

# Maths Week Scotland

## Second Level

## Welcome to Maths Week Scotland!

Maths Week Scotland is taking place 27 September – 3 October 2021 and you can take part through our online events and resources, containing a range of activities and ideas.

This pack contains ways to celebrate and enjoy Maths Week Scotland with your second level children, either at home or school. Online versions are available at [www.mathswEEK.scot/activities](http://www.mathswEEK.scot/activities).

We would love to see what you get up to. Share to your celebrations with us on [Twitter @MathsWeekScot](https://twitter.com/MathsWeekScot) and [#MathsWeekScot](https://twitter.com/MathsWeekScot).

### ACTIVITY IDEAS

#### Quick Fire Activities

**Guess my number:** This game can be played with learners working in small groups, or as a class. Ask one pupil to think of a number. Encourage the other learners in the group to ask yes or no questions to work out which number it is. For example: Is it less than 50? It is a 2-digit number? Is 3 a factor of this number?

Keep a score of how many questions it takes for the group to guess the correct number and what the correct number was. As a class, compare the findings – are there any types of numbers that it takes more questions to find the answer to?

**What is my question?** Start with a number. Can the learners suggest questions which would give this answer? For example  $0.5 = 0.3 + 0.2$  or 5 divided by 10.

#### Hit the Target

**This can be played in groups or individually**

Players will need a set of playing cards with the Jokers, Kings, Queens and Jacks removed.

- To start, shuffle the pack of cards and lay them face down on the table. Choose a target number.
- Turn over four cards
- The aim of the game is to try to make the target number. For example, make 24 using only the cards that are face up. So if there is a 6, 10, 6 and 2, the target number could be reached using addition

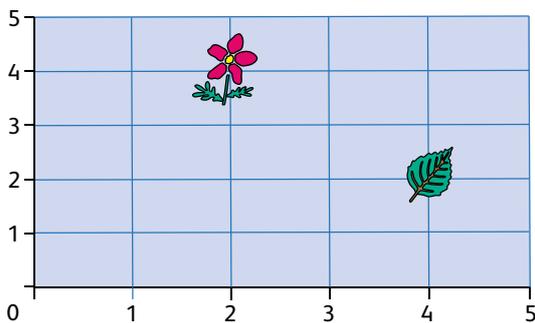
#### Extension

Change the target number to a fraction or a decimal fraction. Players could also be encouraged to consider using different operations or brackets.

## MATHS OUTDOORS

### Wild Walk Grid

This activity involves learning more about how co-ordinates work by learners creating their own activity. Start by asking learners to draw or create a co-ordinates grid. Discuss with the learners the size and scale of their co-ordinate grid. Encourage them to make their axis using chalk, string or sticks. Label the axis.



Go on a nature walk to collect natural materials such as leaves, sticks and rocks. The learners will use these

materials as items to be placed on their co-ordinate grid, and will therefore need to find items that will fit onto their grid.

Ask them to place items collected on their grid and as groups or individually make a list of all co-ordinate points, for example leaf (4,2), flower (2,4).

In pairs or groups learners can take it in turns to say a co-ordinate and the others in the group find the item and pick it up.

#### Extension

The children could direct each other from a starting point on the grid to the other objects. For example:

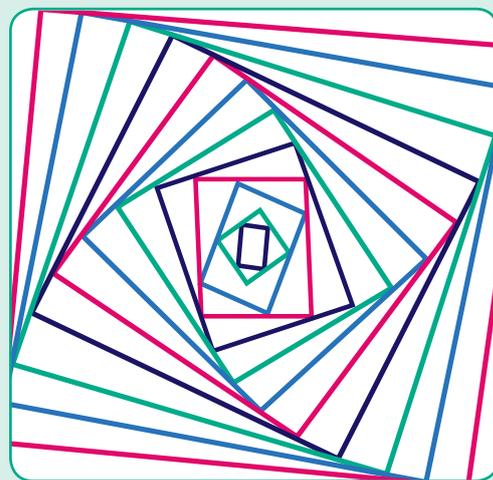
- start at (2,1)
- go forward 3
- turn right by  $90^\circ$
- go forward 2

### Curves of Pursuit Art

Curves of pursuit patterns are created when points are repeated following a continuous pattern. Encourage learners to create their own patterns such as this curves of pursuit example.

