



Education
Scotland
Foghlam Alba

STEM through the eyes of a child

at Sunflower Family Nurture Centre – Lochgelly, Fife

For Scotland's learners, with Scotland's educators



STEM through the eyes of a child at Sunflower Family Nurture Centre



**From our
youngest
learners....**

At Sunflower Family Nurture Centre children are highly motivated and engaged by the wide variety of STEM experiences embedded in the life of the setting.

We work together to support the youngest babies and toddlers who attend a number of family learning groups through to our intergenerational work with the local care home.

Our STEM strategy is based on self-evaluation and is planned for in consultation with children, families and partners within our community.



**...to our
intergenerational
work within our
community**



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- Family Groups which introduce STEM learning in a natural, safe environment, e.g. Creative Kids, Playaway and Sensory Fun
- Positive links are made with families in the local community from the earliest opportunity
- Supporting Health Visiting colleagues in the community

- Strong links with local care home - Mossview @ The Opera
- Garden Project - children working with residents to build a bench for their garden
- Skills development for children
- Residents experiencing rich inter-generational experiences



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Children are leaders of their learning.

Staff use children's ideas and interests to encourage curiosity.

Higher-order questions and comments are used to extend children's thinking and understanding.

Children are supported to choose and lead interactions in their own learning.

**Examples of STEM
through the
provision of high
quality
environments**



Daily responsive and weekly planning allows staff and children time together to plan for a sense of wonder.

Examples include tinker tables, transient art and incidental displays.

Staff carefully identify appropriate opportunities to use intentional promotion to extend and challenge STEM learning.



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The core provision, including outdoor learning is available for all children.

It is accessible and consistently provides rich STEM learning.

The use of rich language, questioning and commenting develops an awareness of scientific/technical vocabulary and is embedded in practice.

Examples include “*hypothesis*” when looking at ice and “*problem solving*” when constructing the outdoor table.



Open ended resources are available throughout the environment.

These resources promote curiosity and creative thinking, for example, loose parts, tinker tables, torches, magnifying glasses etc.

Children can access digital technology throughout the setting to enhance STEM learning.

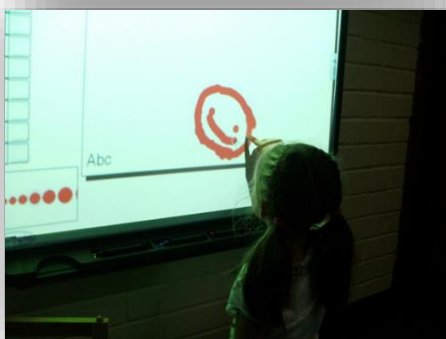
Exploration of initial STEM learning through stories and rhymes.



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*How effectively do we
use our resources to
meet the learning
needs of all and
ensure equity? QI 1.5*



*How well are we
monitoring the impact
of resources to inform
future resourcing?
QI 1.5*



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We have good links with our local community and children learn in real life contexts.

Examples include visits to the Cycle Park, visits to manufacturing and construction firms, visits to the local shops and businesses.

These opportunities develop children's early knowledge of STEM subjects and skills within the world of work.

Learning for Sustainability is promoted within the setting and our Eco Committee develop this through a variety of contexts.

Our gender equality approach means we can support all children to achieve and aspire and stop the consequences of inequality and discrimination.

Staff support families to build a sound knowledge of gender equality and realise the positive effects of this on their young children.

Daily responsive planning ensures that experiences are child-led and appropriate.

For example there was a spark of interest about building our own fire pit... staff ensured resources required were available the following day and children planned and worked on the pit throughout the session.



Weekly woodland and beach experiences provide rich opportunities for exploring, investigating, problem-solving, children leading learning; den building, fire pit experiences, assessing risk and learning new skills.



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Children plan and lead regular enterprise experiences. Some examples include:

Melgund Market is a weekly market stall

Children plan for this, decide which resources are required, consider the cost, make products for selling, work on the stall serving customers, count the takings and work out the profit and then bank this with the Lochgelly Credit Union.

The children then use data gathering to decide what they will spend the profits on.

Café de Flores is a Spanish café

The termly café promotes Spanish language within Sunflower. Children plan this experience for families, handle cash and serve their customers.





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*How well are we using
STEM to support
interdisciplinary
learning?
QI 2.2*





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*How well do we use our
community and outdoor
spaces to provide high
quality outdoor learning in
STEM?
QI 2.3*





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“We need a fire!”



To what extent can our learners relate their STEM learning and skills to the world of work? QI 2.2





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Family Learning Groups

We build positive, supportive relationships with children and families within the community from the very earliest stages.

Through a variety of family groups children and families are learning and developing new skills together.

Skills for life and learning are being developed from the earliest stages.



**STEM through family learning groups
and parenting programmes
– examples of practice**

Links with Professionals/Agencies

We work closely with local groups to support our families for example, Health Visiting Service, Family Community Support Team and Fife Gingerbread.

Parenting Programmes

We work in partnership with local charities/groups and we offer a range of opportunities for parents to develop their skills.

Cooking on a budget is one example of how we support families.

Digital technology and social media is used effectively to engage families in their child's learning.



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How well do we understand the employment needs and opportunities in our local community? QI 2.7





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<https://education.gov.scot/improvement/documents/sci43-stemselfevaluationframework.pdf>

Key Question:

How does our approach to STEM help us to close the poverty related attainment gap?

- ✓ From the earliest opportunities children are exposed to rich language. Quality interactions are modelled for our most vulnerable families through Family Groups and home visits.
- ✓ We seek to build STEM capital in families from the earliest years.
- ✓ Children have opportunities to learn through a wide range of experiences which they may not have encountered outside of the setting, e.g. beach/forest/yoga etc.
- ✓ From the earliest opportunities we ensure children view learning as fun and exciting.
- ✓ We provide experiences that promote problem solving, challenge and are engaging.
- ✓ We ensure we focus on children who have experienced/are experiencing trauma.



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Key Question:

How do we know our work with STEM is having a positive impact on outcomes for children and families?

- ✓ Children are excited by and engaged in STEM learning.
- ✓ Children are leaders of their learning. This is evident throughout their Sunflower experience.
- ✓ Learning conversations with children and families evidence involvement in STEM learning by all.
- ✓ Children are making progress in early skills across the curriculum.
- ✓ Parents are asking for more STEM experiences, for example, *Under 25 groups* visiting the beach.



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Key Question:

What do we see as the key points to help us take forward our STEM practice?

- ✓ A clear STEM strategy based on self evaluation.
- ✓ Ensure STEM is embedded through all learning environments.
- ✓ High aspirations for all: risk taking, real tools and challenging experiences.
- ✓ Planning for high quality experiences which develop skills such as exploration, creativity, discovery, research and enquiry.
- ✓ Children need to feel confident their ideas are listened to and taken on board. We do this through our responsiveness. The fire pit is just one example of this in action.



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Key Question:

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How do we plan for STEM?

- ✓ Daily responsive planning ensures that children's interests are developed.
- ✓ Real and relevant experiences are planned for.
- ✓ We ensure interdisciplinary learning experiences give children the opportunity to apply scientific and mathematical knowledge and skills across the curriculum.
- ✓ The provision is audited regularly to ensure that areas are rich with high quality resources available.
- ✓ Opportunities are provided for the children to use and apply digital technologies to support developing digital literacy skills and enrich learning.
- ✓ We help children to see the relevance of their skills learned beyond the setting.



Education Scotland

Denholm House
Almondvale Business Park
Almondvale Way
Livingston EH54 6GA

T +44 (0)131 244 5000

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