

NORTHWEST



LONDON JEWISH DAY SCHOOL

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SCIENCE

POLICY

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Philosophy and Intent

At North West we believe that Science should be **enjoyable**. Teachers should have positive attitudes towards science and share this with their children. Children should know that anybody can be a scientist and think, discover and invent like a scientist.

We believe that inductive learning is important and it is vital for children to explore and find out things for themselves before instruction from a teacher. Science should encourage and cultivate higher order thinking through questioning and experimentation. Children should initiate learning, coming up with their own questions and ways of investigating, whilst understanding the importance of working with others and sharing ideas to further develop their **knowledge**. We believe that children should know why they are learning something, and be aided by strong cross-curricular links to help understand the importance of Science in everyday life.

We believe Science should be **experiential** and should include access to a wide range of activities and resources. There should be regular extra curriculum trips, workshops, science days and assemblies as well as access to science clubs in order to extend their science learning.

Purposes of the Policy

1. To deliver an engaging Science programme for the Early Years, Key Stage 1 and Key Stage 2.
2. To help each child reach their full potential in all topics of Science, and to develop a love of, and an enthusiasm for, scientific theories and practices.
3. To use a planned range of investigations and practical activities to give pupils a greater understanding of the concepts and knowledge of Science, and its impact on everyday life.
4. To enable all children to use a range of scientific language and vocabulary.
5. To develop pupils' basic practical skills and their ability to make accurate and appropriate measurements.
6. To build on pupils' curiosity and sense of awe of the natural world.
7. To develop pupils' use of computing in their science studies in particular using data loggers.
8. to extend the learning environment for our pupils via our environmental areas and the locality.

Outcomes

Enjoyment

- Teachers will create an environment that is engaging, exciting and enjoyable. Activities will be clearly linked to the children's every day experiences to allow them to appreciate the impact Science can have on their life. Lessons will create a sense of awe and wonderment at the scope and nature of Science. Teachers will develop in pupils a general sense of enquiry which encourages them to question and make suggestions.
- Children will approach their Science lessons with a positive attitude, and a willingness to learn. Through their work they will understand how Science impacts their life, and will gain an appreciation for the Scientific principles and experiences they are exposed to. Children will enjoy Scientific enquiry, and gain positive experiences from their ability to resolve questions.
- Each class will be enjoyable, and instil a love of Science.

Knowledge

- Teachers will provide new opportunities to learn, and encourage every child to reach their potential in Science.
- Teachers will ensure that there is differentiated learning, and progressions within the subject and class, and challenge the children through higher-order thinking questions.
- Teachers will use assessment to ensure that every child has understood the principles taught, and where needed, provide intervention groups to support those who need extra help to progress.

- Teachers will introduce children to different aspects of scientific enquiry, and model the skills needed to resolve scientific questions. This will include modelling scientific questioning, observations, enquiries, data acquisition and management, experimentation, identifying patterns, drawing conclusions and reporting on these.
- Teachers will ensure that there is complete coverage of the National Curriculum for the relevant Key Stage, and learning is taking place in line with learning objectives.
- Teachers will make use of the Science Overview (Appendix 1) and Year Group Topic Outline (Appendix 2) to frame their learning objectives and provide regular progression over the course of the year.
- Children will gain knowledge of scientific theories and practices and will be able to think in a scientific manner.
- Children will know the scientific vocabulary needed to express themselves.
- Children will appreciate the progression of their learning across topics and Key Stages, and will be able to build a pool of knowledge across the curriculum.
- Children will learn the skills needed to solve a Scientific enquiry both independently, and through sharing ideas with a group. They will be able to produce thought-out and measured answers to Scientific questions posed.
- Children will reach the expected standard or above, according to their age and be able to learn to the best of their ability.
- Each class will revisit previous topics to understand the progression from prior learning. Each class will provide new information, and give children an opportunity to acquire new knowledge. Periodic topic assessments will ensure knowledge is internalised and principles have been understood.

Experiential

- Teachers will provide children with a range of practical experiences that will enable them to further understand and experience Science, both inside and outside the classroom. This will include opportunities to visit Scientific places of interest to increase their contact with science in the real world.
- In the classroom, teachers will encourage children to pose questions, predict outcomes, and then perform hands-on experiments to challenge their hypotheses. This will include introductions to a range of scientific measuring instruments such as thermometers, force meters, magnets, as well as utilising Computing to enhance their work.
- Teachers will also encourage an appreciation for the contributions made by famous scientists to our knowledge of the world including scientists from different cultures. Where possible, teachers will extend Science into other subjects through cross-curricular activities that deepen knowledge, and further identify Science as a vital aspect of everyday life.
- Children will enjoy scientific experiences both in and outside the classroom. They will participate in Science days and school trips to places of Scientific interest, and gain a hand-on experience of Science in the real world.
- Children will undertake a range of specific investigations and practical work to give worth-while experiences and develop their understanding of science.
- Children will be able to enhance their work through the use of scientific experiments, computing and perform their own research using the internet.
- Each class will offer opportunities to experience Science in a hands on, or experiential manner. This can include visits to Scientific places of interest, hands-on experiences and experiments in the classroom, utilising other areas of the School including woodlands, and gaining an appreciation of Science in the real world.