

'From the moment of birth, or even from the moment of conception, children are developing scientific ideas about the world around them. These ideas occur as a result of experiences and exploration. The more exploratory experiences children have, the greater their scientific development is likely to be.'

J Johnston, Early Explorations in Science, Open University Press 1996

The Unique Child

Ensure exploration and investigation provision provides a range of opportunities for all children to:

- Respect and value all people, and learn about and care for the environment in which they live
- Be motivated, enthusiastic and curious about the world around them
- Have confidence, high self esteem and increasing independence in their thinking skills

Positive Relationships

- Use parents' knowledge to extend children's experiences of the world
- Act as role models, demonstrating excitement and curiosity, a willingness to enquire, having the capacity for surprise and for seeing things as if for the first time
- Encourage children to find things out for themselves, to observe what is important, and to develop the use of the senses

Enabling Environments

- Offer a range of activities which make effective use of both the indoor and outdoor environments
- Vocabulary and language associated with the resources and activities are displayed in an attractive and accessible way
- Encourage children to talk about their learning, to develop a scientific language through questioning, prompting and modelling

Learning and Development

- Hands-on play experiences are planned from children's interests and needs which encourage the development of scientific process skills such as experimentation, observation of characteristics, prediction, problem solving, decision making and communication
- Children are encouraged and prompted to describe, compare, predict, question, talk about what they observe and what they think might happen, communicating (verbal and non-verbal) with each other and with adults through a variety of media
- Use open-ended and person-centred questioning (e.g. How can we sort these seeds?), to encourage thinking skills, problem solving and language development
- Introduce new vocabulary by modelling in context, using first-hand practical experiences and correct scientific terminology, sometimes alongside everyday words until the child is confident in their use (e.g. transparent, see-through)
- Challenges are set which encourage creative imagination, personal expression, application of prior knowledge and cooperation with others (e.g. What could we find that would sink in the jelly?)



Leadership and Management

- Effectively monitor all children's progression towards the early learning goals in KUW
- Exploration and investigation is well resourced with a wide variety of good quality, interesting, motivating and relevant resources
- Regular visits and trips are organised
- Children are safeguarded through effectively communicated and embedded health and safety policies

A few tips...

- A bird box with camera allows children to observe birds nesting at all times without disturbing their environment
- Use electronic kits purposefully in play (available with press studs allowing safe exploration) e.g. Light the doll's house, alarm in the shop etc
- Provide some eco-friendly resources alongside their electric counter-parts e.g. wind up torch, solar/wind up toys
- Provide a range of equipment and tools, e.g. to make non-standard measurements, to aid observation, to separate mixtures, to build structures, and toys that move in different ways
- A waterproof camera can provide a method of documentation by the children in wet or messy exploration
- Use nursery rhymes and stories to promote questions leading to investigations e.g. Humpty Dumpty (egg experiments), London Bridge is falling down (What can we do to fix it?)
- Provide ways for children to record their explorations, individually and in a group e.g. clipboards, cameras, audio recorder, simple computer program, small/large paper, collage, etc.
- Use puppets, role-play and small world to begin to make sense of the role of scientific process skills in the world they live in e.g. block of ice with artic animals

Further Information

We have provided shortcuts to these documents on the EYFS page of our Publications section at www.childrenscentres.org.uk

The Curriculum Partnership, The Early Years Handbook – support for practitioners in the Foundation Stage, **The Geographical Association 2004**

Max de Boo (ed), Laying the Foundations in the Early Years
The Association for Science Education 2000

J. Johnston, Early Explorations in Science, **Open University Press 1996**

Early Years Foundation Stage, DCSF 2007
www.standards.dcsf.gov.uk/eyfs

For further information visit www.childrenscentres.org.uk
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