



Unplugged Tots

Commended – Family Learning to Support STEM Award

Founded in 2018, [Unplugged Tots](#) supports families with accessible and engaging screen-free activities that introduce children aged 0-10 to foundational computational thinking (CT) skills through hands-on play. Their mission is to make thinking skills part of everyday family life – strengthening bonds, nurturing creativity, and building resilience in children long before they ever touch a screen.

What began as a parent-led initiative has grown into a recognised voice in family learning and early STEM education. Unplugged Tots reaches around 3,000 adults and children annually through workshops, family learning programmes, and online drop-in sessions, working closely with schools, nurseries, educators, and community groups.

Unplugged Tots collaborates with organisations including Raspberry Pi, BCS, The Open University, and University College London to ensure activities remain research-informed and developmentally appropriate. Environmental sustainability is also embedded through activities linked to nature and storytelling, making use of everyday household materials to help families connect STEM learning with environmental awareness and creativity.

Family Learning to Support STEM: 'Unplug and Play' at Discover Children's Story Centre

Delivered as part of a long-term programme, the three-day 'Unplug and Play' session in partnership with [Discover Children's Story Centre](#) in Stratford engaged around 250 adults and children through inclusive, hands-on learning experiences. Activities were designed to encourage families with young children to explore STEM concepts together through sensory play, creativity, and experimentation.

A flagship 'cloud dough creation' activity combined sensory play with algorithms and sequencing. Families followed step-by-step instructions, testing different combinations of cornflour and conditioner, adjusting ratios when outcomes didn't match expectations. This iterative process taught problem-solving, encouraged resilience, and developed an understanding that mistakes are part of learning.

Their 'paper plate pizzas' activity encouraged sequencing, spatial awareness, and logical thinking, while 'butterfly sequence' painting introduced patterns, symmetry and cause-and-effect through visual exploration. 'Free play with paint and paper plates' encouraged open-ended exploration – giving children autonomy to experiment, test ideas, and learn through debugging. Families shared observations, discussed what worked or didn't, and adapted their methods – a direct link to debugging and iterative problem-solving.



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Unplugged Tots worked closely with Discover staff to ensure sessions were welcoming, inclusive, and representative. Promotional materials used clear, jargon-free language, ensuring that families from diverse linguistic and cultural backgrounds could immediately understand the value of sessions. This community-centred approach helped families feel confident taking part regardless of previous STEM experience.

“We expected fun activities, but the enthusiasm from families and the smooth delivery of the sessions exceeded what we imagined.” – Head of Creative Learning, Discover Children’s Story Centre

Impact and next steps

The programme increased confidence in STEM learning and demonstrated that computational thinking can be embedded into everyday play. Families reported high levels of enjoyment and engagement, with many recreating activities independently after the sessions.

The deliberate screen-free approach to teaching CT provided families with practical skills and the mindset to approach challenges collaboratively, creatively, and with curiosity – laying the foundations for lifelong learning and future STEM engagement.

The work extended beyond the sessions themselves through online drop-ins, social media engagement, and the internationally published Unplugged Tots book. Designed as a comic-style activity guide, it attracts a wide range of readers, including reluctant learners, by pairing visual storytelling with step-by-step explorations of CT concepts. This format makes complex ideas accessible without technical language, encouraging families to integrate playful CT into daily life. Unplugged Tots now reaches families internationally, with over 800 books sold worldwide and copies placed in more than 100 American libraries.

Feedback gathered through surveys, observations, and online drop-in sessions continues to shape delivery of family learning sessions. Future plans include expanding the ‘Unplugged Family Club’, developing activities for older age groups, and continuing partnerships with cultural organisations, schools, and community groups to widen access to inclusive, screen-free STEM learning.

“Hannah is proving that we can teach children as young as two and half the foundational skills and critical thinking abilities for coding through play – and without any screen whatsoever. It is a genuinely inspiring model that I hope the Minister will look at closely, and that could benefit schools across the country.” – Chris Hinchliff MP