



Developing an Early Years STEM Network Together

April 2022





Introductions



Hi I am Maria and I am part of the Forth Valley and West Lothian Numeracy Workstream.

Hi I am Fiona and I am part of the Forth Valley and West Lothian STEM Workstream.



Hi I am Nicola and I am part of the Forth Valley and West Lothian STEM Workstream.

Hi I am Mairi and I am part of the Forth Valley and West Lothian STEM Workstream.





equity

Our RIC values

empowerment

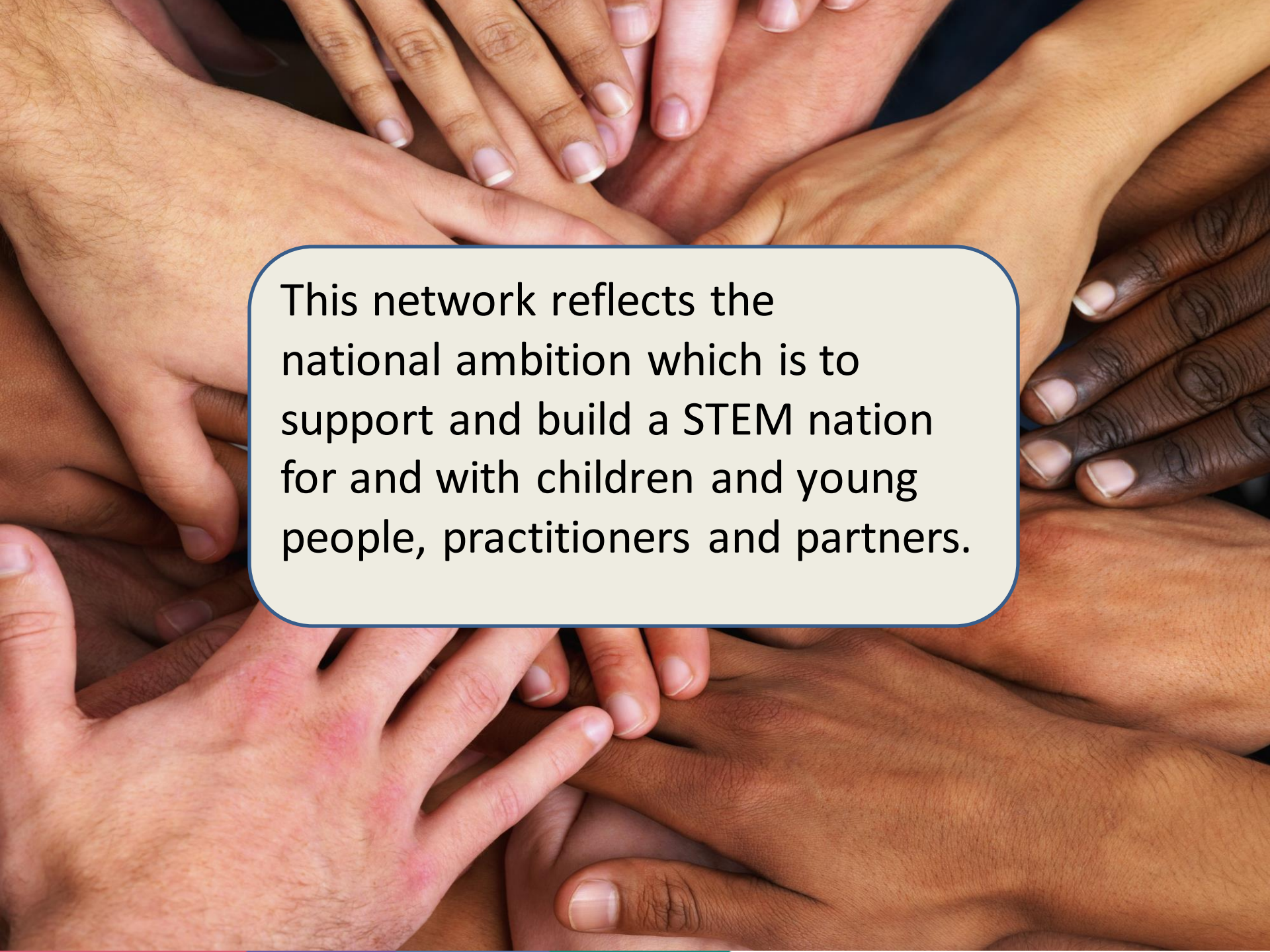
collaboration



Protocols

- Work and learn together
- Safe space
- Everyone has something to offer





This network reflects the national ambition which is to support and build a STEM nation for and with children and young people, practitioners and partners.

