

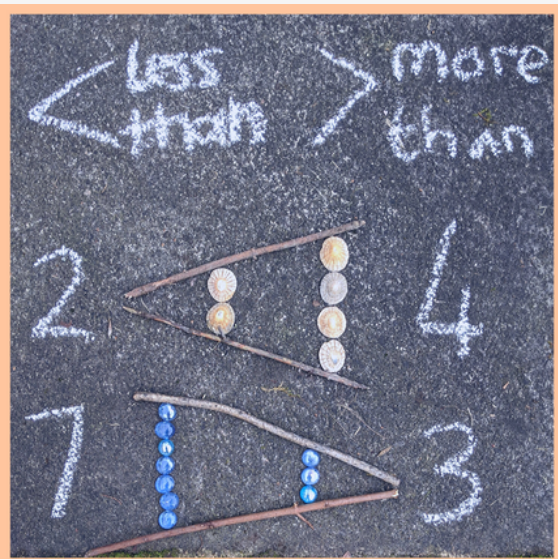
Maths Teaching Tips



When trying to introduce addition and subtraction of 1 and 2 digit numbers, it's important to keep embedding and securing their understanding of place value, so they can see what happens with each operation.

Using natural materials they can have bundles of 10s (here made with sticks) and 1s (here, log slices).

They can then represent what happens to the numbers as they are applying the operations.



Comparing Numbers

This is a great simple activity, using natural loose parts to compare numbers. It really helps children to understand the concept of the 'greater than' and 'less than' symbols, as they can visually create them around the numbers.

Ask the children to line up the items for each number first, then use the sticks to place at the top and bottom so they touch.

You'll be surprised how quickly they grasp this concept when working with nature, no more crocodiles needed!

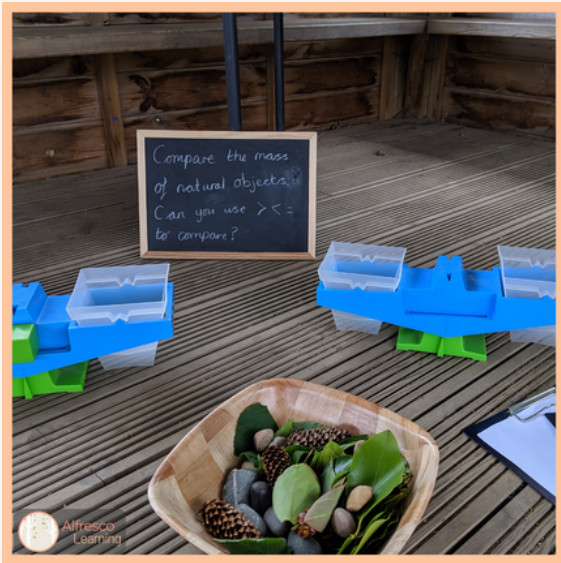


Target Practise

- All you need is some chalk, bean bags, and some counting resources if children need support.
- Simply draw out the targets and assign them a value.
- Children work in teams to throw bean bags and add up their total value after each round.

This could also be adapted to subtraction by giving the class a starting number and whichever numbers they land on, they take away from the starting number.

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Use balance scales and natural resources (these could be collected from your own school grounds as part of the fun) to compare mass.

'Which is heavier, 1 pebble or 10 leaves?'

Could be extended to include $<$, $>$, $=$ symbols.



Use scales and natural materials to practise reading scales. Example questions:

Challenge children to find something that weighs more than 200g.

Can they find the heaviest pebble?

How many leaves does it take to weight 10g?



"Measure the length of your hand/arm/foot using natural objects. Can you then use a ruler to compare?"

This activity brings about so much mathematical language related to length, measure and fractions.

By the end the children have a clear understanding of the pros and cons of using standard and non-standard units of measure.



Maths Teaching Tips



Give children a real sense of capacity by allowing them the time to experiment with a range of real life containers!

Avoid the worry of water spillages by taking this lesson outside! If there is rain forecast, you could even leave the containers out to let nature do the preparation for you and turn it into a rain collecting session! You'll be amazed at how much more engaging rain water is than the water that comes from our taps!

Order the containers from the least amount of water to the most, then begin by tipping water from one to the other to see if they were correct! Use measuring jugs to find out the capacity of each container.



Leaf Rockets >> grab a stick and a handful of leaves.

Puncture holes in the leaves and thread them onto one end of the stick. Then count backwards from ten out loud! When you reach zero, throw your leaf rocket to launch it!! Watch your class enjoy repeating their countdowns over and over again to launch their rockets!

