

Outdoor Maths Challenge Cards

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Outdoor Maths

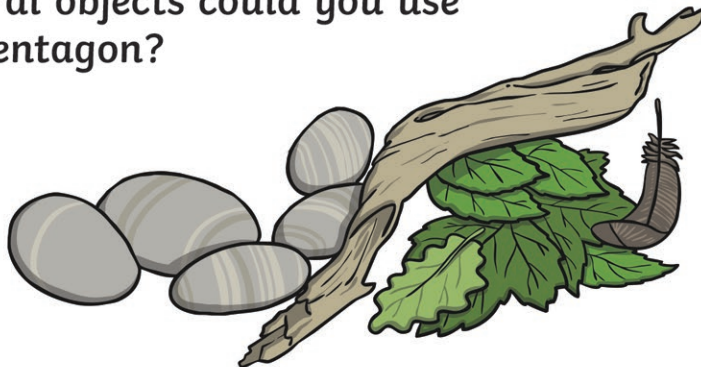
Go on a Maths Nature Hunt around the grounds. Can you find some natural objects that represent a particular number?



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Using natural objects, can you make different 2D shapes? Can you use stones to make a circle? Can you make a triangle from twigs?

Which natural objects could you use to make a pentagon?



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Place a hoop on the grass and estimate with your partner how many flowers are inside. Count them! Was your estimate correct?

Will there be the same number if you move your hoop somewhere else? How could you record how many flowers are in the hoop?





Find different natural materials and turn them into a natural symmetrical pattern. Can you make both sides look identical?

Could you use different 2D-shapes within your picture? Do you know any patterns that exist in nature that are symmetrical?

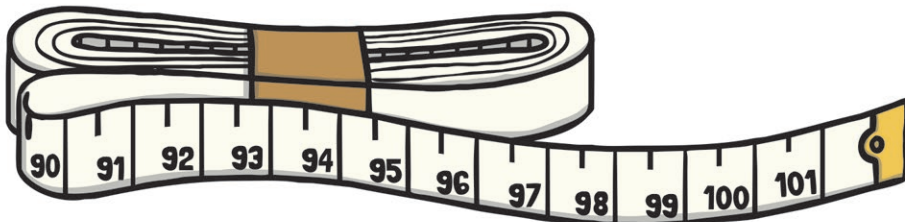


Using different natural materials, create your own pattern. What would come next in your sequence? What would the 10th object be? Or the 20th? Or the 100th? How could you work it out?



Using a tape measure, can you find the length / height of different natural objects? Can you estimate how long / tall they will be?

Can you place them in order starting with the smallest?

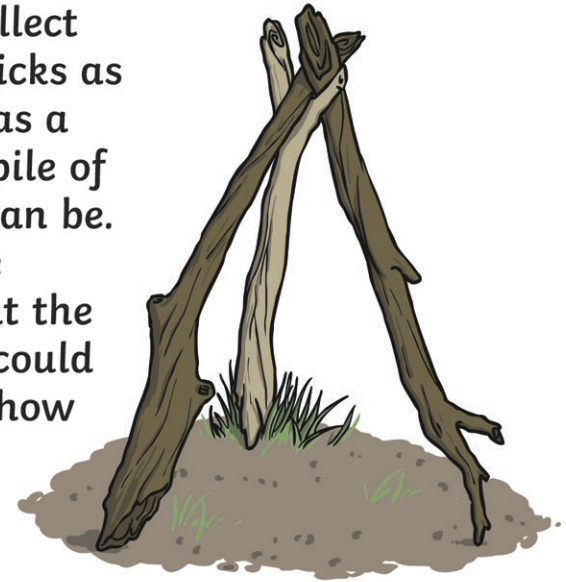




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In a small group, collect together as many sticks as you can find. Work as a team to make your pile of sticks the tallest it can be. Will your pile be the tallest? Can you beat the other teams? What could you use to measure how tall it is?



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Find an even amount of leaves. How many different ways can you arrange them? What arrays could you use?

What happens when you have a different number of leaves?

