Policy for:

Science

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THE GROVE SCHOOL

POLICY STATEMENT

SCIENCE

Rationale

All children should be given opportunities to experience how Science permeates everyday life, to develop an enthusiasm to enquire and investigate within new situations and experiences and with a range of equipment. Children should be given opportunities to experience and respond to changes within their direct environment, based both in and out of school and be encouraged to communicate their feelings and thoughts.

Aims

Through the Science Curriculum it is our aim to enable all pupils to be appropriately stimulated and challenged at a level suitable for their age and development.

It is our aim to:

- encourage pupils to develop the ability to look at materials and sustain this observation through aiming to teach an increased awareness of both familiar and new materials and surroundings.
- encourage the assimilation of what is being observed, the skill to track an object, maintain concentration and establish sufficient curiosity to investigate a situation further.
- encourage pupils to describe, sort and group materials using their own and set criteria for the classification of objects.
- encourage awareness of how some materials are constant and how some change eg Food Technology is an appropriate and relevant lesson through which to develop a deeper understanding of this (Refer to Design and Technology).

- develop investigative skills which are not solely reliant upon looking but also encourages a child to touch, listen, smell and when appropriate taste materials.
- provide for the development of a pupil's scientific knowledge and understanding through the constant repetition of investigations approached through the exploration of a wide range of materials to consolidate the learning which has taken place.
- provide a range of environmentally based situations to give depth and meaning to the subject content and in order for some generalisation to be learned. eg What do farmers grow in the local fields? To experience hot/cold, wet/dry, still/windy, hailstones/snow etc directly, whenever possible to discuss current weather conditions, environment etc.
- develop an enhanced awareness within each child of their own individuality, of their own bodies, their needs, of how they feel and how they look.
- discriminate between what is and is not edible.
- develop an awareness of the differences and similarities between themselves and others, in particular those adults and children with whom they have closest contact eg parents, brothers/sisters, extended family, teacher, class group, etc.
- encourage appropriate interactions with adults and their peers and to show a different response to known and unknown people.
- teach the importance of hygiene throughout personal development programmes, additionally covered in the PSHE Policy.
- support pupils who are on a special diet by helping them, their peers and all adults they work with to understand the importance of keeping to a child's individual dietary requirements, to follow this through in Food Technology lessons.

- encourage regular exercise through Physical Education to establish the importance of exercise in maintaining a fit and healthy body, additionally covered in PE curriculum.
- encourage an awareness of Health and Safety issues both within the Science Curriculum and in all appropriate cross-curricular lessons.

Guidelines - General to Science

It is essential to note that the requirements for the programme of study for Science apply across Scientific Enquiry, Life Processes and Living Things, Materials and Their Properties and Physical Processes.

Guidelines – Scientific Enquiry

Through using a variety of carefully selected materials to encourage a child to sustain observation and to work towards the assimilation of this in order to further develop their concepts and understanding. Reference to Flo Longhorn's Multi-Sensory Curriculum, (Sensory Science – National Curriculum for very special people), specifically details how a Sound, Sight, Touch, Taste, and Smell Bank of resources can be effectively gathered stored and used.

It is vital at this stage to have appropriate objectives which are finely set in order for relevant experiences to be planned which have small steps of achievement built in to them. It is imperative to acknowledge the slightest change in a child's response. Is he/she looking at the object, in front of it or beyond it? Can he/she sustain observation or is he/she unable to change his/her line of gaze himself/herself? Can he/she track an object? Both from right to left, left to right, up/down, down/up, up to 180 or beyond 45 ? etc.

Computer programmes are used which have been specifically designed to aid the development of visual skills such as observation and tracking. It is vital that the materials presented are thoughtfully prepared as too much stimulation can cause confusion and negate any response. Likewise the constant use of specific computer programmes and other materials may dull any response through a pupil's boredom with its use.

