



Newton British School

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An international community of learners striving for excellence and celebrating success



SCIENCE POLICY

Our Vision

‘An International community of learners striving for excellence and celebrating success’

Our Mission

We aim to provide the highest quality of education possible for students of all abilities. In doing so, we aim to positively encourage each student to achieve academic excellence, enjoy creative diversity, develop critical thinking skills and become lifelong learners and responsible citizens.

To achieve this, we will provide a diverse education in a safe, supportive environment that promotes self-discipline and motivation. We will provide and maintain a calm, trusting and caring atmosphere where teaching and learning are meaningful and developed. We will work in partnership with our staff, students, parents and wider community to achieve our vision.

DEFINITION

In our school, we believe that Science in the primary school will provide children with the opportunities to quench their inherent curiosity of the world around them. We believe that Science is an important subject to be taught through a broad range of approaches. We know that Science means giving children the opportunity to become involved, ask questions and uncover answers as it is brought to life in the classroom. These techniques will nurture the children's interests to find rational explanations for what they observe in their daily lives; we want Science to be relevant and applicable to the lives of our pupils. We desire to foster and stimulate an enthusiasm and love for Science when helping the children to explore themselves and their environment.

AIMS

1. To promote in our pupils a positive attitude towards the subject and to help pupils perceive the subject as enjoyable, stimulating and challenging. To foster an enthusiasm of scientific methods of enquiry.
2. To develop pupils' understanding, skills and knowledge in relation to Science. To develop among pupils an awareness that there are certain skills, knowledge and approaches that are related to Science in particular.
3. To promote in the pupils a development of scientific vocabulary that they can confidently understand and use in their everyday lives.
4. To cultivate awareness in our pupils that Science is a valuable subject area with many career opportunities. There is a need to convey the global impact that Science has to our pupils.
5. To develop the pupils' ability to think scientifically. To promote in pupils such thinking processes and to provide them with opportunities to demonstrate this e.g. planning, hypothesising, experimenting analysing, evidencing etc.
6. To meet all the requirements laid out in the National Curriculum of England and Wales.

LEARNING AND TEACHING STYLES

In order to cater to the range of identified intelligences and to meet the learning styles of all pupils in our school we put a variety of strategies in place. 'Starter' and 'warm up' activities for Science are encouraged as well as the drinking of water. Our teachers use a range and combination of visual, auditory and kinaesthetic activities will during lessons to maintain the enthusiasm and attention of all our learners. In any given lesson teachers may use scientific clips, images, equipment among other resources. Teachers are observed termly to ensure a range of styles are incorporated in lessons. Reviews of the planning also ensure a range of learning experiences. Clear learning outcomes and success criteria are communicated to the pupils as appropriate; these are reviewed at the end of lessons. We will engage with the children, encourage all to become involved, value their contributions and reward them. Oral and written feedback will be given to pupils throughout lessons and in their Science books.

See below the wide range of teaching strategies employed in our school:

- Starter activities e.g. scientific related riddles, images, word searches etc.
- Practical activities, group, paired and individual e.g. dinosaur hunts, healthy eating sorting
- Whole class activities e.g. matching organs on a human body outline on the interactive whiteboard
- Problem-solving activities e.g. Year 6 are not sure what type of material casts the strongest shadow. Solve their problem.
- Group discussion.
- Pupil led activities e.g. KWL charts direct the pupils activities throughout each topic.
- Activity based sharing.
- Topic-based activities.
- Educational visits/visitors.
- Scientific experiments.
- Science Week.
- Differentiated questioning techniques.
- Differentiated techniques for those with learning difficulties.

These will be backed up by appropriate reinforcement. Any staff who feel that they need extra support with any of the above can seek help from the Science coordinator by 'sitting in' on lessons. Activities will be well-paced, age/ability appropriate and challenging. Our teaching strategies will also facilitate the early identification and support for children with learning difficulties.

