Cleves Primary School - Science Policy

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Intent, Implementation, Impact: Nurturing Curiosity, Fostering Discovery

Intent:

At Cleves Primary School, we hold a profound commitment to fostering a deep and lasting love for science in our students. Our science curriculum is designed with three core principles.

Intent - The Three Is in Science Education:

1. Intent for Inquiry: Our primary aim is to ignite curiosity within each student. We want them to question the world around them, develop a sense of wonder, and cultivate an insatiable appetite for answers. We intend to nurture young minds that are naturally inquisitive and eager to explore.
2. Intent for Implementation: We believe that science is best learned by doing. Our curriculum emphasises hands-on experiences, experiments, and practical learning. We intend for students to actively engage with scientific concepts, fostering a deep understanding through active participation.
3. Intent for Impact: Ultimately, our intent is to create a lasting impact. We strive to equip our students with the knowledge, skills, and mindset necessary to become lifelong learners and critical thinkers. We aim to prepare them for the challenges and opportunities of an increasingly scientific and technological world.

Implementation:

Our science policy is put into action through:

- Curriculum Design: A meticulously designed curriculum (Composite goals) that aligns with national standards, ensuring comprehensive coverage of scientific topics.
- Practical Learning: Regular experiments, investigations, and interactive activities that bring science to life, providing students with hands-on experience.
- STEM Integration: Integration of STEM (Science, Technology, Engineering, and Mathematics) activities to promote interdisciplinary learning and problem-solving.
- Student-Cantered Approach: Encouraging students to take ownership of their learning, ask questions, and explore areas of personal interest.
- Professional Development: Continuous training and development for our teachers to stay updated with the latest teaching methods and scientific advancements.

Impact:

Our science education has a significant and lasting impact:

- Scientific Literacy: Students develop a strong foundation in scientific concepts, enabling them to make informed decisions and engage with scientific issues in their everyday lives.
- Confidence and Curiosity: Students gain confidence in their ability to explore, question, and seek answers. They develop a curiosity that extends beyond the classroom.
- Critical Thinking: We nurture critical thinking skills, encouraging students to evaluate evidence, make connections, and draw conclusions based on scientific principles.
- Global Awareness: Our students become aware of global scientific challenges, such as climate change and sustainability, and are empowered to contribute positively to solutions.
- Diversity and Inclusivity: We ensure that science education is accessible and engaging for all students, regardless of their background or abilities.
- Future Readiness: Our children are prepared for future careers in science, technology, engineering, and mathematics, with a solid foundation in scientific principles and problem-solving skills.

At Cleves Primary School, we are committed to ensuring that our science education is inclusive and responsive to the diverse learning needs of all our students. We believe that every child has the potential to excel in science, and we employ a range of teaching methods and strategies to facilitate their growth and development.

Teaching Methods:

Our approach to teaching science is rooted in a variety of methods that cater to the unique learning styles and abilities of our students. We aim to foster their knowledge, skills, and understanding through:

- Whole Class Teaching: Comprehensive lessons introduce key scientific concepts to all students, ensuring that every child receives a strong foundation in science.

- Targeted Scaffold: We provide additional support to students who may require it, ensuring that each child can thrive in their scientific learning journey. This includes personalised guidance and assistance.
- Enquiry-Based Research: Encouraging students to ask scientific questions and engage in research activities empowers them to explore their curiosity and develop research skills.
- Hands-on Practical Lessons: Practical experiments and investigations allow students to experience science firsthand, fostering a deeper understanding of scientific principles through active engagement.
- Data Analysis: Students are taught how to collect, analyse, and present data, including the use of statistics, graphs, pictures, and photographs, promoting data literacy.
- Technology Integration: We harness technology to enhance learning experiences when appropriate, ensuring that students are prepared for a digitally driven world.
- Role-Play and Discussions: Active participation in role-play activities and discussions deepens students' understanding of scientific concepts through real-world application.
- Presentations: Students share their findings and insights with their peers through reports and presentations, enhancing their communication skills.
- Problem Solving: Incorporating various problem-solving activities encourages critical thinking skills, enabling students to tackle complex scientific challenges.

Key Skills Development:

In our science lessons, we aim for all students to develop essential scientific skills, including:

- Predicting
- Observing
- Classifying
- Comparing
- Contrasting
- Creating models
- Gathering data
- Measurement
- Effective communication of findings

Adaptive Instruction:

We recognise that students have diverse scientific abilities. To ensure that all students receive appropriate learning opportunities, we employ various strategies:

- Open-Ended Tasks: Setting tasks that allow for multiple responses encourages creativity and critical thinking, catering to individual strengths.
- Ability Grouping: In some cases, grouping students by their ability and assigning different tasks based on their readiness levels ensures that each student is appropriately challenged.
- Resource Variability: We provide resources of varying complexity to match individual student abilities, ensuring accessibility for all.

- Additional Support: Whenever possible, we enlist additional support from staff members to assist individual students or groups, offering personalised assistance to address specific needs.

Foundation Stage:

Science is seamlessly integrated into the curriculum for our Nursery and Reception classes. Our science activities align with the Early Learning Goals (ELGs) to develop children's knowledge and understanding of the world from the very beginning of their educational journey.

Special Educational Needs (SEN):

Our commitment to inclusivity extends to students with special educational needs. We are dedicated to teaching science to all students, regardless of their abilities. Our teaching considers the individual needs of each child, and we make necessary adjustments to ensure inclusive access to the science curriculum.

Personal learning goals (PLGs):

Children with special educational needs may have specific science-related targets in their personal learning goals (PLGs), ensuring that their learning experiences are tailored to their unique requirements.

Assessment and Progress Tracking:

To evaluate each child's progress in science, we employ a comprehensive assessment approach:

- Regular Assessment: Ongoing assessment of student progress informs our teaching and learning strategies, allowing us to tailor our approach to each student's unique needs.
- Curriculum Review and Development: Our science curriculum undergoes regular review and development to remain current and aligned with national standards. Stakeholder feedback, including that from parents and the community, informs these processes.
- Continuous Improvement: We maintain a culture of continuous improvement in science education, seeking opportunities to enhance our teaching methods, resources, and overall effectiveness.

At Cleves Primary School, we are dedicated to fostering a love for science, nurturing young scientists, and providing a comprehensive and inclusive science education for all our students. We believe that by meeting diverse learning needs and embracing inclusivity, we empower every child to excel in their scientific journey.

Assessment and Review:

- Regular Assessment: Ongoing assessment of student progress to inform teaching and learning strategies.
- Curriculum Review: Continuous evaluation and adaptation of our science curriculum to meet the evolving needs of students and the changing landscape of science.
- Stakeholder Feedback: Actively seeking feedback from students, parents, and staff to drive improvements and enhancements.
- Adaptation: Remaining flexible and adaptable to emerging scientific discoveries and educational best practices.

At Cleves Primary School, our science policy embodies our dedication to cultivating curious, informed, and scientifically literate individuals. Through our "Three Is" approach, we intend to make a lasting impact on our students' lives, empowering them to become lifelong learners, critical thinkers, and responsible global citizens in an ever-evolving scientific world.