

Teaching Science to Children - Ideas for Teachers

Early Years

Young children have a natural love of nature and their physical environment, so it is important to help them embrace science, in terms of the world around them, as early as possible.

Tip #1 – Teach it Across All Topics

Children are naturally curious and this can be used to develop a love of science at an early age, one which will support their learning of more abstract concepts later in their education. Although science is often perceived as a difficult subject, it is inherently about the world and how things work – which children will naturally ask about – and so can be linked to any topic.

Encouraging children to rank, order and compare in all activities is a great basis to get them to start thinking scientifically. Start by asking children to find differences in colour, shape and size in all activities, and then move on to similarities which are often more difficult for children to notice at this age.

Tip #2 – Get Active

Science is all about *doing* and for young, fidgeting children this is the key. Short, practical activities that get them doing things are perfectly suited for learning science, such as passing sand/water from one cup to another, mixing colours during art and incorporating songs, dancing, movement and games into various topics.

Take classes outside and explore the natural environment as a group, where even shy children often find it easier to join in and express themselves. Ideas like bigger, taller and heavier will give them the vocabulary for how they view the world in relationship to themselves.

Tip #3 – Challenge Them

This doesn't mean introducing them to quantum theory but rather it means not limiting their ability by your expectations. Provide as many different resources and unusual materials as you can, and incorporate them in to their play-time, so that they can observe, question and combine as they see fit – often in ways that will surprise you.

Don't give them simplistic vocabulary, even at this age. If you raise your expectations, within reason, children will rise as far as they can to meet them. During all activities, encourage them to think about what is happening and why. This will lead to a gentle build-up of scientific literacy and interest.

Tip #4 – Encourage the Question Why?

It's the question that drives parents mad, but it's essential that the curiosity behind the question is encouraged and nurtured. It can be easy to give overly-simplistic answers or try to cover up things that you don't know. You might not think you'll be stumped by a child's question, but you could be surprised. If you don't know, then look up the answer together and try to explain it in language they'll understand. This concept of finding out things you don't know is a great idea to model.

Tip #5 – Use Long-Term Projects

Even though most children have quite a short attention span, that doesn't mean they won't appreciate projects that evolve over longer periods. These will appeal to their affinity with routine and repetition while introducing them to the scientific process of observing and measuring change over time.

Growing plants in class and having a different child measure the growth each day is great for introducing the concept of scientific rigor and exactness early on. A height chart that tracks each child over the course of the year, updated every week, can work well as children are naturally interested in themselves and how they compare with others.

Top Tip for Parents

Natural experiences are how children organise and interact with the world and you can help by providing them with a rich environment to explore. In their play-time at home providing a wide range of different things for your child to touch, taste, smell and hear will encourage their natural interest.