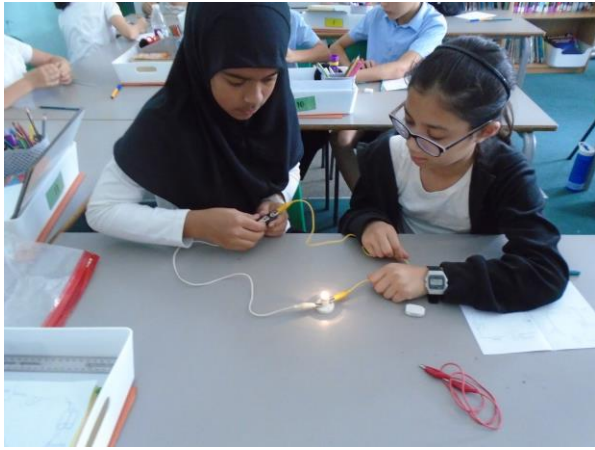




Strategy Statement for Science



Meet the Science Lead



Mrs Giles

Our Shared Vision



Striving for excellence in everything we do

High Quality
Education for
ALL

Effective
home/school
and community
partnerships



Statement of Intent

Rationale

At Becontree Primary School, we recognise the importance of science in every aspect of daily life. As one of the core subjects taught in our school, we give the teaching and learning of science the prominence it requires.

We aim to increase children's knowledge and understanding of our world, and develop skills associated with science as a process of enquiry. We aim for children to think of themselves as scientists and to develop natural curiosity, encourage respect for living things and the physical environment and provide opportunities for critical evaluation of evidence.



Why is science important to children at Becontree School?

We believe that every child can master an understanding and love of Science with the right kind of teaching and support.

We want the children to recognise that science is not a standalone subject but applies through all walks of life.

We want the children at Becontree to build on what they know, ask questions and challenge pre- conceptions.



Our Key Learning Intentions

At Becontree we want the children to build knowledge from what they already know and recognise that science helps our understanding of the world around us. Our Science Curriculum helps children develop key life skills, including an ability to:

Observe: Good observations are essential in learning the other science process skills.

Communicate: It is important to be able to share our experiences. This can be done with graphs, diagrams, maps, and spoken word.

Classify: It is important to notice similarities, differences, and group objects according to a purpose. It is important to create order to help comprehend the number of objects, events, and living things in the world.

Infer: Making an explanation based on an observation.

Measure: Measuring is important in collecting, comparing, and interpreting data.

Predict: Making an educated guess based on good observations and prior knowledge.

How do we encourage children to become scientists?

At Becontree we strive to increase pupils' knowledge and understanding of our world, and develop skills associated with Science as a process of enquiry.

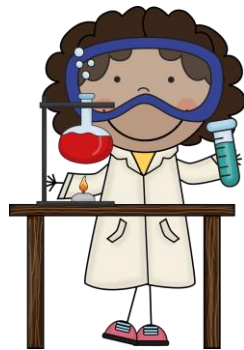
We encourage the natural curiosity of the child, promote respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence.

We plan a range of practical experiences set in meaningful contexts to help develop a range of investigative skills and allow children to take risks and learn from their mistakes, developing them into independent learners.



Promoting Personal, Spiritual, Moral, Social and Cultural Development and Fundamental British Values

- Encouraging children to reflect on the wonder of the natural world;
- Awareness of the ways that science can affect society and the environment;
- Consideration of the moral dilemmas that can result in technological advances;
- Showing respect for differing opinions and ideas;
- Acknowledging advances in science and appreciation for human achievement;
- Opportunities to work as a team, recognising others' strengths and sharing equipment;



Promoting Oracy Through the Teaching of Science

- To supporting students to ask questions in science
- To encourage students to justify and explain their thoughts
- To speak clearly and confidently
- To use **sentence stems** to help them explain their ideas.
- To be able to agree and disagree with each other's ideas.
- To use **key vocabulary** in science
- To answer/ explain in full sentences
- To promote partner and small group discussion in science.
- To be able to discuss their observations



Equality Mission Statement (Equality Act 2010)



We are committed to ensuring equality of educational opportunity and support for all pupils, parents, carers, staff and visitors irrespective of age, sex, race, disability, religion or belief, sexual orientation, pregnancy, gender reassignment and socio-economic background.

