARY OF MAIN FINDINGS AND RECOMMENDATIONS:

#### Findings

- The overall quality of teaching in the lessons observed was very good; the teaching approaches facilitated productive task-based and collaborative learning.
- The quality of learning was generally very good, students engaged very well in their lessons and they were interested in Science.
- While good work was undertaken in lessons to develop students' vocabulary in Science, opportunities exist for the further development of students' skills in communicating their understanding, both oral and written contexts.
- The quality of assessment was satisfactory; while in-class assessment to inform teaching and to support learning was generally good, possibilities exist to further develop the assessment of students' written work.
- The quality of whole-school support and subject provision for Science is generally very good, but the layout of the school laboratories and the preparation room is inadequate.
- Subject planning is good overall and teachers share practice in implementing the new science specification; some development is necessary in the scheme-of-work for Science.

#### Recommendations

- To further foster subject-specific oracy and writing, teachers should provide extended and explicit opportunities for students' voice and writing during daily lessons, ensuring all in the class group express their understanding of concepts through the use of sentences.
- Teachers should extend their practice in the formative assessment of students' longer pieces of writing, including experiment reports and research investigations.
- School management and science teachers should oversee the reorganisation of the preparation room and the storage of resources for practical work and seek the upgrading of the laboratories.
- Working collaboratively, teachers should develop the scheme-of-work for Science by integrating the Junior Cycle key skills and the learning outcomes in the Nature of Science strand so that these skills can be developed incrementally in each year.

## DETAILED FINDINGS AND RECOMMENDATIONS

### 1. TEACHING, LEARNING, AND ASSESSMENT

- The overall quality of teaching and learning observed was very good; teaching and learning supported students' attainment of the knowledge and skills required by the science curriculum and the key skills of the Junior Cycle programme. Teachers were very well prepared for all lessons and a high standard of lesson design and delivery was evident.
- The lessons were very well structured with sequential teacher instruction, appropriate tasks and assessment phases. The tasks set required co-operative and active learning, and students engaged productively in these and with teacher questioning. Teacher's enthusiasm for Science and the high levels of interest that students displayed in the topics and the tasks provided further motivation for engagement.
- Students demonstrated good classroom routines and readiness for learning such as, listening, working together, taking note of their homework and respectful interaction. In setting tasks, teachers were very clear in their expectations. The students received ongoing affirmation for their contributions, the quality of their work and their classroom behaviours.
- Teachers' instruction was very well supported by well-selected digital resources, including simulations, imagery and videos, which enhanced understanding of the topic and of the concept of cause and effect and the relationships between variables. Suitable worksheets enabled students to relate the learning to solving problems in new contexts.
- Pair work and laboratory investigations were well managed by teachers. The work was relevant and effective in developing students understanding of the concepts. The groupings were inclusive and supported individual learning. Students clearly understood their roles and the purpose of the task. Best practice was observed when students were prompted to think about the relevance of the task and this deepened the learning.
- During tasks, students of all abilities experienced good levels of support. Ways of further challenging the more able student ought to be applied, where appropriate.
- Students' verbal engagement in lessons was supported by the teacher's good modelling of how to use new science-specific words in context. This good practice merits extension. The worksheets, tasks set and teacher questioning provided students with the opportunities to use the new vocabulary. The inclusion of word banks in the worksheets supported learning.
- Students were reasonably confident in using the new terminology when working in pairs but less so when communicating their understanding to the whole class and when writing sentences. At times, students offered only one-word answers to the teacher's questions and sometimes their writing required prompting. Overall, opportunities exist to further develop students' skills in communicating their understanding in oral and written contexts. To further foster subject-specific oracy and writing, teachers should provide extended and explicit opportunities for students' voice and writing during daily lessons, ensuring all in the class group express their understanding of concepts through the use of sentences.
- Students' copybooks showed mixed quality and quantity of written work in Science. It was reported that students sometimes make a first draft of a laboratory report on whiteboards; it is suggested that this be more firmly followed with work in copies.
- In some pieces of work, the teacher had provided constructive written feedback. There were, however, some instances where the advice given to students on investigation and research findings was not yielding improvement in subsequent pieces. A broader embedding

of formative written feedback with a focus on how students will take action to improve their written work, including their investigation reports, should be applied by all teachers.

- The laboratories are greatly enhanced with charts, keywords and creative displays of students' work including the Make-a-book DEIS initiative undertaken with first years. Many Classroom-Based Assessments and extended investigations are also displayed.

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

- Whole-school support, including curricular provision for Science, timetabling, access to the subject and support for teacher professional development, is very good. All junior cycle students study the JCSP and all do Science including a small number following a Level 2 Learning Programme (L2LP); the provision of full access to the subject greatly supports the principles of inclusion.
- Currently, two double lessons are timetabled for Science weekly. There is a proposal, next year, to timetable one double and two single lessons in order to increase weekly contact.
- The management of the organisation to support subject provision, in terms of teacher deployment was good, but action is required to improve the management of resources and the provision of a secure and orderly learning environment; specifically, the school laboratories and preparation room require restructuring and reorganisation and this ought to be pursued by school management and overseen by management and teachers.

## **3. PLANNING AND PREPARATION**

- Teachers' collective planning practices are good. Teachers share practice in implementing the new science specification and engage in collective discussions on teaching, learning and assessment to meet curricular requirements and students' needs. Structures are in place to support subject department planning and review. These include agreed meeting times and shared computer files.
- Collectively, teachers have developed a suitable subject plan for Science. A separate plan has been developed for students following L2LP Science. Recently, valuable work was undertaken in unpacking the science specification's learning outcomes into units of learning and agreed assessment checks.
- The scheme-of-work for Science, however, is limited to topics for each term. Some further development is necessary to integrate the very good work in developing units of learning with this scheme. In addition, it would be important to integrate the Junior Cycle key skills and the learning outcomes in the Nature of Science strand into the scheme-of-work for teachers to be assured that they have fully planned for these skills to be progressively and incrementally developed in each year of Junior Cycle. It might be useful also for the plan to describe the agreed nature and standards of student practical work in each year.
- It is good that the science department has initiated an exercise to outline the measures that they are taking to implement the school's DEIS action plan's targets in daily science lessons.
- Teachers' individual planning is in line with the subject department plan and with the Junior Cycle science specification. Best practice was observed where individual teachers included written reflection and evaluation based on experience of implementing the plan.

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 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;