While all of the above strategies will be addressed to secure the development of pupils, the main focus in our efforts within Science will be to:

1. Promote A Positive Attitude To Science

- a. Pupils will experience a variety of learning situations where they will succeed. This will develop a positive attitude towards the subject.
- b. Pupils will experience a variety of learning situations which are interesting, stimulating and challenging.
- c. Pupils will engage in activities which are either individual or collaborative. This will ensure that pupils' positive attitude to the subject is maintained.
- d. Pupils will visit places of scientific interest or receive visitors of scientific relevance to their school.

2. Develop Scientific Knowledge, Skills and Understanding

- a. Pupils will have the opportunity to investigate a range of topics. This range will permit the development of a broad knowledge and understanding as well as an array of integral skills.
- b. Pupils will have the opportunity to partake in a range of activities. This likewise will ensure that pupils encounter broad knowledge, utilise different skills and be challenged to gain greater understanding.
- c. Pupils, as they progress up through the school will be required to partake in activities at increasing degrees of depth. This will enable pupils to gain greater understanding.

3. Develop Appropriate Scientific Vocabulary for Daily Use

- a. Pupils will be given the chance to become familiar with scientific language and allow them the opportunity to use such language in discussions.

- b. Pupils will have ample opportunities to talk about and discuss their work in pairs, groups and as a class.

4. Communicate the global impact and importance of Science

- a. Pupils will have the opportunity to discuss and explore a range of current scientific issues e.g. global warming particularly as they progress through the school. Teachers will explore scientific news with pupils according to their age and ability where appropriate.
- b. Pupils will have the opportunity from an early age to communicate with scientific professionals during visits outside and inside school who can communicate to them how many careers have a scientific base. This will be specifically prevalent during Science Week.

5. Develop Pupils' Ability to Think Scientifically

- a. Pupils will be challenged to investigate problems and approach their resolution through the scientific method.
- b. Pupils will be encouraged to consider problems and decide upon the most appropriate method of investigation prior to partaking in problem solving.

6. To meet all the requirements laid out in the National Curriculum of England and Wales.

- a. Pupils will meet the requirements of the National Curriculum of England and Wales.
- b. School planning will mirror the planning of the National Curriculum.

RECORD KEEPING AND ASSESSMENT

We see assessment of our own teaching and our pupils' learning as a crucial part of teaching and learning. It allows us to truly evaluate the quality of our teaching and allows us to plan whole learning from our mistakes and building upon our successes as a staff.

1. **EYFS Folders:** These are kept in Pre-School and Reception. They document the pupils' scientific experiences throughout each Term and have a representative sample of all the areas covered such as the farm, healthy eating, animals and space. Pupils' class work and work from displays are stored in these folders. These folders are sent home at the end of each Term.
2. **EYFS '2 Simple':** In our school the EYFS department complete weekly observations on a different group of children each week. These observations are photographic evidence as well as written information on the developments of the children each week. Our EYFS teachers complete observations based on scientific activities under the 'Knowledge and Understanding' category.
3. **Big Picture Book/Folder:** Each class will have the option of having an A3 book or alternatively a folder documenting all topics covered in Science. This book/folder will include KWL (what we know, want to know and learned) charts, questions asked by the children that directed their learning of their topic as

well as photographs/collages of experiments and activities related to each topic. Photocopies of work can be included in these books also. These big picture books can be used by the children during reading time to recap on topics and remember enjoyable activities.

4. **Science Exercise Books:** These will be kept for every pupil from Year 1 to Year 6. They will contain a representative sample of all areas of work covered.
5. **Teachers' Record Books:** Some teachers record individual pupil progress in their own record books. This may also be recorded on weekly short term planning in the form of annotated notes. This form of record keeping is to be encouraged as it directs teaching and learning and is an excellent aid during report writing for each child and when informing parents of their child's progression. Teachers also keep records of exam scores and record these along with relevant comments about progress on a termly report. Classroom displays are also used to record and display Science Work.

CROSS CURRICULAR THEMES

As a school we do not want learning to occur in tight compartments. We want Science to link to as many of the pupils' other subjects as possible. We will ensure that there will be a flow of information and skills into and out of other curriculum areas. Our topic based approach to Science will ensure an intrinsically cross curricular mode of learning.