Guidelines - Developing Scientific Enquiry

Pupils are taught the vocabulary necessary to describe materials and how to sort and group these using their own ideas and set criteria. Concentrating upon one sense at a time can help to develop children's perceptions of both everyday materials and new objects. Use of a "feely box" requires pupils to be totally reliant upon touch and encourages words such as heavy, light, soft, hard, smooth, gritty, etc. Using either a screen or a blindfold pupils can listen to an object shaken by someone else and determine whether it has sound such as soap powder in a box or not such as a bar of soap. The item can then be held for them to smell and decide if it has a particular scent or not. The sense of taste is used with discretion. By creating situations where pupils have to touch, listen, smell and where appropriate taste objects, they are being encouraged to develop investigative skills which are not solely reliant upon looking at an object. This aims to give pupils a scientific language base which they can use to draw similarities and differences between objects and to make comparisons between one situation or another.

Whilst initially it is easier for pupils to respond to questions rather than to ask them these need to be carefully presented in order to make certain demands of a pupil and to encourage her/him to think a situation through. The predominant use of open format questions is essential although a closed approach requiring only a "yes or no" response is also valid both in developing a pupil's ability to reason and assessing a point at which to begin.

The development of a pupil's scientific knowledge and understanding involves constant repetition of investigations approached through the exploration of a wide range of materials. Some of these lessons will be similar to work covered in the statements of attainment for Mathematics, in particular the use of standard and non-standard

measures and the use of block graphs. The approach within this subject area will have the appropriate scientific orientation.

Being able to use our own mini-bus gives a positive advantage by readily widening the resources which can be used. Materials could be collected from the seashore and from a riverbank and then sorted and grouped with the similarities and differences between the two being identified and then investigated.

Introducing the idea of a "fair" test is a difficult concept but use of the practical situations such as food technology lessons contribute towards building an understanding of this. The problem of how to melt chocolate could be proposed. Discussions would hopefully introduce the idea that heat was necessary. It could then be discussed if it was "fair" to investigate which would be the quickest at melting the chocolate, the oven or the microwave, if both were switched on at the same time. To some pupils this question may not have an obvious answer and may involve many practically related lessons to form a base from which their understanding can develop. Establishing an understanding of the word "fair" is often initially more successful at a personal level.

Interpreting results can be achieved at many levels but at all times a pupil's language base needs to be considered. When planning experiments it is essential that all the possible results are planned for in a format which will enhance and not detract from the pupil's understanding of the situation.

Throughout all their scientific investigations a child will be encouraged to discuss their observations, question what they have done and make suggestions as to how this could be further developed.

Guidelines - Initial Life Processes and Living Things

To be aware of life and living processes pupils firstly need to be aware of themselves, of their own bodies, of how they feel and how they look. A mirror is a vital resource in this process. From a very early age children become fascinated by their own reflection and how their own facial actions and movements alters this. All pupils do not gaze naturally into a mirror and may need to be co-actively helped to experience their own reflection, although they may not understand that the face looking towards them is their own, by stroking a cheek, etc while they are observing their reflection some realisation may be initiated. This format may also be used with full length safety mirrors. Co-actively singing and moving the appropriate body parts for songs such as "Head, shoulders, knees and toes .." is one example of how pupils can be helped to become more aware of themselves.

Making games of pointing to body parts may help pupils awareness of themselves and others, such as "This is the way we brush our hair , this is the way we wave our hands etc" sung to the tune of "Here we go round the mulberry bush" being one example of how this could be approached. Massage of a pupil's hands, arms, feet and legs with scented creams and oils is a sensory based experience which also may heighten their awareness of themselves.

The "Body Awareness Programme" by Marianne and Christopher Knill is a compilation of activity programmes designed to develop body awareness and contact and communication with others. The level of participation is recorded in six areas which determines the amount of support a pupil needs. The first is "Passivity" leading through "Interest, Recognition, Expectation, Co-operation" and finally to the highest level of participation "Initiative".

Photographs of pupils, their family, class and school groups, known adults and teachers, can help pupils to become aware of others and any similarities or differences between them. Pupils are encouraged to appropriately interact with adults and their peers and to show a different response to known and unknown people.

Each child is encouraged to respond to a variety of flavours and textures in their food and to communicate their preferences and need for food and drink. Through constant monitoring of situations pupils are helped to discriminate between what is and is not edible.

