

Maths Week Scotland

Third / Fourth 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 third and fourth level learners, either at home or school. Online versions are available at www.mathsweek.scot/activities.

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

ACTIVITY IDEAS

A Scottish Day Out

Plan a trip in Scotland, individually or in groups.

Plan a day out with friends costing a maximum of £20 per person, including all activities, travel and food/drink.

Then try planning a day trip for one adult and two children within your local area. Discuss what activities are available and what budget is needed for it.

Think about the travel required for your day trip. What is the total journey time? How does that change for different modes of transport? What is the most sustainable transport option for your trip?



Extension

- How could the cost of the day trip be reduced?
- What additional costs would be involved if it was an overnight trip?
- You have no spending limit, and 5 days available, plan the best Scottish holiday for your entire class

You could use Visit Scotland [website](#) for ideas of what to do and the ScotRail [website](#) for travel information.

Create a Logo

Create a new logo for Team Scotland at the 2022 Commonwealth Games.

Your logo must include at least:

- 3 different polygons
- 1 right angle
- 1 example of rotational symmetry

Maths Week Scotland Relay 2021

Get moving with this Maths Week Scotland Relay! This can be completed in groups or individually.

Download and print these [maths relay questions](#). Set them out around the classroom or outdoors then complete them one by one.

MATHS OUTDOORS

Angle Hunt

Find angles out and about!

Resources: protractor per group, pen/pencil, copy of the table below.

Take a protractor and hunt for angles in your school's outdoor space or in your local community.

- 1 Predict the size and type of angle
- 2 Measure the angle
- 3 Note the difference between your estimation and the actual angle size
- 4 Discuss ways to make your estimates more accurate

Type of angle	Estimate	Measure	Difference

Trees as Air Purifiers

Find out the impact trees can have in your local area.

A mature tree can absorb up to 22kg of CO₂ a year as part of the photosynthesis process. The CO₂ is exchanged for oxygen which can help the process of rebalancing our atmosphere and slowing climate change. Estimate how much carbon dioxide is absorbed within your school grounds or local area each year.

[Find out more.](#)

Dice Race

Discuss how probability influences this dice game.

Each pupil is assigned a number between 2 and 12 and lines up behind the number. Place markers (at least 10 works best) at the side to show how far to move each time.

X												
X												
X												
X												
X												
X												
	2	3	4	5	6	7	8	9	10	11	12	

Roll two die. The number that is rolled determines which pupil gets to move forward. The first to reach the end wins.

This game should be played a few times until pupils begin to notice some numbers are more likely to win than others.

The follow-up discussion can explore the probability of rolling a 2 (only option is 1 and 1) compared to probability of rolling a 10 (4 and 6, 6 and 4, 5 and 5).



MATHS AT WORK

Maths is important in a huge range of jobs and careers. Take on the role of journalist or marine scientist to explore the maths they use in their jobs.

Show Your Working

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

These might be jobs in your local community or family. Each group could select one job and record an audio or video clip, or create a poster, about the maths in that job.

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

Journalism

Find out how data is used by journalists

Take a look at the [Our World in Data website](#) and the range of graphs which show CO₂ emissions of countries across the world. Look at the position the UK ranks in comparison to the other countries.

Create a graph using 8 countries from this list, including the UK. If you were to choose a different 8 countries, would it change the ranking of the UK? Does their CO₂ emissions look better or worse in this graph?

Discuss why it is important for journalists to select the data that they include in their articles and news reports carefully.

Timetabling

Imagine you are the manager for a new company and plan what your week looks like.

A manager has the following tasks to arrange for next week:

- Client meetings – 3 x 1 hour meetings
- Lunch with a new employee – 90 minutes
- Annual reviews – 1 hour per employee (6 employees)
- Thursday afternoon appointment – out of the office from 2pm
- Strategy meetings – 4 hours
- Morning check-in for 30 minutes at 9.30am each day

The following points must also be considered:

- Lunch is at least 30 minutes per day
- The working day can start at 8am and should finish by 5.30pm, but should not exceed 35 hours over the week
- After 2 hours of meetings, there should be at least a 15 minute break

Suggest how these might fit into a weekly diary. This can be done on a digital planner such as the diary available on Teams or Google Classroom.

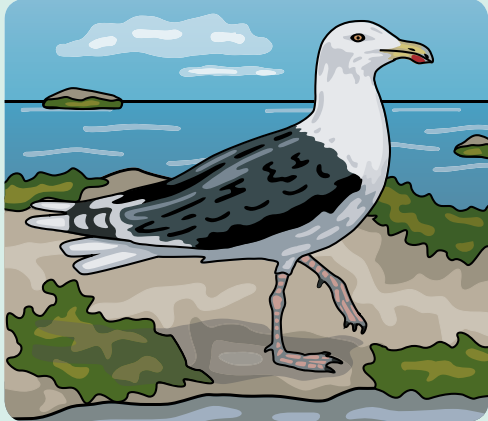
STEM Ambassadors

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.

Marine Data

Analyse survey data to learn about marine life.



The data in the table was taken from a survey of sea-birds in Scotland by Marine Scotland. It shows two different types of seabirds observed in four different regions over three seasons. Understanding this data helps inform future wildlife plans.



Look at the data in the table opposite. What do you notice? What do you wonder? Write about what the data tells you. You might wish to display some of the data graphically, either on paper or using technology.

Summary of SEAPOP at-sea bird estimates for two species by region and season.

Species	Region	Season	N	Density per km ²
Great Black Billed Gull	Region 1	Autumn	418	0.044
		Summer	17	0.002
		Winter	639	0.067
	Region 2	Autumn	451	0.024
		Summer	140	0.007
		Winter	1095	0.058
	Region 3	Autumn	846	0.031
		Summer	156	0.006
		Winter	1680	0.061
	Region 4	Autumn	1285	0.010
		Summer	403	0.003
		Winter	4169	0.034
Common Guillemot	Region 1	Autumn	67490	7.104
		Summer	73054	7.690
		Winter	19875	2.092
	Region 2	Autumn	62084	3.302
		Summer	104050	5.535
		Winter	26561	1.413
	Region 3	Autumn	125468	4.562
		Summer	172324	6.266
		Winter	44779	1.628
	Region 4	Autumn	193688	1.561
		Summer	238193	1.919
		Winter	73146	0.589

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 adults 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 is a mini competition inspired by the annual Mathématiques sans Frontières contest. This mini competition is 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

Visit Scotland

Head to the Maths Week Scotland website www.mathsweek.scot for more activities for Third and Fourth Level and free online CLPL opportunities.

You can find more suggested activities and information at:

- [Trees and Carbon Dioxide](#)
- [Maths at Work](#)
- [Data in journalism with BBC](#)
- [Woodland Trust](#)
- [Countdown to COP26 with Education Scotland](#)

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



Education
Scotland
Foghlam Alba