



Jersey College Preparatory School Policy for Science

Authors: J Paul
Date: Tuesday, 23 May 2017
To be reviewed: July 2017

Our College Vision

Our ambition for all students at JC Prep:

We aim to nurture happy, confident, caring students, who enjoy positive relationships and show compassion and respect for others. We want students to grow as individuals, to feel valued and to forge a strong and supportive community that reaches out around the world. We hope they will demonstrate a growing awareness about the choices they make and the impact these have on their environment.

We want to develop hardworking, independent students and creative thinkers. Our students will be encouraged to take full advantage of opportunities and to aspire to the highest standards. We aim for our students to be inquisitive, ambitious and motivated in their approach to learning. We want them to grow in independence, to be reflective in their thinking, to be eager for challenges and to be able to cope with setbacks.

Our goal is to prepare our students for life beyond JC Prep equipped with the knowledge, skills and attitudes for life-long learning.

At the heart of all we do are the College's Core Values:

Aspire, Inquire, Excel, Belong.

Aims of this policy:

- To ensure encouragement of pupils to build on their own enthusiasm and natural sense of awe and wonder for the world in which they live.
- To ensure the progressive development of pupils' scientific knowledge and understanding throughout the school.
- To promote opportunities for pupils to present their own suggestions, to be creative in their approach to science, and to gain enjoyment from their scientific work.
- To enable pupils to develop the skills of co-operation through working with others, and to encourage pupils to explore science through a range of approaches and forms which create meaningful learning opportunities.
- To maintain an adaptable and holistic science curriculum which effectively meets the needs of all pupils, through dynamic and hands-on learning experiences.
- To successfully meet the five outcomes of the Every Child Matters agenda through instilling positive attitudes and promoting respect for both living and nonliving things and physical phenomena.

Principles:

Science at JC Prep School aims to encourage pupils' enthusiasm, foster their curiosity and creativity and develop their ability and skill to appreciate the world in which they live. Throughout the school, pupils will be offered opportunities to engage in activities which encourage them to: ask questions, to learn through practical experiences and to offer their own solutions to problems - enabling them to become independent and effective learners.

1. Scientific Language

Students will be taught, and provided with opportunities, to increase their confidence when using the correct scientific language and to discuss their scientific understanding and explain their thinking. For students where English is their second language strategies will be put in place to ensure they can access the curriculum.

2. Lesson Organisation

General:

- Every pupil, from Reception to Year 6, will be given the opportunity to experience Science.
- As a minimum, science is taught for the equivalent of 1 hour per week in all classes across the school.
- As a school, we follow the Jersey Science Curriculum (based on the National Curriculum Science in the UK), enabling progression of skills and coverage of topics. Where possible, science is taught through a cross-curricular approach, enabling pupils to make links between their learning in science and other areas of the curriculum.
- Lessons should involve both practical teaching and theoretical learning where appropriate.

Early Years:

- The Foundation Stage curriculum is based around the Six Areas of Learning, where science is included as an aspect of 'Knowledge and Understanding of the World'.
- Pupils are provided with a broad range of opportunities and experiences in science, enabling them to work towards their Early Learning Goals.
- Pupils develop their understanding of the world around them on a daily basis, using their senses to explore and learn about objects and materials.
- Pupils are given holistic learning experiences, incorporating elements of science in their everyday activities.
- Pupils' science progress is recorded as part of their Learning Journals.

KS1:

- The KS1 curriculum follows the Jersey Curriculum. Lesson ideas can be supported using the Science Bug resource.
- Pupils further develop their understanding of the world around them which they have gained in the Foundation Stage.
- Pupils are able to observe, explore and ask questions about living things, materials and physical phenomena.
- Pupils begin to work collaboratively with others, enabling them to develop their scientific knowledge and understanding and to link scientific concepts.
- Pupils communicate ideas orally using taught scientific language and begin to develop written methods for communicating their ideas (to include drawings, diagrams, use of ICT, tables and charts).
- Recording of science should be a mixture of written and non-written methods.

KS2:

- The KS2 curriculum follows the Jersey Curriculum. Lesson ideas can be supported using the Science Bug resource, ensuring all areas of the Programme of Study are covered across Years 3, 4, 5 and 6.
- Pupils learn, explore and ask questions about a wider range of living things, materials and physical phenomena.
- Pupils think about the impact of scientific developments and technologies on themselves and the world around them.
- Pupils are encouraged to develop an independent approach to their science learning, through asking questions, suggesting improvements to their work and supporting each other towards achieving a heightened understanding of scientific concepts.
- Working scientifically is promoted across KS2 with pupils being given the opportunity to plan, carry out and evaluate experiments.
- Pupils are encouraged to develop their own methods for presenting their ideas (To include drawings, diagrams, use of ICT, tables and charts.)

