

WHAT IS STEM?

STEM is an approach to learning and development that integrates the areas of science, technology, engineering and mathematics.

Through STEM, children learn to:

- ask questions
- work together
- think creatively
- solve problems
- explore
- take calculated risks
- test solutions
- discover new ways of doing things.

As your child's first teacher, you can start building their STEM skills from an early age, creating a solid foundation for future learning. By encouraging your child to play, explore and investigate, you are helping them become active participants in their own learning.

With advances in technology, around 65 per cent of children starting primary school are likely to work in jobs that don't yet exist.

PLAY IS ESSENTIAL FOR LEARNING

Play is a fun and important part of children's learning and development.

Through play, children:

- are interested in and connected to what they are doing
- learn through copying others
- have the freedom to explore their own interests and answer questions for themselves
- learn at their own pace
- learn to talk and interact with adults and other children
- develop their imagination
- build resilience.

There are many opportunities at home, outside and in the community to learn about STEM. And best of all, they're free.

Give your children the opportunity to play by themselves and with others – this builds their confidence and adaptability skills.

Mess is good! It's an important part of playing and learning – so is cleaning up afterwards.

What can I do?

- Develop and respect your child's curiosity and creativity.
- Let your child discover and learn at their own pace.
- Accept the answers your child provides – they make perfect sense to them!
- Ask lots of questions. Questions help your child understand the task.

QUESTIONING SKILLS

Questioning encourages children to expand their thoughts rather than giving yes or no answers.

Ask	For example
What does it...	<p>feel like? Close your eyes and tell me how it feels.</p> <p>look like? Compare the colour, pattern, size, shape and texture.</p> <p>taste like? Have you tasted something like this before?</p> <p>smell like? Does it remind you of something else?</p> <p>sound like? Where have you heard this sound before?</p>
What do you think would happen if...	<p>we add water to this?</p> <p>a playground slide grew bigger?</p>
Why do you think...	the shadow has moved?
How does...	a robot work?
What if we...	change the size of the wheels on different toys?
How can you...	make blocks balance?

THE GREAT OUTDOORS

Have your child use old kitchen utensils such as sieves, funnels, dishes and jugs to dig and play with water, sand and mud.

Talk about where water comes from and where it goes. Test these ideas by getting your child to paint or spray water on a concrete surface and see what happens. Extend this activity by discussing how clothes dry after washing.

Place torn newspaper into a large jar and soak with water. Push some bean seeds half way down the inside of the jar so they can be seen easily. Put the jar in a warm, light place and keep the paper moist. Watch what happens over a week (the roots grow down from the seed and the shoots grow up from the seed).

Garden play

Plant vegetable offcuts and seeds, flower seeds and seedlings with your child. Watch how they grow over time. Take photos to record the changes. Talk about the changes together.

Plant them in some different places to see how they grow differently (shade or sun, soil types, pot or garden bed). Discuss the differences

IN THE KITCHEN

Show your child that cooking involves different steps like reading the recipe, measuring the ingredients and then cooking in the oven or on the stove.

Describe to your child what you are doing when cooking. Use words such as more, less, lighter, heavier, melt, cool, hot, cold, dissolve and set.

Name and describe ingredients. Get your child to guess what will happen when you mix them together.

Smell and taste the ingredients (only let your child taste ingredients you know are safe).

Talk about how the ingredients change when you cook them.

Jelly

Get your child to describe the jelly crystals before and after water has been added (from a solid to a liquid).

Have your child look in the fridge every half an hour as the jelly sets and talk about how it changes.

Ask what would happen if some jelly is left