

Grand Avenue Primary and Nursery School

Science Policy

Agreed by staff– Spring term 2024

Review date –Spring term 2027

Contents

1. Aims
2. Responsibilities
3. Planning, Monitoring and Assessment
4. Health and Safety
5. Equal Opportunities
6. Appendix A– Standards in Literacy
7. Appendix B- Guidance for selecting key science vocabulary taken from the EEF Improving Primary Science Guidance Report.

Aims

To ensure that

- The science curriculum is effectively implemented allowing children to develop a sense of excitement and curiosity about the world around them.
- Curriculum enrichment develops children’s knowledge and understanding of science beyond the national curriculum.
- Staff are confident with the expectations of the science curriculum.
- Children develop scientific knowledge and a conceptual understanding through the specific disciplines of biology, chemistry and physics.
- Standards are raised in maths and English through cross curricular opportunities.
- Children develop an enquiring mind, practical skills and logical thought through different types of science enquiries which help to answer scientific questions about the world.
- Children are encouraged to question scientific understanding and the theories of others.
- Children develop a respect for the environment and a caring attitude towards the animal and plant life within it.
- Children give consideration to their own personal health and safety and the health and safety of others.
- Children increase their scientific vocabulary and develop communication skills through oral work, practical activities and recording.
- Opportunities are provided to enhance science learning through the use of technology.
- Strong cross-curricular links are created to allow scientific knowledge to be developed in other areas of study.
- Indoor and outdoor environments are used for the learning of science that is welcoming, stimulating, accessible, safe, secure and challenging.
- Children will develop a stronger awareness of how science, as a subject, can impact on their life outside of school.
- Children from all ethnicities, gender and backgrounds see themselves as potentially pursuing a career in science.

The Science Co-ordinator will:

- Ensure staff are confident in teaching all elements of the science curriculum by advising and evaluating the needs of the staff; assisting colleagues in devising programmes of study and creating medium term plans.
- Ensure staffs subject knowledge is good to avoid potential misconceptions.
- Promote curriculum enrichment through first hand experiences, meeting with experts, STEM club and the use of 'Science at Home' bags.
- Create an annual action plan to support the development of science.
- Keep up to date with all Health and Safety guidance and follow advice from the borough.
- Ensure that staff are aware of all safety guidelines.
- Monitor planning and provide relevant feedback to ensure high quality teaching and learning in science.
- Organise, select and store science resources.
- Co-ordinate assessment procedures; including moderation.
- Ensure that the curriculum map and programme of study are reviewed regularly to ensure progression and coverage.
- Liaise with outside advisory teams, secondary schools and agencies.
- Ensure staff are aware of new initiatives.
- Report on the development of science to the head teacher, staff, parents and Governors.
- Attend relevant INSET, borough network meetings and CPD opportunities.
- Measure and monitor progress in science using summative and formative assessment inputted by class teachers.
- Analyse data to inform the science action plan.
- Undertake learning walks and pupil voice regularly and act upon findings.

The Governors will;

- Become familiar with content of this policy.
- Agree the policy, revisions and amendments.
- Evaluate the success of the policy through visits to school.
- Regularly review the policy.
- Support the implementation of the policy.
- Ensure funding to support this policy is considered in the budget setting process.
- Have a clear view of strengths and areas for development.
- Attend relevant training.
- Ensure that this policy is considered during decision making.

Teachers will;

- Plan Science lessons using the school programme of study, curriculum map and national curriculum/early years documents ensuring coverage of skills and content.
- Plan two hours of science lessons per week.
- Inform the Science co-ordinator if supplies of consumable resources are running low.
- Record progress of pupils at the end of each unit taught using formative assessment on SONAR.

