**Newchurch Community Primary**

**Science Policy**

**Mission Statement**

Newchurch will give every child a flying start by working in partnership with parents, staff and the community to develop well-rounded citizens who will contribute in a positive way to society.

**Persons with Responsibility**

Catherine Ayres

**Linked Policies**

PSHE

ICT

Assessment

Special Needs

Able Pupils

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**Next Review**: May 2020

**Statement of Commitment**

The school aims to develop and foster an awareness of the importance that science plays in today's world by encouraging the children's natural curiosity. Through well planned lessons, children will be encouraged to develop their working scientifically skills, as well as building their scientific knowledge and understanding. They will also be encouraged to see how science is a part of everyday life by having links drawn between their lives at school, at home and with Industry and Services. At the same time the school aims to make Science fun by emphasising an investigative approach. They will learn to question and discuss science-based issues that affect their own lives, the direction of society and the future of the world.

**Science National Curriculum Aims**

The National Curriculum for science aims to ensure that all pupils: develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

**Aims and Objectives**

The purpose of our school’s teaching of science is to:-

1. Stimulate and excite the children’s curiosity and creativity about the world around them.
2. Engage learners through pratical and hands on experience.
3. Develop their knowledge of scientific concepts and an understanding of how such concepts are inter-related.
4. Develop their investigative skills by direct practical experiences that call for observation, planning, prediction, data collection, and explanation. In effect to encourage the development of the skills that characterise objective scientific method (‘fair testing’)
5. Model and foster the accurate use of appropriate scientific vocabulary in a range of contexts so that terms are fully understood.
6. Help children to recognize how historically, scientists have, through their ideas and discoveries, contributed to major improvements in the quality of life here and worldwide.
7. Encourage children to discuss and question how developments in for example, science, technology and medicine, may affect their own lives and those of people in Britain and worldwide.
8. Ensure that children recognise the risks and the hazards associated with science and agree on safety rules.

**As a school, we will fulfill these aims by**

1. Using the learning environment around the school, including Science Working Walls, to enable us to learn about life processes and living thing, through observation and questioning.
2. Providing children with a range of interative and practical activities in individual and group work to encourage them to explore and develop understanding of scientific concepts.
3. By developing children’s investigative skills and understading throught he use of questioning and giving them opportunity to express their findings and ideas.
4. Planning opportunities for children to develop their predicting skills, ask questions, draw conclusions and make evaluations.
5. Teach them correct scientific vocabulary, to draw diagrams and charts so they are able to communicate their scientific ideas.
6. Plan opportunities for children to use ICT as a tool within science lessons.
7. Give children the opportunity the work collaboratively in pairs or groups and listen to and treat others with respect.

# Strategy for implementation

Science should be taught discreetly for 1 and a half hours in Key Stage One and 2 hours in Key Stage Two, per week. Planning must ensure the statutory guidelines and the National Curriculum objectives 2014 are met, as well as the Key Skills from the KLIPS document. Planning also needs to emphasise scientific enquiry. Teachers must following the Programme of Study for their year group and use this to inform their short term planning.

**The use of ICT**

The use of ICT is paramount to work in Science. Various programs have been purchased offering support with topics. Many web-sites offer a variety of activities linked to the topics. Interactive whiteboards are integrated into the curriculum.

**Teaching and Learning**

All lessons will have clear learning challenges and success criteria . These will be shared and reviewed with the pupils effectively. A variey of strategies will be used in lessons e.g. questioning, discussion, concet mapping and marking, will be used to assess pupil progress. Activities are planned to develop enquiry, observation, selecting equipment, measuring and checking results, making comparisons, communicating results and findings and making conclusions. Lessons should provide opportunity for cross curricular links, especially with maths, English and computing. Activities should be challenging and motivate and engage pupils. Differentiation is met through differentiated inputs, task outcomes, resources, recording templates, adult support and challenges and extensions for more able.

**Assessment, Recording and Reporting**

Formative assessment is carried out through observation and questioning and is used to help identify when progress has been made and knowledge has been achieved. This should inform teacher’s future planning. Teachers help children develop skills and confidence in looking at their work, commenting on areas of success and providing them with challenges or support through the Red Robin Response. Pupils will also have the opportunity to self and peer assess.

Teachers also record summative assessments, using the KLIPS assessment document and this progress is tracked so individuals can be targeted if they are not meeting age related expectations. Subject leaders moderate the teacher judgements against the learning objectives and data reports are shared with the link governor. Information from the Science trackers will be used to identify strengths and areas for development in Science to inform subject leadership and action planning.

Teachers use pre and post tasks to guage the children’s previous knowledge of new scientific topic, help to modify learning challenges beased on such prior knowledge and to assess the progress made during the unit of work.

**Science Enrichment**

Enrichment for science will be planned for each year group to include science days, visits and visitors.

A science club will run during the year for both Key Stage One and Key Stage Two.

School holds its own Science Day/Week, which features :-

* opportunities for investigation;
* opportunities for invited visitors to work with the children on a range of scientific activities;
* practical demonstrations, workshops or talks by invited speakers who involve the children in hand-on experiences;
* opportuntity for competition within and between year groups;
* opportunity for taking learning outside the classroom.

**Science in the Community**

Classes are encouraged to link with industry or outside agencies to enrich the curriculum. These have included talks by the community Dental Health Promotion Officer, visits from the health caravan, workshops organised by RSPB and Science assemblies, linked with RE ran by Rev Chris Stafford.

**Equal Opportunities**

All children are valued regardless of their race, gender, ability or disability. Children will be taught in accordance with the present policy for Equal Opportunities. Staff recognise that children have preferred learning styles, which need to be reflected in the range of teaching styles adopted when delivering the science curriculum and a variety of methods are used for children to record their work. Children with Special Needs, including Gifted and Talented, are reflected in teachers’ planning as the planning should cater for all levels.

**Health and Safety**

Safe practice must be promoted at all times and teachers must be aware of the school Health and Safety Policy.

Children are taught how to use equipment correctly and safely as well as how to assess risks to themselves and each other.

Risk assessments are completed when activities go beyond the scope of normal safety practice e.g. burning lesson in Year 5.

**Resources**

Science resources are accessible to all staff. Equipment is stored in boxes and will be audited yearly and new equipment is bought. Science books are available in the school library and in classroom book corners. Teachers are also encouraged to use ‘free resources’ such as rocks, soil, plants etc and the outdoor environment should be used throughout the year.

**Staff Continuous Professional Development (CPD)**

The Science leader is part of a local cluster and feedbacks to staff. The Science leader regularly audits staff needs regarding development and training and CPD will be booked or provided. The School has recently received the PSQM award (Silver) to celebrate its level of CPD.

# Monitoring and Evaluation

This policy will be monitored by the Science Leader biannually. Regular book, planning and environment reviews will be carried out and staff will be provided feedback. Learning walks, pupil conferencing, planning and book reviews will be carried out and feedback given to staff. Data will be monitored by subject leader. The link governor for Science (Anthea Ray) is responsible for the monitoring of Science.