Tip

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Top tips: outdoor maths opportunities

The outdoors is full of endless opportunities for young children to explore mathematical concepts in a real life, purposeful environment where reasons to problem-solve are easy to find. These top tips are to help you to audit your outdoor environment for mathematical opportunities.

Review your outdoor environments to ensure the following opportunities are regularly available for all ages:

- **Count, number sequences** such as hopscotch, number of goals scored and loose parts, e.g. flowers, pebbles, sticks, and mud kitchen recipes
- **Cardinal value** such as how many players, number of bikes, how many spoons to put away in the pot
- **Comparisons** such as sizes of wellies, number of daisies compared to the number of sunflowers, height of block towers, length of obstacle courses, weight of buckets of sand
- **Composition and subitising** such as knowing how many skittles have been knocked down without counting individually, or knowing that if there are five skittles, when three are knocked down and two are left standing there are still five skittles altogether
- **Measurement** such as filling, emptying, mixing and transporting sand, mud, water or gravel, measuring sizes of plants over time, estimating the height of a tree or length of a hosepipe, using ramps with toy vehicles and experimenting with height, length and angles of ramps to achieve a desired outcome
- **Shape and space** with natural and manmade obstacles, opportunities for children to fit through hedges, tunnels, under dens, explore position and prepositions, use ladders to experience height
- **Sequences** such as repeating the process for making a sandcastle (filling the bucket, turning the bucket, giving it a tap, lifting it up), sequences of movements such as jumping from two feet to one foot for hopscotch, or 'stumble-trip' through the wood
- **Patterns** such as in nature, e.g. petals, leaves, pine cones, spider's webs, and in the built environment such as brick walls, fences, manhole covers
- **Offer mathematical pursuits in context** such as how to make the see-saw balance, adding the appropriate amount of water in the mud kitchen to reach the required consistency.

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In addition, review whether all practitioners are aware of the different mathematical opportunities the outdoor environment can provide and how confidently they can engage, model and demonstrate mathematical possibilities using the available resources.

NDNA products to support you with these tips

- Maths Champions Programme
- Online course – Making maths matter
- Online course – Mini maths explorers outdoors challenge

And more resources at www.ndna.org.uk/hub/myndna