3. Science across the Curriculum

Science teaching should reflect our development as a school towards aspects of the creative curriculum. Links should be made to other subjects to support and extend scientific knowledge and understanding. In particular, links should be made to ICT and opportunities to use technology to support and extend science lessons, and to Outdoor Learning, to enable pupils to make links to real life. Links should also be made to environmental and ecological issues, where appropriate, as part of our role as an eco-school. Lesson plans should aim to include stimulating science experiences that develop the pupil's understanding of the role of science in everyday life. E.g. visits to the zoo or visit of Science dome or speakers.

4. Resources

In KS2, JC Prep uses a range of online and printed resources including videos and animations. There are also printed investigative resources available from Early Years to Year 6. Practical resources are available in the resources room, in science trolleys (in each classroom) and in year group shared areas. Resources are regularly updated by the coordinator. There is also Education City which can be used for teaching science and assessing it. Although currently teachers are assessing more by coverage and until a decision has been made at ESC re direction of assessment.

5. Special Educational Needs

- In science, we aim to create a learning environment which meets the needs of all pupils, regardless of their ability.
- Pupils' individual needs are met through appropriate differentiation which is identified in all science planning.
- Science planning takes into account differing pupil needs and ensures tasks are appropriate to the stage of pupils' learning. This enables pupils with specific learning needs and/or physical difficulties to take an active part in scientific learning within the whole class environment.

6. Gifted Students

- Where pupils exhibit outstanding and continuing ability in science, work will be given which promotes and enriches their increased understanding of scientific concepts.
- Pupils will be given work which challenges them, encouraging them to draw on understanding from across the curriculum.
- Pupils will be given the opportunity to allow their talent to flourish and to achieve their full potential.

7. Homework and Parental Involvement

Pupils should be provided with regular opportunities to extend their learning through take-home tasks. These can be practical or written and should be an extension of class-work thus providing pupils with the opportunity to secure their understanding, as well as experience opportunities not available within the school premises – for example: a fungi hunt in the woods.

Regular communication takes place between teachers and parents. This takes the form of Curriculum evening; letters; homework diaries and planners that outline homework expectations. Parent/teacher meetings in the Autumn and Spring term are an opportunity for teachers to discuss a student's individual strengths and areas for development.

8. Planning and Assessment/Marking/Record Keeping

Long term planning is based on the learning objectives set out in the Jersey Curriculum/National Curriculum. Staff meeting time was given for year groups to plan their topics covering the academic year.

Medium term planning covers a half term and should ensure that all learning objectives from the allocated strand are covered in terms of knowledge and understanding and skills. A particular focus should be on practical working scientifically and opportunities for pupils to experience hands-on sessions with time for discussion and reflection.

Short term planning will be completed on a weekly basis. Short term planning will be based upon the evaluation of prior learning to ensure it reflects the needs of the students. It will outline the learning intentions, activities and strategies for differentiation within each lesson. These will be adapted as necessary to meet the need of individual students in the class. It should also include any cleapss or health and safety notes for lessons which require it.

Students will be aware of where they are in their learning and what their next step should be through quality feedback. As students progress through the school they will be expected to take more responsibility for their learning. They will be asked to reflect on their learning and progress and identify their own 'next steps'.

Assessment for learning is continuous throughout the planning and teaching cycle for science. Assessment is used to inform future planning and to provide information to support teacher judgements about pupils' attainment.

Methods of Assessment are to include:

- Observations of pupils at work, both individually, in pairs and within groups.
- Questioning of and listening to pupils.
- Considering any work pupils have produced.
- Can include more informal work such as: mind maps, concept cartoons, comic books and posters.
- Online activities and assessments as homework or class work

Pupil progress is continually monitored throughout their time at JC Prep. Their assessment level is uploaded to the Pupil Tracker in all years.

9. Monitoring and Evaluation:

Monitoring of the quality of teaching and learning in Science is the responsibility of the Science coordinator. He/she will review samples of student's work and may undertake lesson observations of Science teaching across the school to ensure that standards are maintained. Plans are monitored by the Faculty team leaders on a weekly basis and by the co-ordinator as necessary.

10. The Role of the Science Coordinator:

- Be responsible for the development of science in school.

- Monitor the effectiveness of science in school.
- Support teachers in their planning and strategies for classroom management.
- Disseminate new information.
- Provide or organise staff training.
- Be responsible for providing appropriate science resources
- Liaise with the secondary school regarding continuity.

Relationship to other policies:

Internal policies:

- Assessment policy
- Homework policy
- Lesson observation and Quality Assurance guidelines

External policies:

- Policy for Science – ESC
- Cleapss Health and Safety in science lessons to be shared at a science staff

meeting

Core Components:

- Appendix 1** - **Student Learning**
- Appendix 2** - **Teaching**
- Appendix 3** - **Monitoring Learning and Teaching**
- Appendix 4** - **Professional Learning**
- Appendix 5** - **ESC Science Policy**
- Appendix 6** - **Outdoor Learning Policy JCG P**