Find out how to make your own with this [video from STEM Learning](#). Resources required are plain paper, pencil and a ruler.

Go on a maths walk around your school or local area. While you are out, encourage learners to spot different types of patterns, for example on brickwork, shop fronts, roof tiles or windows.



What do they notice? What do they wonder? They might choose to capture these patterns digitally or to make sketches of them to discuss back in class or at home.

## MATHS AT WORK

Maths is important in a huge range of jobs and careers. Take on the role of a tiler, baker or economist planner to explore the maths they use in their jobs.

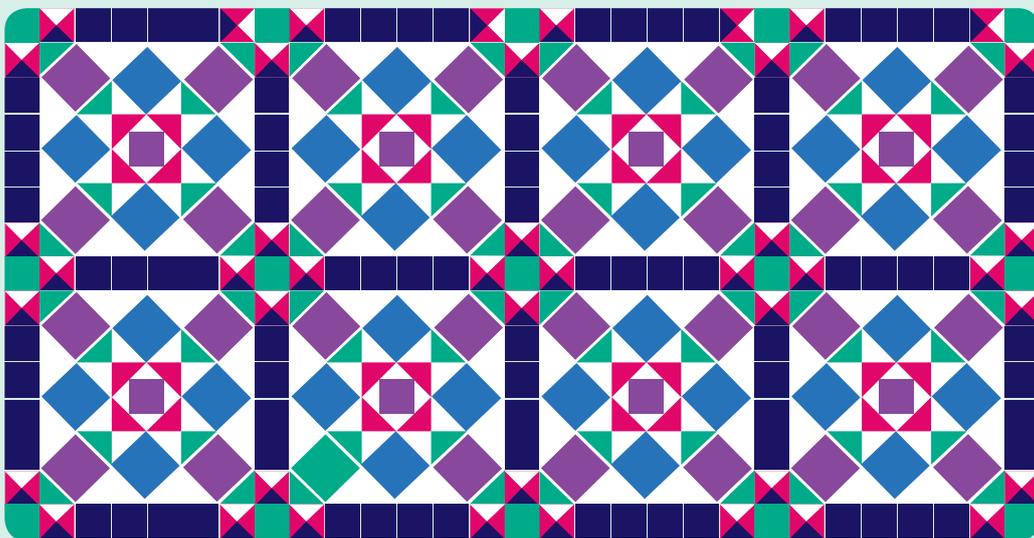
### Show Your Working

In groups, ask learners to discuss and identify a variety of jobs that use maths and what aspects of maths they may use on a daily basis.

These might be jobs in their local community or their family.

Each group could select one job and record an audio or video clip, or create a poster, about the maths skills used in that job.

Share your work with us on [Twitter #ShowYourWorking](#) or email [info@mathsweek.scot](mailto:info@mathsweek.scot).



### Tiling

**Tilers use lots of maths skills in their work. Have a go at creating your own tiling design!**

A tiler is a person whose job it is to lay tiles on floors or walls. Tilers have to be able to calculate the areas of rooms, work out the correct quantities of materials required and use their measurement skills to ensure their work is accurate.

Challenge learners to work as a group to create a tiling design involving geometric shapes.

The children will need: -

- ruler
- squared paper
- list of geometric shapes

You could set conditions for the tiling patterns such as using a certain number or type of shape, or ensuring it has line symmetry.

This activity could also be completed digitally or using Geo Shapes.

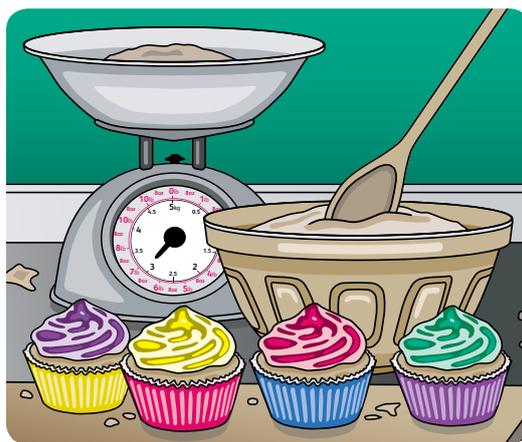
## Ready, Steady, Bake

Create something delicious using the most important ingredient – maths!

