Alexandra Park Primary School

Care, Aspire, Achieve

Science Report 2023-24

Through science at Alexandra Park Primary, we aim for all children to foster a curiosity about the world around them whilst acquiring specific skills and knowledge to help them think and work scientifically. Through our teaching and learning, our children will gain an understanding of scientific processes and start to make connections within science as well as with other areas of the curriculum.

It is important for children to understand how science has changed our lives and how it is vital for our future prosperity and sustainability.

Alongside teaching our children skills and knowledge we are also developing the following types of scientific enquiry: observing over time; pattern seeking; identifying, classifying and grouping; comparative and fair testing (controlled investigations); and researching using secondary sources.

Fundamental Great British Values

At Alexandra Park Primary School, we understand clearly our responsibility in preparing children for their next stage of education and for the opportunities, responsibilities and experiences of later life, laying the foundations so that they can take their place successfully in modern British society. We promote a respect for and understanding of different faiths, cultures and lifestyles. The spiritual, moral, social and cultural development of each child is central to everything that we do as a school through our shared vision of "Care, Aspire, Achieve". This is evidenced through our teaching and learning, our inclusive environment and through the many opportunities provided for our children to understand democracy, law, liberty, mutual respect and tolerance.

Planning

At Alexandra Park Primary School, "Care, Aspire, Achieve" is at the forefront of our curriculum design. The science curriculum is carefully planned to engage and challenge all of our learners, to encourage them to build on prior knowledge whilst demonstrating care for our planet and produce work that they can be proud of. Our aim in all foundation subjects is to embed the 'Seven Steps to Learning' (Movement, Games, Creativity, Challenge, Ownership, Meaning and Celebration), which have been developed to raise standards and motivation across the school. Our long-term and medium-term plans map out the units covered each half term for each year group. These plans define what we will teach and ensure an appropriate balance and distribution of work across each term and include explicit links to prior learning. To ensure coverage of all objectives, we have planned the full year, deciding which objectives will be covered in each half term and where and how the children will be working scientifically. This will also enable children to be given the opportunity to apply their scientific skills and knowledge in other areas of the curriculum. Teachers look for cross-curricular opportunities wherever possible: taking accurate measurements and recording data (maths); human impact on the sustainability of the environment (geography); research using the internet (computing); and producing pieces of writing (English).

Assessment

Children are encouraged to take ownership of their own learning through the completion of regular quizzes throughout each unit of work. These low-stakes assessments allow teachers to monitor children's progress and adjust their teaching accordingly. Assessment of the children's work is ongoing to check understanding and ensure that progress is being made. Practical lessons provide hands-on, kinaesthetic learning, ensuring concrete understanding. Assessment is based on questioning and verbal discussion as well as regular quizzes and recorded work. In addition to this, Consolidation of Learning Activities (COLAs) and end of unit assessments help assess learning. Feedback and marking of work is guided by the school's marking policy and children are given time to respond to this feedback to progress their learning further. Teaching staff take part in moderation sessions to ensure children are reliably and consistently assessed at WTS, EXS or GDS standard.

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Collecting Evidence

Work scrutinies and pupil voice have shown that science is a subject that is highly valued by staff and pupils. The children are positive about their learning in science and are responding well to the variety of teaching and learning approaches they are being exposed to. All year groups have a varied diet of learning enabling them to build on conceptual knowledge through practical investigations focused on a specific question. This equips them with the skills to develop their own ideas for further investigation which they are then able to undertake. Most science work is evidenced in books however learning can also be evidenced and collected through discussions with children, photographs and videos of children's practical work.

Enrichment Opportunities

- A 'Living Eggs' experience is made available to all year groups, in which a set of hen's eggs are delivered in an incubator to school and children are able to observe over time the hatching and early development of the chicks for 2 weeks. Science lessons during that time are linked to retrieving prior knowledge and building on new learning goals related to living things.
- All year groups plant, observe and develop several scientific investigations around seeds and bulbs to provide concrete, local examples of growing and caring for plant life, reinforcing the understanding of the fundamental interdependency of animals including humans and plants, in the sustainability of our planet.
- In KS2, children participate on online webchats with working scientists through the "I'm a Scientist Get Me Out of Here!" programme, sponsored and supported by Welcome and the Institute of Physics (IOP). This programme was set up to enable children to 'chat' to real-world scientists at the beginnings of their careers to help dispel the common preconception that science is not for them. Feedback from our pupils who have participated so far has been overwhelmingly positive in demystifying what working in science might be like.
- An enrichment opportunity is planned for every year group :
- Year 1 - Animal handling workshop
- Year 2 - Living eggs
- Year 3 - Rocks and fossils workshop
- Year 4 - Dental nurse
- Year 5 - Planetarium and Caterpillars and butterflies
- Year 6 - Animal handling workshop

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Targets for 2023-24

- To develop pupils' skills in working scientifically, helping them to have a more secure understanding of how the same approaches and skills can be applied across all areas of science. To develop their own scientific investigation to lead a line of inquiry.
- To ensure adaptive teaching and effective feedback is embedded throughout lessons to enable all pupils to succeed and make progress. This includes the implementations of the SEND pyramid (see below).