Establishing experiences in which pupils can react to things being dirty such as after art and craft lessons followed by washing and cleaning their hands etc provides the opportunity to draw comparisons between being clean and dirty. Following toileting programmes with all pupils attempts to establish the importance of hygiene and how control can be established over bodily functions. These usually begin when pupils start school on a nursery placement at three years of age and followed through until they are no longer necessary. Other issues of personal hygiene are approached as and when necessary as a pupil develops.

Contributing to school collections of metal, glass, stamps, etc gives the opportunity to develop an awareness of a wide range of waste products.

The first premise of learning personal safety is to develop an understanding of the word "No" and that its use immediately signifies that the present activity should cease. All adults working with children need to be constantly aware of safety but particularly so with very active pupils who have pld. Their learning environment needs to be structured and planned with safety as a crucial issue at all times.

Flowering plants can be brought into school on a seasonal basis introducing a variety of scents, colours and foliage. Plants grown in the classroom and within the school help to create a more pleasant

environment and establishes a routine which cares for them and in which pupils can become involved.

Use of the mini-bus provides the opportunity to explore a wide variety of plants and animals which can be observed in their natural habitat. Local farms, farm-parks, gardens, garden centres, woodland, beaches and sea-life centres provide valuable resources from which pupils can experience and observe a wide variety of life and living processes.

Guidelines - Developing Life Processes and Living Things

Pupils are encouraged to name the main external parts of their own body, beginning with head, body, arm, leg, hand and foot. Gradually this will develop to include words such as face, hair, nose, eyes, ears, lips etc. A stage further will introduce terms such as knee, elbow and ankle. Jigsaw puzzles of the human figure and layered inset trays which are in three depths, the first being skin, the second being muscle tissue and the third the skeleton help to establish an understanding of the human body.

Investigating the similarities and differences between humans introduces the use of classifications such as boy and girl, man and woman/lady. Initially the differences between men and women are often identified with the terms mummy and daddy. "Lady" is a local term used for "woman" which tends to initially be more easily understood and is less likely to be confused with "man". Often it is easier for pupils to begin to understand differences and similarities between humans which are related to size and colour rather than age as these have a much more concrete and observable base. Games such as "Guess Who" help to reinforce visual discrimination.

Pupils who attend Riding lessons can also further develop their understanding of Life and Living Processes through extending their knowledge of their pony and how to look after it.

Results of their investigations can be recorded in bar charts or sets which use pictorial representations as well as colours, numbers and words.

Many of our pupils are on a special diet which helps both them and their peers to develop a knowledge of a variety of foods which they may need to avoid, the importance of a balanced diet and the healthy alternatives to foods which are high in fats and sugar or contain additives which a pupil must not eat.

Physical exercise and physiotherapy routines help to establish the importance of regular exercise in maintaining a fit and healthy body. The importance of rest is related to exercise and our body's' need for a balanced lifestyle. Rest can be a difficult concept to establish but links between a current feeling of tiredness are discussed and related to a late night or previous activity. Personal hygiene is covered in detail in the school's own "Personal Living Skills" booklet which aims to develop our pupils into responsible teenagers who are aware and independently able to follow through general rules of cleanliness. Personal safety and the understanding of certain rules such as those for "Road Safety" and the use/non use of electrical appliances are programmes which are followed at the relevant times, throughout the school day. Other rules such as walking and not running down corridors and between classrooms help pupils to develop their own self-discipline and understand the difference between safe and thoughtful actions and careless and dangerous behaviour. The safety of others is also a concept which is encouraged, such as riding bicycles, in the school yard, carefully and with consideration for others.

The role of drugs as medicines is considered to be ideally taught when a pupil, or member of his class group, requires medication as the reason for their use can then be more easily identified. Some pupils need to be on regular medication but the reason for this may not be obvious to them.

However they will be helped to understand their condition on an individual basis in an approach which will aim to accurately alleviate any concerns they may have but not present too much factual information which may initiate fears and cause distress.