We aim to provide a fully inclusive school in which every person feels proud of their identity and is able to participate fully within the school community.

Children are provided with opportunities to work cooperatively in science lessons, developing the skills and personal qualities necessary for living and working together in a multi-racial, multicultural society.

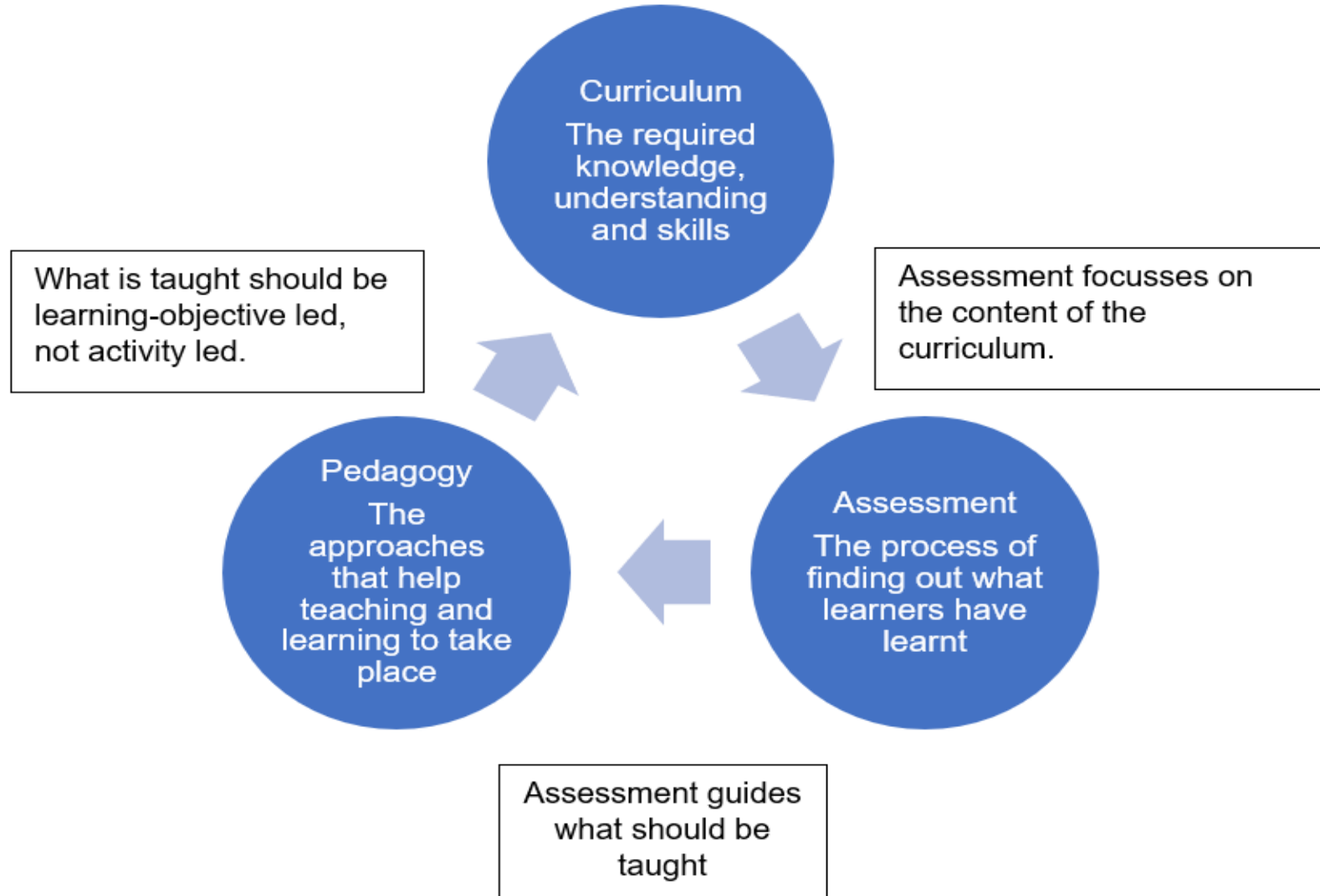
We believe that a diverse school community is a strength which should be respected and celebrated by all those who learn, teach and visit here. These statements are enshrined in our school motto, 'Respecting One Another.'



