

**Disclaimer: Activities with children must always be risk assessed, including for allergies or choking. Children must always have adequate supervision. Resources and materials must always be appropriate for children's age and stage of development.**

## Top tips: Promoting STEM through everyday opportunities

**STEM is an approach to learning and development that integrates the areas of science, technology, engineering and maths. It can also be referred to as STEAM to include the arts.**

Providing children opportunities to engage in STEM activities promotes the development of critical skills such as problem solving, critical thinking, creativity and logical reasoning, all the skills needed for school and later success in jobs of the future.

Focusing on STEM doesn't mean lots of expensive or specialist equipment. See our tips below to see how you can incorporate STEM opportunities in your everyday practice.



1. Provide opportunities for children to build with a range of different materials, both small and large scale building projects
2. Provide challenges that encourage children to problem solve and be creative with solutions, for example see our 'Animal Rescue' myNDNA activity of the week
3. Give opportunities for children to talk about their ideas and be curious about everyday items
4. Invite children to notice what is happening, including changes, for example, during cooking and baking activities or changes to their environment during different seasons
5. Ask parents to share old gadgets that are no longer in use and present them to children to take apart and explore how they work and fit together
6. When things go wrong or present as a challenge, invite children to be involved in the discussions and help with finding solutions e.g. "We can't use the slide as it is wet. What can we do?"
7. Embed maths opportunities across the provision, ensuring practitioners use mathematical language and highlight maths concepts when appropriate, for example, inviting children to set tables for lunch, counting cutlery and crockery they need per table or sharing out resources, discussing how they can be divided to ensure each child can join in

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8. Provide opportunities for children to explore programmable toys, programme computers or provide pictorial instructions for children to follow when building with bricks or Lego
9. Focus on the process of exploration and discovery rather than the end product. Be flexible in your approach and be willing to act spontaneously, in the moment, to capture their attention and curiosity.

### **NDNA products to support you with these tips**

- Publication – [Open-Ended Play Ideas](#)
- Online course – [Little Scientists Leading the Way](#)

**And more resources at [www.ndna.org.uk/hub/myndna](http://www.ndna.org.uk/hub/myndna)**