Our pupils enjoy growing plants from seeds and are encouraged to look after and care for plants within the school. Lessons are based both in the classroom and within the local environment which encourage the correct labelling of plants. Terms such as flower, stem/stalk, leaf and petal are initially introduced. Plants are removed from containers in order for their roots to be observed which can then be looked for in a variety of situations. Classification of plants is taught with the use of terms such as flower, vegetable and tree. Correct use of specific names is also considered to be important, eg snowdrop, daffodil, rose, potato, lettuce, carrot, apply, orange, banana, pine, horse-chestnut and oak. The ability to be able to link raw vegetables and fresh fruit with cooked and prepared food is considered to be a valuable practical way in which to extend a pupil's knowledge.

Being able to visit many local habitats gives our pupils the opportunity to investigate a variety of environments, analyse their similarities and differences and discuss how human activity has produced local changes. Caring for their environment by dealing with rubbish correctly both in and out of school gives pupils a guideline of standards which should be followed at all times.

Observing waste materials within the environment as well as through specific experiments aims to create an understanding of how materials decay and how careless behaviour can harm our environment.

Guidelines - Initial Materials and Their Properties

Exploring the properties of materials for their shape, colour and texture can provide many stimulating and exciting experiences. One example

lesson may centre around types of "paper" eg tissue, foil, cellophane, plastic, opaque, transparent, card, writing, newsprint, sand, dull, shiny, smooth, air-padded, etc. Pupils could look at these, touch them and crush them and listen to the sounds made. Large rolls could be used by adults to "waft" the air, smaller sheets could be created into fans and pupils could experience lying on certain materials, particularly the transparent "bubble" plastic used for packaging. Teachers will be able to identify which "papers" pupils found especially pleasurable, in which situations and for which reason.

Play-dough, clay, pastry, plasticine and a physiotherapy substance of varying resistance etc are used to help maintain and develop pupils fine motor skills. Touching and manipulating these materials gives experiences of how some solids can change shape by being squashed, bent and twisted. Leaving their work to dry and cooking any pastry or play-dough and subsequently touching and exploring their creations gives experiences of how these substances have changed. Use of manufactured equipment such as Popoids and Artstraws can be used to give experiences of how flexible some substances are when designed in a particular way and how these can bend and be manipulated into various shapes and positions. Water play gives valuable experiences for pouring and observing liquids taking the shape of the containers they are poured into. Colouring water creates variety and an additional experience which makes observation of the liquid easier. Dissolving bath crystals in water gives experiences of how one can alter its basic properties. Substances such as oils, bubble bath, etc can also be used in a similar way. Adding ice-cubes to water gives experiences of how the temperature can be changed. By varying the temperature of the water and the amount of ice-cubes used there are many alternatives to the way in which this could be approached.

Dissolving solids in various drinks and in cookery lessons may be approached using a multi-sensory approach which will provide an extensive variety of experiences. Such lessons can also be planned to give experiences of how solids change shape, of how some melt and then solidify again and of how the introduction of heat permanently changes substances/ingredients in a variety of ways.

Pupils who have pmld are usually well protected from the harsher elements of our weather and perhaps the thoughtful way in which they are looked after cossets and restricts their experiences of the wide variety of weather conditions which prevail in our climate. Certainly great consideration and thought is essential but with careful planning pupils could experience rain on their hands and faces, snowflakes fluttering down and disappearing, wind wafting around their bodies etc. rather than only ever going outside only when it is warm, sunny and pleasant.

Guidelines - Developing Materials and Their Properties

Whilst many of our pupils would be able to specifically name objects by use of terms such as rock, sand, soil, mud, etc, there needs to be a structured approach which ensures an understanding and generalised use of such words. Incorporating the use of adjectives, which appropriately describe the simple properties of materials, into a pupil's unprompted spoken language, is based upon practical lessons which explore various materials and continually aim to reinforce known terms whilst introducing additional words. Encouraging the appropriate use of terms such as shiny, hard, gritty, wet, soft and light need not necessarily be limited specifically to a science lesson. Ideally a generalised understanding and use will be more successfully achieved if a structured lesson plan is complemented by an eclectic approach. Every opportunity should be utilised to make optimum use of appropriately using these terms. Pupils

are encouraged to become more observant by giving them the skill to be able to recall suitable words to describe what they see when they are in cross curricular lessons which are based both in and out of school.