- To develop the use of high quality science texts within reading sessions to aid retrieval practice of scientific knowledge.

Longer-term targets

- To develop the Pupil Voice process and use of COLAs within science to ensure that pupils can articulate the purpose of their learning and talk about connections between lessons within and across units of work - utilising key vocabulary.

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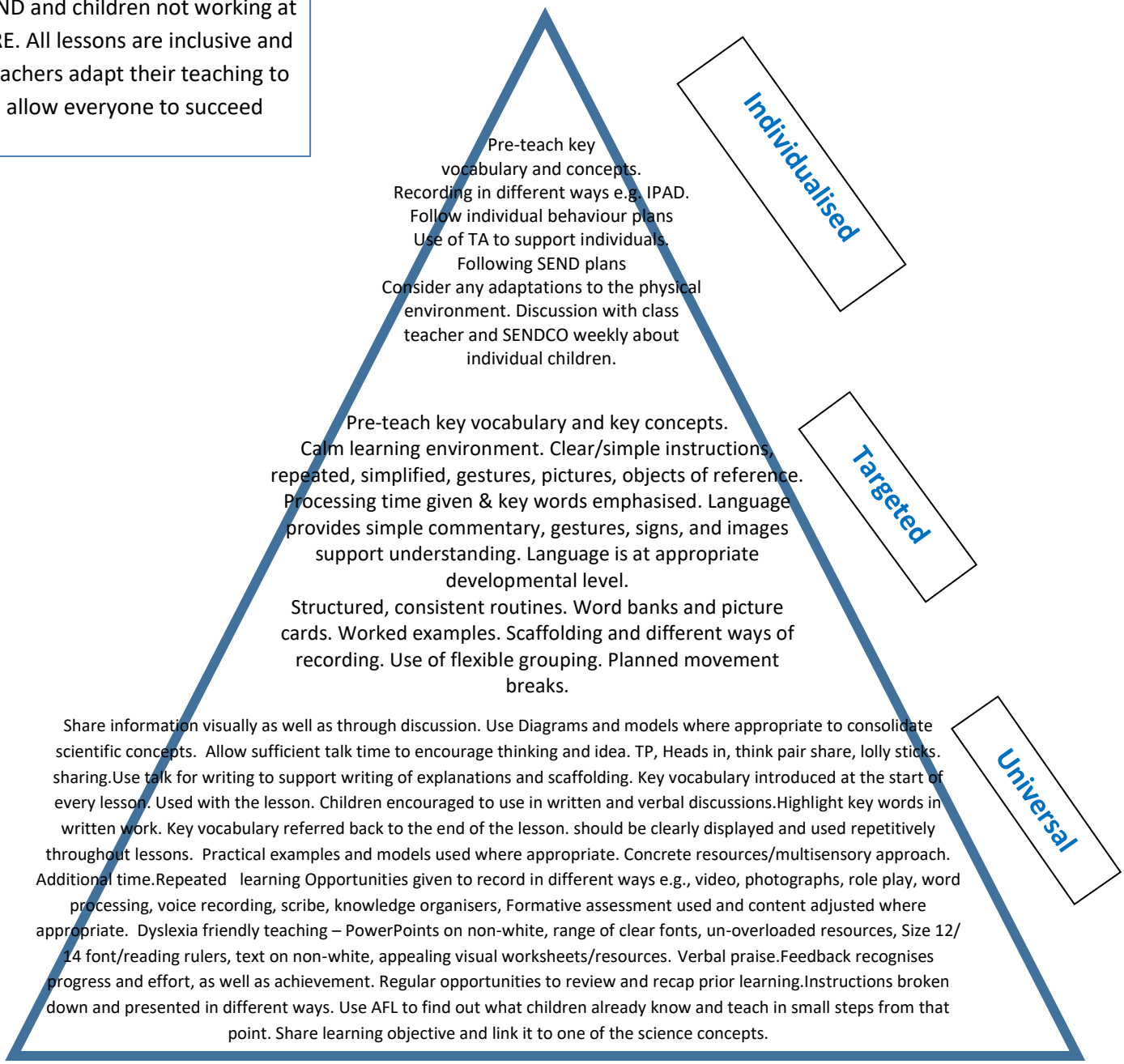
SEND

Science: support for children with SEND and children not working at ARE. All lessons are inclusive and teachers adapt their teaching to allow everyone to succeed



Possible indicators

Fine and/or gross motor difficulties

Difficulty in the classroom environment

Vision or auditory difficulties

Sensory processing difficulties