STEM Strategy expects to see...



increased practitioner confidence in STEM learning in the early years
(Excellence)

increased numbers of people who understand the benefits and value of STEM for themselves, their families and their communities
(Inspiration)

increased collaboration
(Connection)

significant reductions in the equity gaps in participation and achievement in STEM learning
(Equity)



Numeracy and Mathematics - Rationale

The curriculum needs constant review to ensure it is **relevant**, capturing **real-world** N&M, leading to increased motivation...

Greater **consistency** in the quality of learning and teaching, eliminating passive learning...

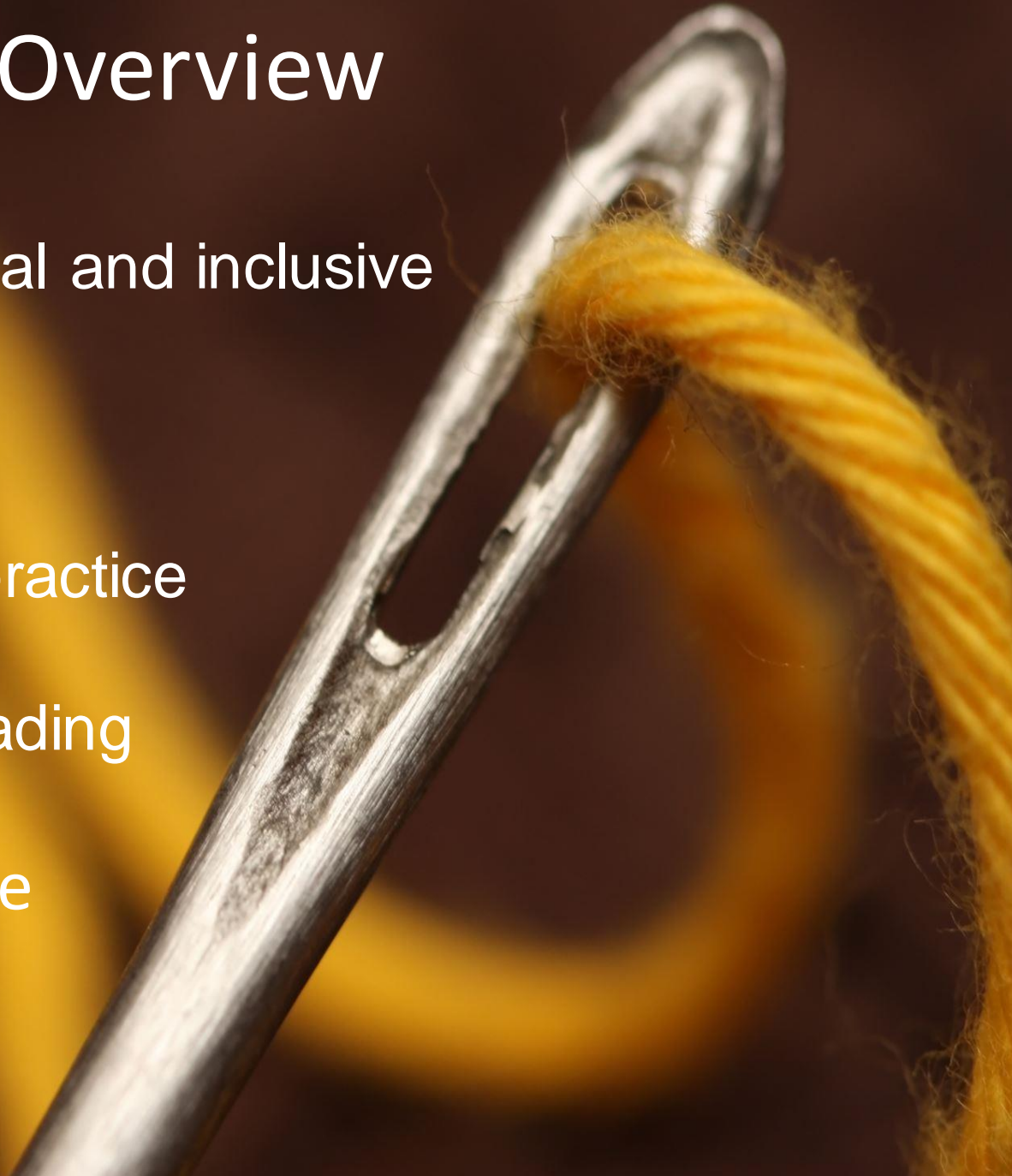


Explore further the potential of **STEM** and **DYW** to **add value** to children's experiences in N&M.