Work within this programme of study lends itself well to homework based investigations. If properties such as soft, light, shiny/reflective, etc were being discussed in the classroom pupils could be asked to look for and list with their parents any such items they can find at home and if possible bring these into school to be part of a display.

Food Technology, as well as during specific experiments, is an ideal lesson in which to experience and observe shape, colour and texture and how materials can be dissolved, poured, blended and changed in shape. It is valuable to consider a variety of sources of heat, rather than solely a conventional oven, but also a microwave oven, cooker rings, cooker grills and toasters. For non-cookery based lessons use of heat from sunlight, indirectly through glass and directly, candles, radiators, etc would give important examples of the differences between a variety of intensities of heat and how some change and some remain constant.

There are many old, sandstone buildings within the school's locality, which show significant signs of erosion. By drawing pupils attention to these they can become aware of how buildings change over a period of time. Experiments within the classroom can draw some relationship between the effects of the weather and erosion.

Guidelines - Initial Physical Processes

Use of the range of computer systems in schools gives pupils appropriate experiences of using electricity by operating equipment which will reward them in a variety of ways. Individual switches attached to battery operated toys helps to build up a pupil's understanding of how their actions can cause a reaction. Gradually it is aimed to develop an

understanding of the connection between the response of the object to the movement of the switch.

Use of adapted switches using either batteries or electricity attached to a radio/tape-recorder creates a particularly rewarding experience for the pupils whilst aiming to establish an awareness of cause and effect. Use of household appliances such as hair-dryers after hydrotherapy sessions give practical experiences of how electricity is used. Learning about the dangers and misuse of electricity is paramount for all pupils. The instruction and rule "No" used whenever a pupil, who is not under direct instruction to do so, attempts to touch electrical switches or appliances should be a code of conduct carried through at all times, in all situations. Child safety sockets must be put into any electrical socket which is open to misuse by any child, although these in themselves should not be accepted as the ultimate precaution and adults should be aware of any potential danger at all times. The use of safety sockets should not negate attempts to develop a pupil's awareness of the dangers of electricity.

When pupils are washing their hands, showering, bathing, in hydrotherapy, in swimming pools, or when having specific lessons in water play their experiences can be enhanced by paying particular attention to the temperature of the water being used. Often pupils are cosseted by using water which is of an ideal temperature. It is stimulating for pupils to experience a variety of water temperatures which are both cooler and warmer than their own body temperature.

Pupils need to experience being in as many positions and moving in as many different ways as is possible themselves to help them to build up an understanding of the differences between being still and moving and how the latter can be initiated. Pupils who need to use wheelchairs can be helped to experience movement at a variety of paces such as a very slow

and fast and going backwards as well as forwards by joining in races when at the Sports Centre. Pupils who are physically able with pld can be co-actively encouraged to participate and run, walk backwards, sideways etc as independently as possible.

By playing with tricycles, bicycles and dolls prams etc pupils are practically experiencing how things can be moved by pushing and pulling them.

Experiences with the tail-lift in the mini-bus, going out in the mini-bus, the hoist for hydrotherapy, being in hydrotherapy, the transportable hoist and riding in the Duet tricycle gives a variety of movement which is achieved in several different ways.

Objects which are suspended but within the pupil's reach can give experiences of how hitting and pushing them can create movement and to some extent a variety of momentum, dependent upon the strength of the hit or push.

Use of the enormous physiotherapy ball, footballs, tennis balls, ping-pong balls etc gives experience of how spheres of varying size and substance react to being pushed. Games can be developed in many ways such as two pupils working co-actively with two adults pushing a variety of balls to each other and observing their different responses.

A variety of vehicles, which are relatively easy to grasp and use co-actively are examples of equipment which can give experiences of pushing and pulling. Duplo and sticklebrick models are also suitably well designed and can be adapted for use by pupils with a range of individual needs. Use of the shapes in soft-play, the tiled classroom floor, wooden hall floor and the addition of various other materials on these provides experiences of how movement can be enhanced or restricted depending upon the surface material used. As much variety of equipment as possible should be used and not solely that which can directly be related to transport.

