

Science Policy

Introduction

This policy describes our approach to the teaching and learning of Science at Derrymount School. The policy provides a framework for staff to ensure the delivery of high quality teaching and maximum opportunity for our young people to build up a body of key foundational skills, knowledge and concepts. Our pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. This policy aims to encourage pupils to understand how science can be used to explain what is occurring, predict how things will behave, analyse causes and develop an interest and love of the world, living things and universe around them. Through our approach to the study of science we also aim to provide accessible pathways to learning and the keys to success.

The policy is not designed to be prescriptive but to reflect our ethos and long term aims. It lays down minimum expectations for teaching and learning, guidelines for teachers in delivering the subject and how the outcomes will be measured and evaluated as part of the whole school curriculum.

This policy will be revised in line with the whole school policy review programme after no longer than three years.

Aims

The Science Curriculum contributes to whole school teaching and learning aims and objectives specifically through developing each pupil's ability to:

- Learn in an atmosphere in which they can feel happy and secure and are enabled to enjoy and achieve.
- Value cultural diversity and difference and the diversity of living things
- Develop creativity and self-expression
- Experience learning that is clear, continuous and shows logical progression
- Develop self-confidence and personal interaction skills
- Make good or better progress from their individual starting points

Objectives

Our objectives include enabling our young people to:

1. Develop their skills in using a range of tools and equipment to gather evidence in scientific enquiry, research, exploration and fieldwork.
2. Communicate their ideas, observations and judgements to the best of their ability and enjoy interaction with others.
3. Learn a range of techniques and methods to express their ideas, feelings or observations
4. Develop enthusiasm and enjoyment for learning and a curiosity and fascination about the world, its formation, people, environment and physical processes.
5. Develop skills in planning, recording, evaluating and reviewing

6. Develop interest and knowledge about the diverse places, living things, resources and environments around the globe.
7. Develop attitudes which help personal and social development and positive attitudes to the ideas of other people, caring for the environment and sustainable lifestyles.
8. Communicate an opinion about the ethics of scientific progress and research
9. Learn skills which involve asking perceptive questions, critical thinking, weighing evidence sifting arguments and developing perspective and judgement.
10. Learn at their level and experience a positive sense of achievement.

Provision at different Key Stages

At Derrymount we aim to offer a high-quality science education providing the foundations for understanding the world through the specific disciplines of working scientifically, Biology, Chemistry and Physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science.

In Key Stages 1 and 2 our young people are supported to develop scientific skills in observation becoming aware of their own environment. They are encouraged to explore cycles in nature and the seasons, experimenting with weather forecasting and field work. The emphasis is on developing the language and vocabulary needed to ask pertinent questions about their world and the way things around them work.

In Key Stage 3 our Science provision is taught as Physics, Chemistry and Biology with an emphasis on working scientifically. Focus is on the development of Science through the National Curriculum programme of study which lays the foundation for young people who wish to work towards gaining a GCSE qualification in KS4 or 5. Pupils are given the opportunity to gain an Entry Level Award at the end of this key stage.

In Key Stage 4 our young people can choose to study Science as individual subjects to GCSE level. There is also an option to choose Astronomy or Geology or fun science as a strand. Courses build upon previous knowledge and are designed to take one or more years depending on level and previous achievement. Teachers will recommend the appropriate pathway for each student and classes are designed to enable students of different abilities to be taught in the same group.

Teaching

To enable all of our young people to make at least good progress teachers must:

1. Prepare schemes of work and lessons that take into account individual pupil's previous experiences and achievements.
2. Use a range of strategies and resources to engage and sustain learning.
3. Plan lessons that sustain learning and engagement throughout the session.
4. Evaluate learning and plan for progression lesson to lesson and over longer periods i.e. half termly.
5. Provide opportunities for parents to engage and support their child's learning.

6. Set, share and evaluate targets with students giving clear direction on how to improve their performance.
7. Use a range of teaching methods and take into account different learning styles.
8. Mark work clearly and in ways which enable the young person to see clearly how well they have achieved and which identifies any support that they may have had.
9. Support both independent and group work
10. Provide clear and accurate assessment data on a regular basis and make appropriate adjustments to teaching programmes to ensure all students make at least good progress.
11. Provide an end of year report to parents identifying strengths and areas for development, attainment levels and, where appropriate, predicted examination grades.
12. Ensure that allocated school funds are used effectively to support the delivery of the Science Curriculum.
13. Ensure resources are well maintained and fit for purpose.
14. Take responsibility for their own professional development and keep abreast of national developments and requirements.
15. Work safely conducting appropriate risk assessments in the laboratory

Learning

Our young people are expected to:

1. Work to the best of their ability
2. Engage in activities and allow others to participate fully in lessons
3. Complete activities that the teacher provides, with support where required
4. Work safely following instructions and risk assessed procedures in experimental work
4. Work independently and in groups
5. Respect others and enable them to learn without interference or distraction
6. Respect resources, take care over presentation and take pride in their work
7. Engage throughout the lesson
8. Provide feedback on their enjoyment and achievement in lessons.

Monitoring of provision

The Head Teacher is responsible for monitoring the provision of teaching and learning at Derrymount School and will use the following methods to evaluate the quality of the provision we deliver:

1. Lesson observations
2. Learning Walks
3. Pupil Engagement and behaviour management (Enjoyment and achievement)
4. Work scrutiny and work analysis
5. Target setting and pupil achievements
6. Quality control of teacher's planning and evaluations
7. Assessment data – Accuracy and progression
8. Examination results

This policy is to be reviewed no later than 30th Sept 2023