ELC practitioners explore further the role of **play settings** as contexts for learning in numeracy.

Overview

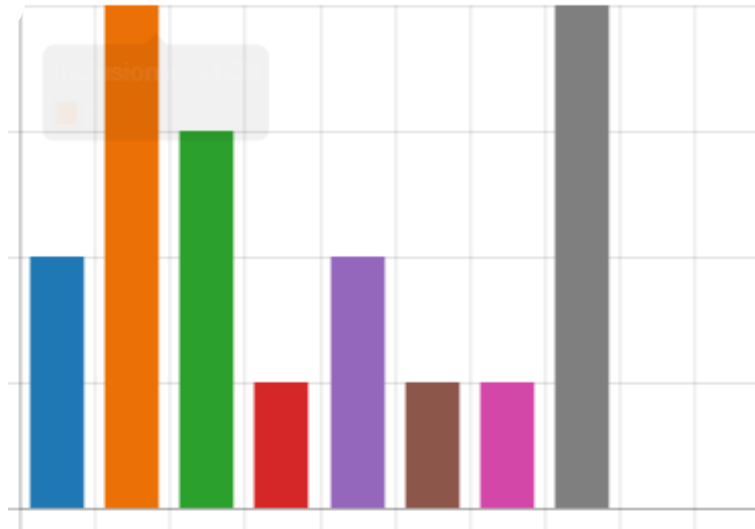
- Relaxed, informal and inclusive
- Responsive
- Research into practice
- Professional reading
- Sharing practice





Shaped by need

- Numeracy in STEM
- Inclusion in STEM
- Sustainable STEM
- Engineering in STEM
- Technologies in STEM
- Science in STEM
- Literacy in STEM
- Families exploring STEM
- Seasonal STEM
- Other



How frequently do we want to meet? What times of day suit?

Evenings work for myself, online works well with family and being able to access details afterwards allows me to go back and take in details better.

Termly after 4pm

Evenings

Quarterly would allow us to meet, share ideas and then go away with time to put things into practice before we meet again

after 4pm works best and online is working well too

It is really difficult to get time to come to these as I have to cover shifts when staff are off sick or on holiday. Possibly evenings.

Evenings are best, maybe 4 rather than 5 😊
Mid term time

evenings around 5pm suits best for working patterns

after 4pm and termly please

What format should our sessions take?

opportunities to share ideas and activities that have worked

opportunities to share ideas and develop ideas and experiences

opportunity share ideas and experiences that have been carried out in setting

share our ideas with others. Teamwork makes the dream work!

I think it is better when everyone can network face to face. Visiting other settings to see their ideas in practice once Covid restrictions allow.

What are our needs? What do we want to focus on?

Practical ideas

Sharing practice and ideas.

ideas and places to source suitable materials for opportunities

New to STEM, newly qualified so simple ideas that I can share with others.

Ideas for simple stem experiences within a play based setting.

sharing practice and ideas with others

Sharing with the rest of the team and how we can encourage the learning through STEM

sharing with team

To work in collaboration with others in a similar stage/position

where to find resources, ideas

a network of support

Sharing ideas on how to embed STEM practice into every day (busy!) life in the nursery!

links to resources are great

What areas of STEM do you want to explore?

how to explore the engineering side of STEM?

I LOVE technology and would love to share my love with the children in my setting, it's just finding out how

The science side and ideas to use.

Technology - ideas on how to move away from the 'obvious' technology activities / resources.

How to implement Gender Friendly ideas into everyday

family links and bringing parents on board - looking for ideas



Sharing Practice

- Jamboards as an online space to collaborate

Engaging children in STEM

I notice

- the interactions between staff and children
- exploring a variety of natural resources
- the engagement and the expressions everyone was enjoying the learning
- there seemed to be lots of kids round each activity because it is all intriguing
- Adult at child level and observing and asking questions
- lots of interactions
- lots of talk about children developing skills
- it all looked interesting and fun
- lots of numeracy and mathematical application
- Adult Interactions
- Children engaged
- The questioning to help explore further
- children were actively engaged in exploring materials
- Encouraging some peer collaboration