CONTINUITY AND PROGRESSION

Continuity and progression can be ensured if all teachers adhere to the school Science scheme and cover the topics and skills assigned to their year group in a manner which is appropriate to the ability levels existent in their classes. The Science co-ordinator will ensure that the scheme meets all the continuity and progression needs of the pupils.

Differentiation - Pupils progress at different rates and have different strengths. Such differences need to be taken into account when delivering the Science curriculum. All pupils are entitled to access the same curriculum and a range of strategies which ensure that this access leads to effective teaching and learning will be provided. Lower attaining pupils may benefit from a curriculum with a different pace and emphasis. Such pupils will have access to activities with greater emphasis on active learning methods.

RESOURCES

Each teacher will be aware of Science resource areas in the school. These are kept in an accessible area behind the staff room and maintained throughout the year. The equipment is stored in labelled boxes behind the staff room. Borrowed equipment returned to its appropriate place when teachers have finished with it. The school equipment should be accessed consistently to support the development of every area of the curriculum and the learning experiences of all our pupils.

There is also a wide range of books relating to many scientific topics available in the library. Teachers should encourage their pupils to read a variety of factual and scientific based books to promote a good general knowledge and basis for topics in class.

FIELD TRIPS/EDUCATIONAL VISITS

Children in our school will be encouraged to take part in educational visits; Science walks or hunts within the school grounds and the local community to promote their learning.

Pupils will also be encouraged to visit places of scientific interest in Doha to take part in activities relevant to scientific studies, e.g. spring walks, pond dipping, beach studies etc.

During Science Week there may be visitors in the school relating to Science careers and specialists for experiments. Teachers are encouraged, with the proper permission, to invite visitors to the school who can bring Science to life in the classroom e.g. doctors, firemen, nurses for 'people who help us.'

All visits must be risk assessed prior to the trip occurring.

HOMEWORK

Homework is an integral part of everyday work and learning for our pupils. It helps to inform parents of the activities which their children take part in school. It forms an important link between home and school and affords parents the opportunity to make a significant contribution to their children's education. In Science, parents can play a most important part in helping their children, for example if the homework is about carrying out an investigation in the kitchen, helping children to gather up materials for an experiment. We encourage parental involvement in the subject. Teachers may wish to encourage parents by means of providing lists of books/places to visit/ websites of scientific interest. These should be given to all parents or posted on the year wiki space.

ASSESSMENT

Assessment is directly related to everyday work and is carried out on an ongoing basis. The aim of assessment is to acknowledge accuracy, endeavour and performance as well as to identify areas for further development. Assessment should always be constructive and where possible it should be immediate. Termly assessments take place from Year 1 through to Year 6. We use the 'Rising Stars' assessments. All assessment should be in line with the school's marking policy.

CO-ORDINATOR

The Science co-ordinator will have overall responsibility for:

- a. Co-ordinating Science throughout the school.
- b. Ensuring that the schemes of work devised by each year group correlate with the statutory requirements.
- c. Reviewing/updating schemes of work.
- d. Maintaining, updating and implementing present policy.
- e. Promoting a thoughtful approach to Science.
- f. Maintaining and updating Science inventory.
- g. Ensuring that all staff development activities necessary for the full implementation of the Science curriculum are provided.

MONITORING AND EVALUATION

The Principal, Vice Principal and Co-ordinator will be responsible for the overall system of monitoring and evaluation of Science throughout the school. Evidence used to inform such evaluations will include:

- (a) Children's work
- (b) Teachers' plans – long term, medium and short term.
- (c) Interviews with teachers, pupils and parents
- (d) Team meetings
- (e) Classroom observations

Reviewed By: Mr. James Houston - Principal and Mr Conor Hayes – Deputy Principal
June 2021

Next Review Date: June 2022

Interim Review to be completed in September 2020 by Mr Johan Kunz, Science coordinator