The Liteworks within the Sensory Room have established a multi-sensory environment in which a variety of sounds and light sensations can be experienced. Both classical and pop music can create relaxing or vibrant atmospheres which pupils are encouraged to appreciate, compare and indicate which they have preferences for. Commercial and musical instruments made in the classroom and objects which can be adapted to create a range of noises may be used to give pupils experiences of a variety of sounds from soft to loud.

The projector can be used with several slides each of which produces a different colour range creating its own, unique experience. The mirror-ball creates an almost starlit, night sky effect and provides a most unusual source of light. Use of torches, coloured transparent papers, commercial and school-made sunglasses all give experiences of light and how its colour can be changed. Being in a darkened room and switching on the light enables a comparison to be established between light and dark. Going outside on a bright day can give experiences of the effect of sunlight and shadow. Looking through prisms can give experiences of the different colours of light.

Guidelines - Developing Physical Processes

Within the classroom, Science, Art and Technology room, hall, office, kitchen and utility area, there are many examples of the use of electrical appliances which would also be found in the home. Use of plugs and electric sockets have many dangers associated with them which pupils must be helped to become aware of. Whilst some pupils in a school leavers group may learn how to plug in electrical appliances in school it is generally considered safe practice that the majority of pupils do not do so, unless they can be very closely supervised at all times.

Pupils experience making simple circuits on a regular basis, using bulbs, buzzers, batteries and wires. By developing their work, pupils are

encouraged to investigate materials to discover those which conduct electricity and those which do not. Exploring the effect of magnets on a variety of magnetic and non-magnetic materials gives the opportunity for several small investigations which pupils are encouraged to carry out independently. Sorting metal pins from plastic beads etc helps pupils to develop an understanding of the properties of each. Use of the Brio train set which is joined together by magnets rather than being a fixed attachment may be used to show how repulsion between two magnets can be used to propel a toy vehicle.

Pupils are encouraged to consider their own comfort for themselves and if they are too hot to remove a garment or if they are cold to put it back on. Links with PE lessons and the weather give ideal opportunities to discuss when and why they feel hot or cold. The use of thermometer measurements in both water and air may be charted and the differences discussed and investigated. The different fuels used in school are discussed and pupils observe the delivery of oil for heating the boiler house which creates the power. When appropriate electricity meters could be observed and notes taken of the units used on a daily and weekly basis. By requesting the support of parents pupils could investigate the use of fuel in their homes which would hopefully also introduce the use of gas and solid fuel.

There is a variety of equipment in school which can be used to give experiences of the natural force of gravity pulling things down and mechanical forces such as those produced in wind up toys, elastic or electrically driven toys and by the movement of their bodies. Use of Lego, Duplo, Quadro, mini-Quadro and Tactic by Rahmqvist should give valuable experiences in the way in which forces push, pull, make things move, stop things and change the shape of objects. Road Safety

activities could greatly enhance a pupil's understanding of such dangers when linked to the power of forces and the damage which they can inflict. Floating and sinking experiments could be related to water safety and further explored during the regular weekly sessions at the swimming pool. Use of various swimming aids will help to reinforce the concept of floating whilst equipment used for surface diving will reinforce how some objects sink. Practising floating and diving will help pupils understand how different body actions and positions will create different results.

The Ladybird Sounds lotto game is a valuable resource which helps children to develop their auditory discrimination and to recognise a range of sounds in their environment and how these are caused and used. There are frequently emergency sirens, helicopters, jet aeroplanes, grass cutters, various vehicles, engine and horn sounds, telephone, floor cleaner, etc heard within the school environment which pupils frequently relate to the source through their own curiosity. If an unusual sound is heard, whilst it may detract from the existing lesson, optimum use is made of the opportunity and the cause of the noise is investigated. We are fortunate in having an extensive range of percussion instruments which can give experiences of striking, plucking, shaking, scraping and blowing. Listening to how an adult's voice can be used for speaking and singing in a variety of depths and tones gives pupils experiences of how they can change and alter the sounds which they produce.