Engaging children in STEM

I wonder

- how is the setting set up
- how do they support children to reflect in their learning?
- how do we give children with ASN the same experiences
- how it all extends
- where is digital technology used in the setting?
- I wonder what the children are learning
- ASN included in the learning
- I wonder what their outdoor space looks like?
- STEM outdoors?
- if it was a particular time of year as there was ice and pumpkins on the go

I notice

- 1. Lots of messy, hands on experimentation, 2. Conversations with learners
- I notice the children are fully engaged
- Children were engaged in their learning. Lots of pupil choice.
- I notice autonomy - the children independently leading their learning
- I notice how engaged the children were - they were completely enthralled by the activities
- Learners leading learning
- hearing childrens voices
- Varied activities to support all learners
- motivated and engaged children
- lots of questions being explored
- Exploring and experimenting through play
- maths opportunities were aplenty
- it looks fun!
- Engagement of children
- Really evident that STEM is being explored and experimented well with children

STEM IN nature play

4. Sensorial play

- mud
- Gluck Wet/Dry pasta
- Yoga
- sensory bags
- Chopping real foods in indoor home corner
- Music/yoga

5. Risky play

- Work bench using real tools under supervision
- Climbing trees, weekly campfires etc
- Cable drums - ladders to climb - make slides
- Building Dens
- big amongst the children - saws, hammers, knives
- Construction

6. Imaginative play

- Making potions indoors and outdoors
- Chasing games
- Dress up
- Drama - roll play
- Singing and practising for shows

Engaging children in STEM

I wonder

- Where did original ideas come from
- I wonder what their outdoor space looks like?
- How do we extend their experiences of STEM
- how the activity was introduced/set up?
- I wonder - can I make some of these fab ideas work in my setting?
- What 'training' on STEM these educators have undertaken?
- How to get quality conversations with children in a class of 25. Examples seemed to be much smaller groups.
- I wonder how/why/when technology would feature
- I wonder how to ensure activities are linked to learning.
- I wonder what activities are set up for outdoor learning
- I wonder how to effectively capture some of the learning through powerful observations,
- was this child initiated



