



This resource is part of a suite of materials and activities created to inspire entrants, and support teachers, and parents to enter *maths inside*: a photo competition open to everyone in Scotland.  
*maths inside*: see different, make connections, celebrate!

In this series of example submission journeys, you can find details of searching, questioning, and discovery of *maths inside* the things and spaces around us! Follow these stories and learn how to catch the beauty of a discovery in a photo, title and commentary ([linked activities and resource pack](#)).

Visit [mathsinside.com](https://mathsinside.com) for entry details, further information, and follow us for updates!

Below, this example documents the submission journey for an **Early Years** entry ([credits](#)).

## Measuring Trees with Hugs | Early Years example submission journey

I love playing in the park and going for walks with my friends. On the walk, I found tree stumps. What shapes can you find in the stumps? I saw that they had many circles on them. I saw that the circles are inside each other, growing out and getting bigger and bigger. Why are there circles inside each other on trees? Why are there circles at all on trees?! I saw that different tree stumps have different sizes and I took this photo. I called it

“tree stumps”

and gave it the commentary:

“There are many different types of trees. Some tall and wide others short and narrow. The trees grow from very small seeds into trees bigger than a house!”



I looked at my photo and it is hard to see the circles so I took a better one.



I looked at my commentary too and thought I could do better!

To find more maths in my photo, I asked “why do the circles look like this?” How are they related to the tree’s growth? Can I find another way to guess a tree’s age? How many round circles can you count? If there are more circles, is the tree older or younger?

I looked again at the pile of stumps, and I saw that stumps of different trees look alike! Why do they look alike? What has made them this way? I thought about where trees are and what happens to them as they grow. They don’t move and they are out in the rain and sun every day. They don’t have a warm jacket like me! It’s cold in the winter and warm in the summer. I think that the different stumps have grown in same weather!

How old is a tree? I know how old I am and how old my friends are. So I can tell who is older and who is

younger. How can I tell if one tree is older than another tree, just by looking at it?

We can give new title

‘A Circle Every Year‘

With commentary

‘There are many different types of trees. The trees grow from very small seeds into trees bigger than a house!

During my daily walk to the park, I noticed two similar trees had different sizes. One was tall and wide, and other was narrow and short. I wanted to know why! Later I found some stumps of tree which had circle in them. some circles were darker than others. I found out that that the tree gets a new circle each year. You can guess what kind of year the tree had by looking at it. There were so many circles to count on the stump that I guessed that tree was older than my granny!’

I looked again at the two trees, one was tall and wide, and other was narrow and short. If I want to count their circles I need to chop them down! I asked the lady who looks after the park and she asked me my age (I am 4 years old!) and told me that from when I am born until now the tree has grown the length of my hand!

I asked my friend (she’s older than me), How can you tell how old a tree is? She said “let’s hug the tree and find out!”. So we hugged the tree together and we added to the commentary

‘There are many different types of trees. The trees grow from very small seeds into trees bigger than a house!

During my daily walk to the park, I noticed two similar trees had different sizes. One was tall and wide, and other was narrow and short. I wanted to know why! Later I found some stumps of tree which had circle in them. some circles were darker than others. I found out that that the tree gets a new circle each year. You can guess what kind of year the tree had by looking at it. There were so many circles to count on the stump that I guessed that tree was older than my granny!

To count the tree’s circles I need to chop them down! I asked the lady who looks after the park and she asked me my age (I am 4 years old!) and told me that from when I am born until now the tree has grown the length of my hand! I asked my friend (she’s 5) and we hugged the tree and it was 2 hugs long and 8 hands. So, we guessed the tree was really old!’

We gave our group submission the title

“Measuring trees with hugs”





### further things to think about

Now it is your turn! Where else can you see circles inside circles? Where can you find something with repeating shapes? Why do the shapes you found repeat?

*Open to all ages with prizes in each level. You only need a mobile, the internet & curiosity! Enter maths inside on your own or as a team, mind to add the maths inside sticker, and submit in one, or in as many categories as you like. The photo should be your own, without changes, and for a chance to win, cannot be shared anywhere else. View the [T&C](#) for more information, and please do get in touch if you have any questions.*

## linked activities and resource pack

Complementing each journey is an example interdisciplinary learning (IDL) activity matched to Curriculum for Excellence experiences and outcomes (Es&Os). Also available are image banks containing images and questions to inspire interdisciplinary investigation and learning. These resources and activities are all available in a downloadable pack.

## credits

This [suite of resources](#) are the fruit of a collaborative project between undergraduate and postgraduate students from the [University of Glasgow — School of Mathematics & Statistics](#), [Education Scotland](#), and [Dr Andrew Wilson](#) (*maths inside* Founder and Director).

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The photos above are credited to Harkamal Kaur, and Christian Lao.