As children at Becontree Primary School love learning in science , they become...

Effective Communicators through:	Responsible and caring citizens through:	Active Contributors through:	Successful and independent learners through:	Confident and ambitious individuals through:
encouragement to participate in conversations, listen to others, respond appropriately and take turns to speak during lessons feeling that their contributions are valued and being taught to respond thoughtfully to others modelling subject specific language clearly and effectively by teachers with expectation for pupils to include it in their responses 	learning about the environment – human impact finding out how to look after ourselves and others exploring values and responsibilities in society 	working collaboratively on science investigations and projects engaging in discussions during lessons answering and asking questions 	engaging in self-assessment and evaluation of their work encouragement to problem solve and self-improve encouragement to have opinions based on facts to make educated decisions 	exposure to a wide range of knowledge to build understanding and confidence in their own thoughts and opinions developing an appreciation of the impact of scientific work and innovation exposure to roles-models and pioneers in science who inspire and influence 

Our Curriculum Coherence model is broadly made up of three parts: Curriculum, Pedagogy and Assessment.



Teaching and Learning Approach (Pedagogy)

Planning and delivery of learning to meet the needs of all children

- Units of work in science are taught in blocks. (approximately 36 hours over the year)
- The Science BUG scheme of work is adapted by teachers. It is an expectation that these are followed precisely and that any changes are discussed with the subject lead.
- Knowledge and skills are taught explicitly and units demonstrate progression from one year group to the next.
- All children can access the learning as lessons are adapted and support is given where needed. e.g vocabulary cards and some tasks may be differentiated if needed. LSAs support where needed.
- Prior learning is assessed before starting a unit of work.
- Links are made with other subject areas as often as possible e.g. DT in year 5 (Fairgrounds) and DT in year 1 (Bird feeders)
- Modelling is used to help clarify success criteria.
- A range of teaching approaches, resources and visual stimuli are used to support learning. This includes approaches that encourage boys to be more engaged e.g. practical activities and hands-on learning.
- Quality, engaging resources and worksheets are used in lessons.
- Collaborative learning is encouraged through paired and team work.
- Feedback is given during the lesson as well as through the marking policy.

Developing Long-term knowledge retention

- We teach in blocks to allow more time for children to immerse themselves in the unit.
- Focus on key knowledge.
- Using a range of teaching approaches to engage children and help them to remember what they have learnt.
- Children can refer to prior learning in their science books.
- Teachers have easy access to information about prior learning through the Curriculum Folders and are able to check and re-cap regularly.
- By teaching some units cross-curricular, children have more opportunities to embed key knowledge.

The following are our key beliefs about when and how children learn best.
We believe children learn best when...



...they are taught by well-trained staff who are passionate about teaching and learning.	...they are valued and treated fairly and respectfully.	they have a growth mindset.
...they are given the right level of support and challenge.	...they are interested and engaged.	...new learning makes links with and builds on prior learning.
...they understand the learning objectives and know what success looks like.	...they have opportunities to learn with and from others (collaborative learning).	...they receive regular and timely feedback (from both teachers and peers).
...they are given enough time to practise, consolidate and apply new learning.	...they are taught in a physical space that is conducive to and supports effective learning.	...there is a strong partnership between home and school.