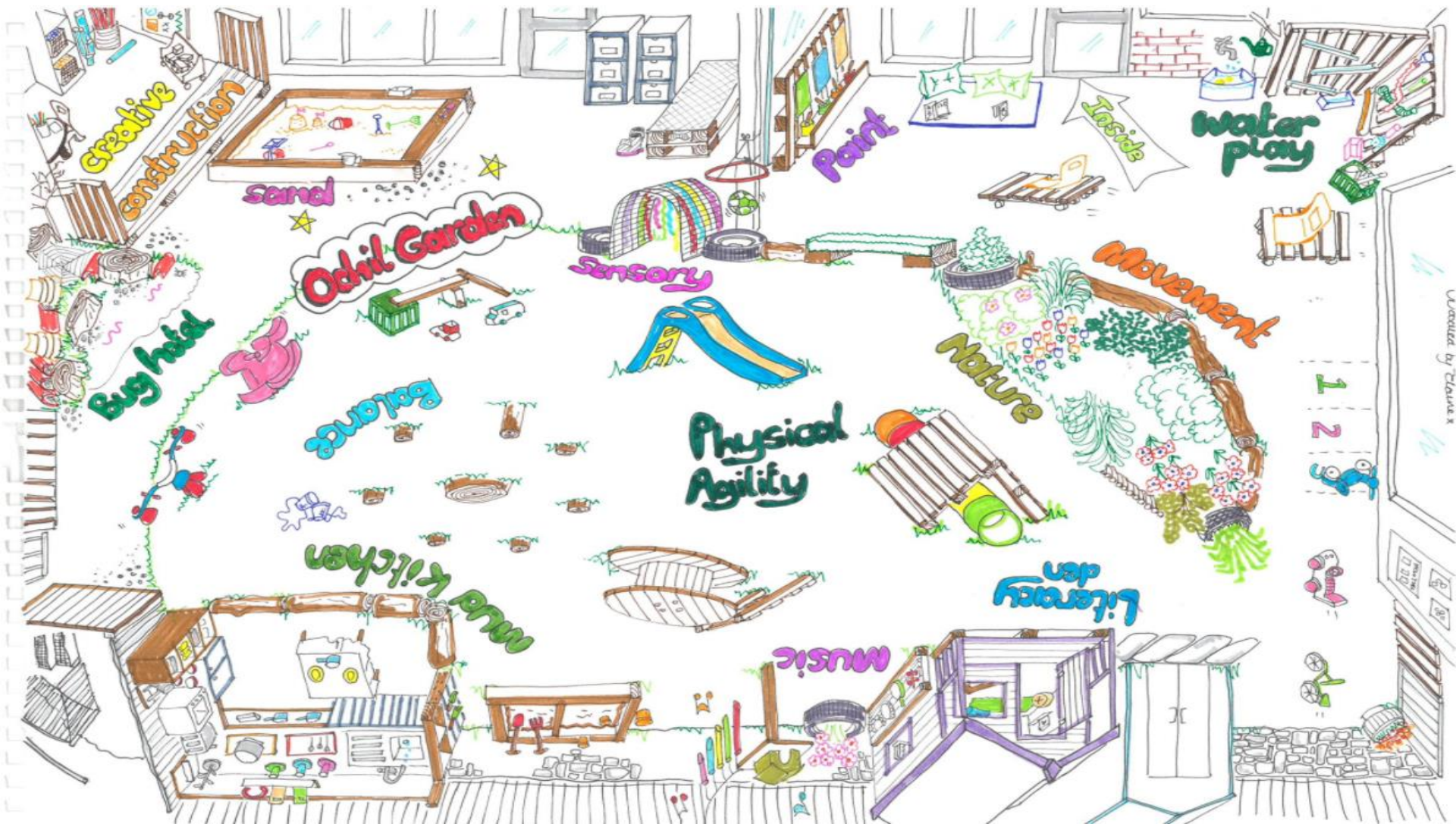
Sharing Practice



- [Wakelet](#) to capture sessions, share resources and links
- [Thinglink](#) created from feedback to support practice
- [Sway](#) created by a practitioner to share impact on practice



Sketchnotes created by a setting to evaluate learning environments and share with families





Sharing Practice

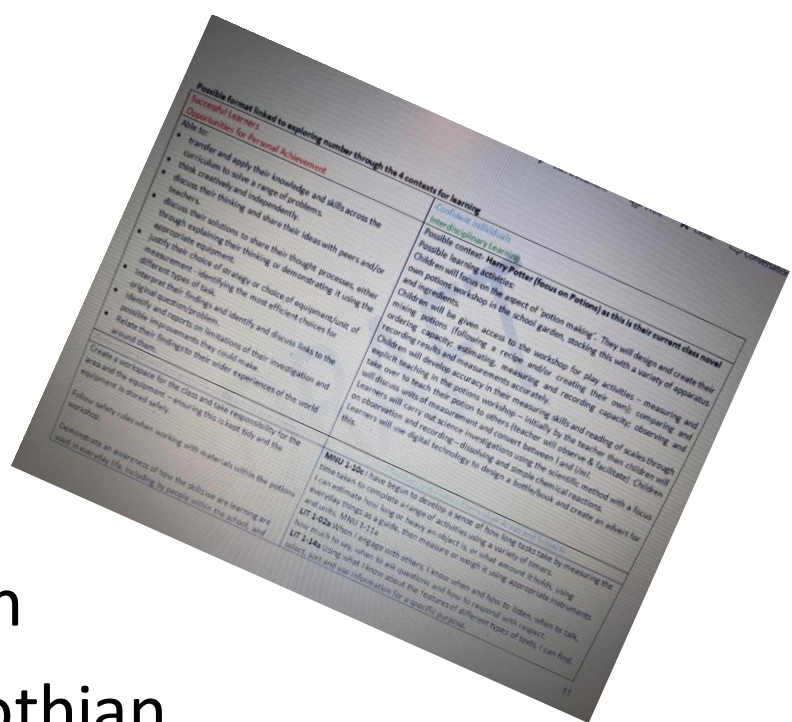
WL Application of skills project

Education Scotland STEM grant

2 Development officers working in

2 targeted clusters across West Lothian

[Sway](#) created with practitioners and pupils' feedback



Feedback

Made me think about what we observe and children using natural resources

The links to other websites for training was very useful and the videos were thought provoking.

very informative session

The resources and good practice that was shared will help us to improve our approaches to providing quality STEM opportunities in our school as one of our improvement priorities.

I found the videos we watched useful and the information that was shared.

I extended my learning of STEM through play in the early years.

I will provide more opportunities for STEM in my setting

Very clear and great information

I am looking forward to another session.

Lots of good ideas to take away and try. The direction to the blog and the list of resources available is really valuable.

Excited for the journey

Enjoy these courses to stay up to date.



Shaping Next Steps

- How might you become involved in and support the network?

Please take a few moments to complete this E-Form

<https://forms.office.com/r/Et7ZazAiBc>