This idea adds a little bit of excitement to rote counting! You could also use it to practise counting backwards in multiples too.



When children are confusing edges and faces with 3D shapes take them outdoors to build 3D shapes with sticks and pipe cleaners.

Physically building the shape gives them a more secure understanding of the shape and the sticks represent edges brilliantly!



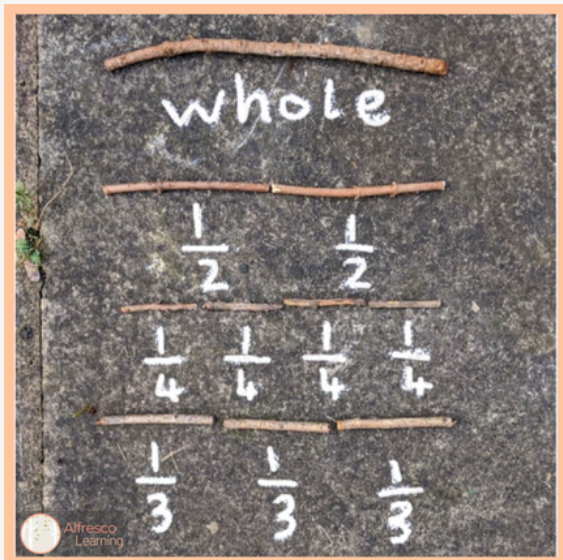
Maths Teaching Tips



George's Marvellous Medicine

This can be differentiated right from EYFS to KS2 depending on how you set it up. Either just using lots of different containers for making sticky, horrible, coloured medicines for Grandma and playing with the varying amount of liquid. Or using it as a more focused challenge for volume and capacity to deepen understanding by using lots of different recipes and question levels and perfect those scale reading skills.

*Adding food colouring to the water makes it easier to practise scale reading and also adds a fun element to the play!



Fraction Wall

- Select a stick to represent a 'whole' and task children with finding sticks to represent halves, quarters and thirds
- Check the accuracy of these representations by bringing out tape measures & rulers to calculate the length the sticks should be to truly represent half etc.
- Select a stick to represent a fraction e.g. half and have the children hunt to find a stick that represents a whole
- Take a look at proper fractions, can the children represent three quarters? Two thirds? Find the relationship between two quarters and a half?



Mandala Art

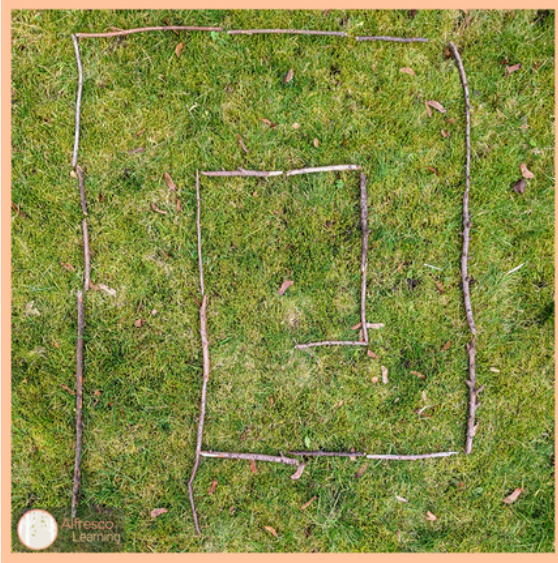
Try creating some mandalas with different natural items found in your outdoor space.

Great for creating patterns and they can be as simple or as intricate as desired!





Maths Teaching Tips



Here's a really versatile activity that can be applied to lots of curriculum objectives!! Add more sticks and variety of maze shapes for more challenge!

Learning opportunities provided by this activity:

- Communication & negotiation skills
- Problem solving
- Position & direction (think clockwise/anti-clockwise, whole turns, half turns. You could even introduce some compass directions!)
- Writing opportunity for instructions. Links easily to journey stories - just use some natural loose parts to recreate parts of the setting!



Time

All you need is chalk, a few sticks and a playground! There's so many different ways to adapt this activity but we will share one of our favourites with you!

- Begin by having the children draw their clock faces accurately on the ground (start with 12, 6, 3 & 9 to help them space their numbers out correctly. For those that really struggle to create a circle; provide a hoop for guidance!)
- Have different times printed on paper and pegged to different areas of the outdoor space you are working in. Have the children run to collect a piece of paper & lay the sticks correctly to represent the time.
- Once an adult has checked it, the child re-pegs the time where they found it, runs to find another and repeat! Alternatively you could have buddies who need to check each others' before moving on.