- Ensure lessons are differentiated to meet the needs of all pupils.
- Take part in regular moderation exercises to ensure consistency of approach.
- Assign each child a separate book in which to record science work. (These books are kept in school until year 2 and then again until year 6, for moderation purposes).
- Carry out a risk assessment if appropriate to the lesson being taught.
- Ensure pupils are aware of any potential dangers during a lesson and discuss safety procedures when necessary.
- Inform parents, and gain permission, for pupils to take part in any lesson involving tasting.
- Take advantage of the school's outdoor facilities and plan lessons that can be undertaken outside whenever possible.
- Take advantage of the school's STEM room to ensure all children have access to high quality practical work.

Planning, Monitoring and Evaluation

The Nursery and Reception classes follow the Early Years Foundation Stage Curriculum. This divides the curriculum into seven areas of learning. The science content is included within knowledge and understanding of the world section.

In Key Stage 1 and 2, the National Curriculum is followed with at least 20 hours per term allocated to the specific teaching of Science.

- The Science programme of study and curriculum documents show clearly the skills, content and vocabulary to be taught in each year group, each term.
- Glossaries will be used for each unit. These will be constantly reviewed to ensure they are effective and the focus is on polysemous, tier 2 and tier 3 words. (See Appendix B)
- Planning will include opportunities for assessment for learning and reflect on previous learning.
- The Science co-ordinator will monitor medium-term and short term plans to ensure continuity and progression within and between year groups.
- The Science coordinator will carefully monitor the teaching and learning of science in a variety of ways including: lesson observations, learning walks, moderation and book looks.
- Pupil books and teacher marking will be scrutinised to ensure progression and high standards throughout the school.
- The Science Co-ordinator will undertake a pupil voice with children throughout the school on a regular basis. Findings will be fed back to year groups and MLT, with next steps agreed.
- Planning will ensure that opportunities for cross curricular learning is explored and undertaken.

Assessment

- Assessment for learning takes place during each lesson to inform future planning.
- Teachers will evaluate and annotate their plans as they are taught, to improve effectiveness, and modify and update as appropriate

At the end of each unit, the class teacher assesses the work undertaken by each child against the skills taught. This assessment is then inputted on to SONAR.

- At the end of the year, teachers will input summative data on to SONAR.
- Staff may use the Primary Headstart Science Assessment tests to support assessment at the end of each unit.
- Data is analysed by the co-ordinator in classes, cohorts and groups. For example, PPG, gender, EAL and any trends identified.
- Children are given opportunities to review and assess their learning during lessons (see Marking and Feedback policy, and Response and Reflect document).

Health and Safety

The following are examples of health and safety measures to be taken during certain science lessons. The list is by no means exhaustive. Staff are advised to consult the science co-ordinator for further support and advice.

- The need to provide eye protection.
- Asking pupils to fasten back long hair.
- Reminders not to put items into mouth.
- Correct handling measures when working with animals.
- Explanations of how to work with heated items (eg. candles or kettles).
- Describing how to handle potentially dangerous plants (eg. stinging and allergic reactions).
- Discussing how to stay safe in areas outside the classroom (eg. ponds, farms and gardens).
- Discussing how to prepare and handle food.

Equal Opportunities

Staff will ensure that every child; regardless of physical, sensory, intellectual, emotional or behavioural difficulties, gender, social and cultural background, religion or ethnic origin has access to a range of science based experiences, which :

- Are developmentally appropriate.
- Make sense of their world through exploration and structured and purposeful activities.
- Cover relevant areas of science learning.
- Aim towards high standards for all.

Learning is personalised with each child given appropriate work to ensure challenge and progression. Extension tasks will be provided for more able pupils.

Children with SEN will be supported by their class teacher through a range of strategies depending on specific need.

Standards in Literacy

Curriculum targets for literacy apply to all subject areas.

To ensure high standards in all written work and promote the aims of the school in all subject areas by -

- Highlighting the importance of higher order writing skills.
- Providing opportunities to develop speaking and listening skills.
- Ensuring the correct use of grammar is a high priority in all written work.
- Developing positive cross curricular links between English and other subject areas.

The types of words and their grouping will depend on the topic being taught and the prior knowledge of your pupils. Below is an example of vocabulary used when discussing forces and magnets—remember to include science investigation words like 'test' or 'table' too.