You use lots of different maths skills when you are baking and cooking. You might use fractions to adapt the portion size, estimation and measuring skills to weigh out the ingredients and timing skills when you are waiting for your recipe to be ready.

Watch this National Numeracy [video](#) with Great British Bake Off 2020 Winner Peter Sawkins explaining how maths is his secret ingredient.

During Maths Week Scotland, learners might like to test their own maths skills by trying out Peter's recipe.



You could also challenge your school to a Maths Week Scotland themed baking competition. We would love to see your pictures of who created the most mathematical design.

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## Create an economy

During Maths Week Scotland set up a classroom economy system with your class.

To set up the classroom economy decide with your class:

- How learners will earn their wages, this might be by taking on school roles such as cloakroom monitor, Eco rep, or by helping with tasks around the classroom
- A rental price for classroom items such as a desk, chair and stationery.
- If learners will be required to pay rent weekly or monthly
- You might also introduce certain items for sale such as extra pencils, whiteboard pens or replacements for broken items

Each day or week learners should be 'paid their wages' and a record kept of this. Learners might also be awarded bonuses or have unexpected

costs and ways to spend the money they save, for example a '10 minute free choice time'.

Once your classroom economy is established this can be used to explore financial responsibility and different financial concepts throughout the year for example; debt and loans, a classroom citizen tax and reducing costs.

Head to the [Maths Week Scotland website](#) for more detail on how to create this within your classroom.

## STEM Ambassadors

STEM Ambassadors are people working in STEM industries or with an interest in STEM available to talk to classes, run activities or help you plan sessions related to their work.

Browse the [STEM Ambassador website](#) to find out how to make a STEM Ambassador part of your celebrations or check out their resources.

## MATHS WEEK SCOTLAND COMPETITIONS

### Maths Inside

Get your cameras ready to get out and about and find the *Maths Inside* your daily life.

The Maths Inside photography competition has categories from early years up to adult so teachers and parents can enter too!

Enter at <https://mathsinside.com/#about>.

### Maths Week Scotland Daily Challenges

Try our Daily Challenges created by the Scottish Mathematical Council. Follow [@MathsWeekScot](https://twitter.com/MathsWeekScot) on Twitter or head to the [Maths Week Scotland](https://www.mathsweek.scot) website to take part.

### Sumdog

Take part in the Maths Week Scotland Sumdog competition running 27 September – 30 September 2021. [Register your school](#) and see if you can top the leaderboard to win fantastic prizes.

### Maths Wi Nae Borders

Maths Wi Nae Borders, inspired by the annual Mathématiques sans Frontières contest, is a mini competition for any class to complete together. Find details and enter [here](#).

### Scotland Rocks

To get us warmed up for Maths Week Scotland, Times Tables Rock Stars will be running an online competition for all schools in Scotland from 20th September – 23rd September 2021. You can enter [here](#).

### FIND MORE

Head to the Maths Week Scotland website [www.mathsweek.scot](https://www.mathsweek.scot) for more activities for Second Level and free online CLPL opportunities.

You can find more suggested activities at:

- [Co-ordinates revision from BBC Bitesize](#)
- [Geometric tiling examples](#)
- [Jobs that use maths with Maths Week Scotland](#)
- [BBC Bitesize Wild Maths Quiz](#)
  - [BBC Jobs that use maths](#)
  - [BBC Articles](#)
- [Salamanders](#)
  - [List of geometric shapes](#)
- [Countdown to COP26 with Education Scotland](#)
- [Financial education resources from:](#)
  - [Education Scotland](#)
  - [Maths Week Scotland](#)
    - [Kate Forbes](#)
  - [Scottish Government](#)
    - [On the money, an interdisciplinary learning approach to financial education](#)

Follow us on social media for more activities and ideas [@MathsWeekScot](https://twitter.com/MathsWeekScot) and [@edscot\\_maths](https://twitter.com/edscot_maths).