Curriculum

Developing Teacher Subject Knowledge	• Inset sessions to develop staff knowledge • Subject leader to offer support to teachers as required • The scheme is developed to support teachers with different levels of experience. • Subject lead meetings with SLT at least termly to review action plans and develop the subject further • Borough Subject lead meetings attended. • CPD opportunities disseminated to staff. • Internally shared practice. • Schemes and lessons developed to support teachers with different level of experience.
Enrichment opportunities	• External companies create immersive opportunities through experience days. • Children are given the opportunity to go on school trips to explore science, including use of the local area. • Science days . • Science display contributions for children to complete at home.
Cultural Capital	• Each phase group have a list of activities and experiences which are to be covered throughout that phase of two years. E.g. visits to science museums, welcoming visitors. • Magic Moments – 20 key experiences that all children need to have experienced by the time they leave year 6.
Parent and Community Links	• Parent helpers assisting on school visits. • School reports. • Photos of trips and science days are uploaded to the website. • Home Learning projects such as the research competitions.

Finding out what Learners Know

Evidencing Learning Outcomes in Science

- Ongoing Formative Assessment.
- Checking Prior Learning.
- Exit tasks to check end points.
- Exercise books are used to evidence learning in lessons.
- Learning Journeys to evidence learning in year 1 during transition.
- Floorbooks in EYFS to evidence science.
- Display boards in classrooms and corridors reflect a selection of topics.

Health and Safety

- General Health and Safety Guidelines updated regularly.
- Some specific science related guidance for H and S built into planning.

Assessment in Science

- Knowledge and skills (LOs) are clearly identified.
- Different forms of assessment is used: classroom observation and discussion, work in books, pupil interviews, exit tasks.
- There is a data drop at the end of the term based on teacher assessment of the curriculum and units completed. Teachers indicate (using Insight Tracker) and based on TA and unit outcomes, the level attained at the end of every term.
- Misconceptions and missing components/knowledge is indicated in the marking feedback book to inform feedback, future planning and teaching throughout a unit of work. These can also be addressed through marking comments.
- Exit tasks used at the end of every unit – take different forms, such as quizzes, informal tests, final projects. (Explicit in planning) These should be knowledge based (key content) rather than just looking at skills.
- End of unit assessments – teachers identify children who have not met expectation for knowledge and skills. This is used when the topic is revisited to plug gaps further and supports prior learning assessment. It will also inform the science lead if any changes to planning and the science curriculum are needed.
- Pupils and parents are informed of science progress at parent consultations and end of year reports which will state individual attainment.

Curriculum Overview for Science – due to the Centenary some of these units may have been moved to a different term. Please see the Medium Term Plans.

	Autumn A	Autumn B	Spring A	Spring B	Summer A	Summer B
Nursery	All About Me Growing and Changing	Senses Sound	Transport	People who help us	Minibeasts	Farm animals
Reception	Feelings and emotions	Space Celebrations	Dinosaurs	Fairy Tales	Growing	Sea Creatures
Year 1	- Changing Seasons - Types of animals			- Identifying materials - Plants	- Plants - Parts of animals	Comparing materials
Year 2	- Living Things - Habitats		Uses of materials	- Changing shape - Feeding and exercise		Growing plants
Year 3	- Parts of plants - What plants need	Light and shadows	Rocks and soils	Movement and feeding		Forces and Magnets
Year 4	Grouping	- Electricity - Human Nutrition		States of matter – Changing of state	Sound	Human Impact- Dangers to Living things
Year 5	- Materials - Separating mixtures - Types of Change	Earth and space		Forces		- Life Cycle - Sex education
Year 6	Changing Circuits	Evolution and Inheritance	Classifying Living things	Light and Sight	Animals including humans – Our bodies	

For more detail please refer to the subject scheme of work