Use of light from torches, lamps, ceiling lights and the sun with a variety of materials gives experiences of how light passes through some of them, but not all, and that when it does not, shadows may be formed. Use of mirrors enables pupils to reflect light and can be the stimulus for some interesting and amusing investigations. By drawing several pictures of the sun and sticking these to a classroom window at regular intervals during the day, a pictorial representation of its movement across the sky has

been created in a format which the pupils can continue to observe and relate to.

Learning to sort objects into sets by colour and to match colours helps pupils to develop visual discrimination skills. Naming colours is an important next step followed by developing the ability to sort shades of colour and to name these. Such exercises combined with the previous paragraph will help pupils to explain that light comes from many sources and can be of different colour. Use of prisms may help to reinforce the study of light.

Regular use of the mini-bus to explore and investigate the locality helps pupils to develop observational skills which, through time, they can relate to on a seasonal basis. Observations which are recorded in a way which particularly reflects these changes will help pupils to relate to changes which have happened throughout the year.

By regular visits and the taking of photographs in which the pupils are included which accurately record seasonal changes of farmland, woodland, gardens, weather etc a resource is created which pupils can relate to and discuss.

By use of globes, photographs taken from space of the earth and from earth of the night sky pupils are helped to develop an understanding that each of these are separate spherical bodies. Involving parents who can help their children to observe the night sky pupils can be helped to develop an understanding of the changes which occur throughout the day and night and how the hours of daylight and darkness change throughout the year. Parents can help their children to observe the moon and its changing appearance, which will help pupils to discuss and develop their understanding of this with their peers, in the classroom situation. Study of the Earth, Sun and Moon could lend itself particularly well to an art and craft development which in a 3D approach could help pupils to relate

to these bodies, the effects they have on each other and how they interact.

Assessment Progression and Achievement

At every stage ongoing assessment which forms part of each child's Individual Education Plan is essential in providing current information for detailed objectives which are relevant to each child. Through a range of approaches and activities which focus on what a child can do, knows and understands, further steps of achievement and progression are planned for.

It is suggested as an ideal that each child's Science objective/s will be reviewed and updated on a termly basis and be collated along side evidence of their work which will form the basis of the information needed for Science for each child's Annual Review of Statement. Since the introduction of the revised Standard Attainment Tests/Tasks most of our pupils are disapplied from these, however, if appropriate for any individual child they will take these national tests.

Liaison

It is important for teaching staff to liaise with the Science Co-ordinator, from whom additional advice and support can be sought. Through open discussion with all other teaching members of staff it is intended to give support through mutually developing an awareness of approaches, techniques and equipment used in school, but in particular to ensure continuity when a pupil moves on from one class group to another.

It is vital that teaching staff liaise closely with all class support assistants in order that they fully understand each child's objectives, and the approaches and equipment to use. Open discussion with nursery nurses encourages their opinions, support and advice about how to most successfully plan for progression and achievement for each individual child.

Formal liaison with parents is regularly achieved and recorded at least annually when objectives are set at each child's annual review of statement meeting. Less formally these are referred to at twice yearly class based meetings and if necessary through home/school diaries or personal contact.

Liaison may also be appropriate with any multi-professionals who are currently working with any individual child.

Cross Curricular Links

In particular further reference to the policy documents for English, Creative Arts, Design and Technology, Humanities, Physical Education and Personal and Social Education would be helpful when planning for specific areas within Science. Our Meduium term cross curriuluar plans ensure that all subjects are linked so that our children understand that many elements of learning relate to previous learning and learing in other subject areas.

Health and Safety

At all times regard for the health and safety of pupils and staff should be considered. Reference to our Health and Safety guidelines is essential. This needs to be carefully considered especially when setting up and moving equipment, establishing appropriate working conditions and general electrical safety.

Equal Opportunities

It is intended to offer equal opportunities to all our pupils regardless of gender, race or ability. However, it is essential that in the furtherment of Equal Opportunities that the Health and Safety of staff and pupils is not compromised or put at risk. Additionally all opportunities for every child are based upon what is appropriate and relevant within their individualised education plan.

Behaviour

Reference to our school behaviour policy and if relevant a child's behavioural objectives in their IEP is essential. Teaching a child self-discipline and motivation is central towards successful progress and achievement in all learning, throughout the school day, which is relevant to both structured and non-structured situations.