

Planning

Sciences should be planned within the long term (backdrop) planner for the year and in teacher's weekly planners for their class. Weekly planners should include LIs, Activities & Resources to be used. The school's 3 year Sciences planner should be used to determine which outcomes should be the focus during that academic year.

The EAC Sciences progression frameworks should be used when planning to ensure planning is focused on the outcomes and benchmarks and appropriate progression throughout each level. These should be highlighted to show coverage/achievement of the outcomes at the appropriate level. This information should be kept and available for planning in following years.

Planning should align with the main purposes of learning in science i.e. Children developing curiosity, understanding, knowledge & skills in: their environment & place in the world; the big ideas of science; scientific enquiry & investigation; use of scientific language; creativity & inventiveness, safety measures; responsible use of earth's resources; decisions on social, moral ethical, economic & environmental issues; skills for learning life & work.

Resources

The school has a large number of resources available for the teaching of Sciences. The physical resources linked to the different curriculum organisers in sciences are stored within the school store and work hub. This includes all practical equipment, models, consumables (for investigations & experiments), reference books, posters etc.

A huge range of on-line and electronic resources have been collated and are available on the shared drive. This includes ideas, lesson plans, investigations, experiments and links from SSERC and other primary science providers. Teachers should add to these resource banks as and when they discover new ideas and links.

Teachers should always use a wide range of innovative resources to inspire and motivate learners in Science lessons and ensure that lessons are active. This includes appropriate and imaginative use of ICT and the use of the outdoor learning resources.

Sciences**Assessment**

Teacher assessments at class level should be carried out on an on-going basis through observations, questioning, plenaries and day to day learning.

Assessment should focus on children's knowledge and understanding of key scientific concepts in the living, material and physical world, inquiry and investigative skills, scientific analytical and thinking skills, scientific literacy and general attributes

Children demonstrate progress through their skills in planning and carrying out practical investigations, inquiries and challenges, working individually and collaboratively, and describing and explaining their understanding of scientific ideas and concepts. Also through their abilities and skills in reasoning, presenting and evaluating their findings through debate and discussion, expressing informed opinions and making decisions on social, moral, ethical, economic and environmental issues.

Assessment should also link with other areas of the curriculum, within and outside the classroom, to allow children and young people to demonstrate their increasing awareness of the impact of scientific developments on their own health and wellbeing, society and the environment.

Pedagogy

Teaching sciences must tap into children's natural curiosity and their desire to create and work in practical ways. Relevant contexts which are familiar to young people should be used where possible and a skilful use of varied approaches including: active learning and planned purposeful play; problem-solving & analytical thinking skills; scientific practical investigation & inquiry; use of technology, real materials and living things; collaborative learning and independent thinking; children explaining their understanding, discussion and communication.

4 Main Approaches to Science Inquiry : observing & exploring; classifying; fair testing; finding an association.

Inquiry & Investigative skills: ask questions/hypothesise; plan & design procedures & experiments; select samples, equipment & resources; carry out experiments; observe, collect, measure & record evidence; control risks & hazards; present, analyse & interpret data to draw conclusions; review & evaluate results; present & report on findings.

Scientific Analytical Thinking Skills: be open to new ideas, link & apply learning; think creatively & critically; reason to explain & evaluate based on evidence/justifications; predict, generalise & deduce; draw conclusions based on reliable scientific evidence.