Does it work with an odd amount of leaves? What about if you have 15 leaves? Can you make an array? Why/why not?



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Using sticks and string, can you make your own kite?

What could you use to make the bows? Can you decorate your kite design?



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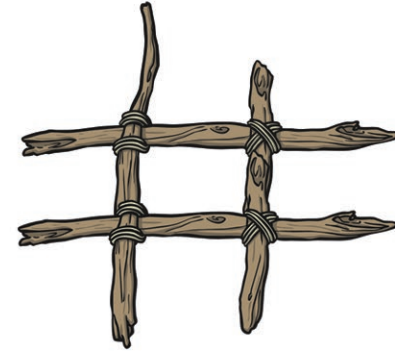
Go on a hunt to find some natural objects.

Using chalk, can you create a diagram to sort the objects using different criteria?

You could use a Venn diagram or a Carroll diagram. Can you sort them another way?



Find 4 sticks and arrange them in a pattern like this:



Collect natural objects to use. Put different amounts of objects in each row and column. Can you make each row and column total 10?

Collect a variety of different natural objects. Using chalk, make a tally chart using the objects that you have found.

Which object did you find the most of? Which object was hardest to find? Could you show your findings in another way?



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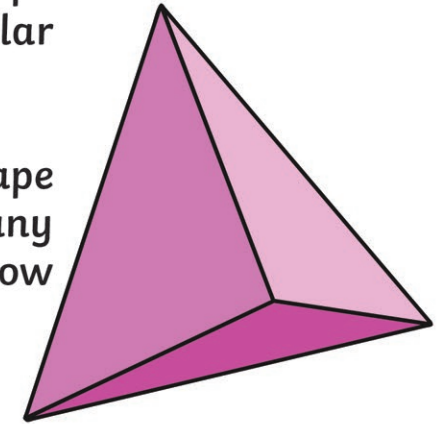
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Collect a variety of sticks. Using string, tie the sticks together to make a 3D shape e.g. a cube or a triangular prism.

Can you describe your shape to a partner? How many edges does it have? How many vertices?

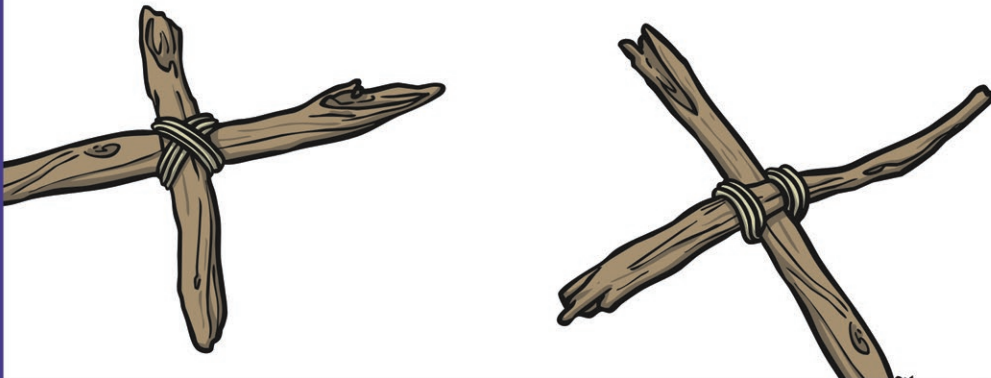


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Using two sticks and some string, make an angle measurer. Can you find different angles using natural objects? Which angles can you see on a leaf? Do trees have any right angles?



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Find a variety of sticks. Break some of them into halves or quarters and turn your sticks into a fraction wall!



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Give your partner a magic number (e.g. 100). Estimate how far you will walk to if you walk 100 steps. Count it out and find where you finish. Were you right? Did you go further than you thought you would?

Is it possible to go 100 steps in every direction from where you are stood? Why?



Must a triangle always have straight sides? Investigate using different objects that you have found outside.



Using a camera, see how many mathematical photos you can take. Can you explain what you can see to your partner? Can you think of a mathematical question you could ask?



Estimate how many leaves there are in this picture.
How many shapes can you see on the gate?

