

# Education Scotland

## Follow-up to *Numeracy and Mathematics Learning Outdoors* webinar held on 30 September 2020

We are very grateful to [East Ayrshire's Learning Outdoors Support Team \(LOST\)](#) who supported the chat pane during the webinar.

### Links shared during the webinar via the slides

#### Numeracy & Mathematics Professional Learning Community

<https://glowscotland.sharepoint.com/sites/mathsplc> (Practitioner Glow Log in required)

#### Numeracy Professional Learning Resources

<https://education.gov.scot/improvement/learning-resources/numeracy-professional-learning-resource/>

#### Links from presentation

- <https://nnolscotland.blogspot.com/2020/08/10-tips-for-outdoor-learning.html>
- <https://www.mathsweek.scot/schools/ideas-and-inspiration/maths-outdoors>
- Fibonacci Sequence in Nature <https://www.youtube.com/watch?v=nt2OIMAJj6o>
- [rice on a chessboard legend](#)
- <https://www.mathsweek.scot/news/maths-week-scotland-2020>

#### Policy and Documentation

- [Curriculum for Excellence Through Outdoor Learning](#)
- [Outdoor Learning – Practical guidance, ideas and support for teachers and practitioners in Scotland](#)
- [Building your Curriculum: Outside and In](#)
- [CfE Factfile – Outdoor Learning](#) (Parent information)

### Examples and Further Support - Mathematics

- <https://creativestarning.co.uk/maths-outdoors/>
- [https://www.itl.org.uk/free-resources/?swoof=1&pa\\_subject=mathematics](https://www.itl.org.uk/free-resources/?swoof=1&pa_subject=mathematics)
- <https://thirdspacelearning.com/blog/13-outdoor-maths-activities-early-years-year-6-plus-bonus-ages/>
- <https://outdoorclassroomday.org.uk/resources/lesson-ideas/>

### Examples and Further Support - Outdoor learning

[Education Scotland Outdoor Learning Wakelet](#) – this contains links to organisations, resources and ideas for outdoor learning.

### Previous outdoor learning webinars:

- HT's journey <https://youtu.be/Oecsj8AXiTA>
- OL across the 4 contexts <https://youtu.be/CeFrR2iLy7Y>
- Using digital tools to capture, create and share outdoor learning  
<https://youtu.be/YS32oAUJL7w> and a Sway with all the links from the session  
<https://bit.ly/33ekdJ5>

### Online teaching learning outdoors 2 hour module (SAPOE):

- <https://professionallearning.education.gov.scot/learn/learning-activities/teaching-learning-outdoors/step-1>
- [STEM Nation Webinar Team](#) - joining code kz41xx4
- Booking <https://professionallearning.education.gov.scot/learn/events/> this is where professional learning opportunities such as blethers and webinars are advertised including links to sign up.

## Ideas and links shared by participants

- Outdoor maths books - Messy Maths - Juliet Robertson and Developing Young Children's Mathematical Learning Outdoors - Lynda Keith
- Playing some boundary games is good practice. A game of kick the can at the end is good with boundary games.
- Some other things to put in a grab and go outdoor box: rulers and protractors, pegs, string/wool, skipping ropes, bean bags, sticks and it is a good idea to wear thin gloves when using chalk to avoid nails getting shredded Further ideas available at We have suggested kit lists from EAST Ayrshire's LOST team [here](#)
- Other ideas for playground markings? X- and Y axis are useful, lines for symmetry, grids for co-ordinates It's great to trial playground markings with chalk and/or classroom paint prior to getting thermoplastic ones put down. Then you know you have the right markings, of the right size and in the right place.
- Tens frames - organic eggs often comes in 10's boxes
- Juliet Robertson's [Creative Star](#) website [Maths collection](#) especially for Maths Week Scotland so hopefully this helps specifically with maths. Outdoor maths games [download](#) to support this Maths Week Scotland.
- [Outdoor Learning Resources](#) recently shared the idea of using tar spots on sycamore leaves for maths problems, and could be used for finding numbers too i.e. find a sycamore leaf with 4 tar spots
- Hopscotches and thermometers are great examples of vertical number lines outside
- Positional language using painted stones. One child hides them then partner has to go & find with prompts such as forward, back, left, right, behind, underneath etc.
- [Learning Through Landscapes](#) offer great outdoor learning ideas
- Shape - give card with descriptions of shapes (e.g. I have 4 vertices and 4 equal sides) children gather materials to create shape then check work with matching picture card (numbered on back)
- Investigating angles - transparent right angle finders are great- it's easier to see if an angle is less or more than a right angle. Often leaves have right angles - it's the relationship of stem to leaf vein. lots of angles in nature e.g. honeycomb crystals etc.
- Give children known measurements e.g. average height of a deer - can they find something or someone the same height? Something the same length as a woodlouse etc.

- We had great fun yesterday drawing a chalk line 1m long (estimating) then checking it and they got more accurate each time - even with non-straight lines (wavy, curves and zig-zags). We have had lots of fun estimating 2m and then measuring - helpful just now!
- Orienteering is good maths links for outside here is a [link](#) to some ideas that can transfer indoors & outdoors and [Scottish Orienteering](#) also has excellent teaching resources there's a [link](#) on here for folk who will map your school. You can also ask the janitor for a grounds map of your school and use this as a base map. also worth looking at [open street map](#)
- When learning outdoors talk a lot about "approximate representations" when children are making shapes, doing symmetry or fractions - this is to recognise that they are not mathematically accurate but do as a representation in context.
- Tracing paper over a google maps image (stick to a window to trace) gives a good starting point for a map which you can then tidy up the details on.
- Fiona MacNab's work around lines and metres can be seen in this [FB group](#)
- Tree measurements are great for angles, measurement and trigonometry. A few different ways to measure height [here](#) and through the [OWL Scotland](#) network here. :
- Not specific to maths but there are a number of resources from national organisations such as National Parks, FSC and WOSDEC for third and fourth levels that can be found at [LOST](#)
- Nice addition to the [battleships game](#) you can tie it into WW2 topic