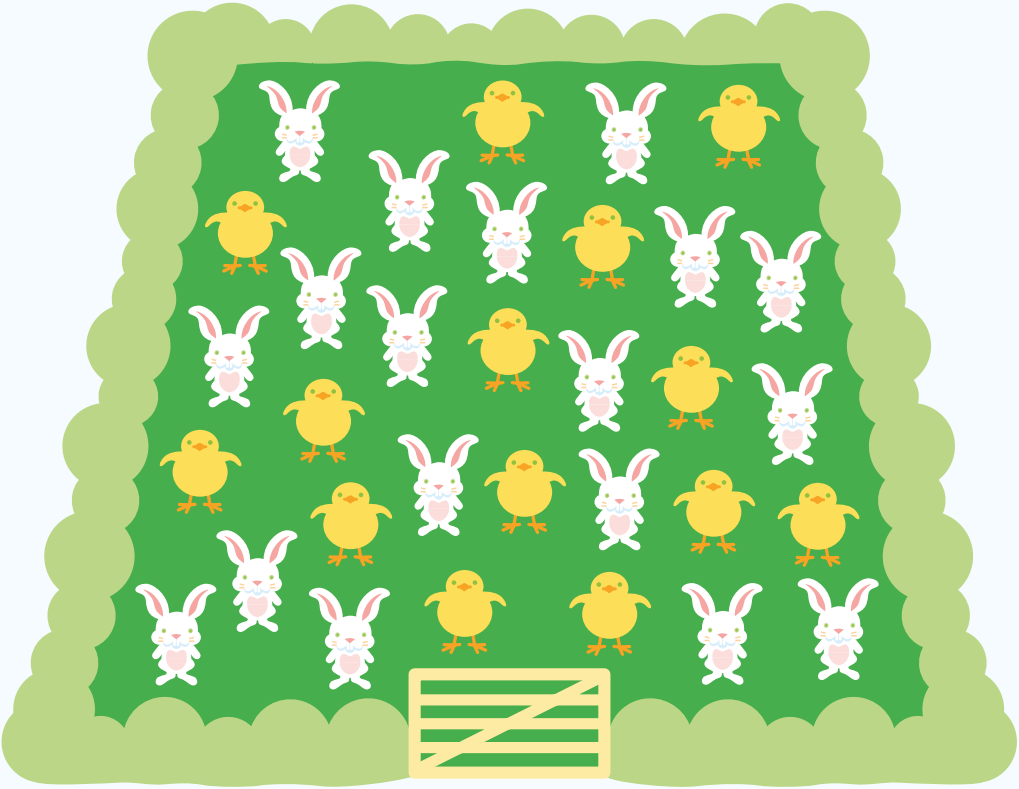
Easter Holiday 2019

Deputy First Minister's Maths Challenge

The Scottish Mathematical Council

Scottish Government
Riaghaltas na h-Alba
gov.scot

Puzzle 1 – Easter Bunnies and Chicks



a) There are 18 bunnies and 14 chicks in a field. How many legs are there altogether?

b) There are also some bunnies and some chicks in the next field.

Eilidh counts how many heads she can see and gets 40.

Dipak counts the total number of legs and gets 106.

How many bunnies are there?

See if you can create your own puzzle and challenge someone in your family.

Puzzle 2 – International Deliveries

The Easter Bunny is making plans to have Easter eggs delivered to children all around the world! Luckily, he has a team of helpers in every country.

The Easter Bunny will deliver his eggs in Heidelberg in Germany at exactly 10am and he wants his helpers to deliver their eggs at exactly the same moment. But there's a problem! It seems that the time is different in different countries! The table shows each country's time compared to that in Heidelberg. For example, Australia is 9 hours ahead of Heidelberg time (shown as +9 in the table), while Argentina is 5 hours behind (shown as -5).

Argentina	-5	Iran	+2½
Australia	+9	Japan	+8
Brazil	-4	Kenya	+2
China	+7	Mexico	-7
Denmark	0	Nepal	+4¾
Egypt	+1	Pakistan	+4
Fiji	+11	Samoa	+12
Scotland	-1	Thailand	+6
India	+4½	USA	-6

a) When should the Easter eggs be delivered by the helpers in

(1) Cairo, **Egypt** ☐ (2) Tokyo, **Japan** ☐

(3) Edinburgh, **Scotland** ☐ (4) Washington DC, **USA** ☐

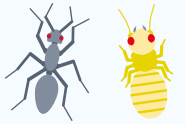
(5) Delhi, **India** ☐ (6) Kathmandu, **Nepal** ☐

b) If it is 6am in Mexico City, what time is it in Beijing, **China**?

c) If it is noon in Nairobi, **Kenya**, what time is it in Buenos Aires, **Argentina**?

Puzzle 3 – Minibeast Hunt

Graph Key



Colour

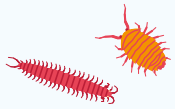
Wingless Insects
Minibeasts with 6 legs and no wings such as ants and beetles

Colour

Winged Insects
Minibeasts with 6 legs and wings such as bees, wasps, butterflies and flies

Colour

Arachnids
Minibeasts with 8 legs such as spiders and ticks



Colour

Myriapods
Minibeasts with a pair of antennae, many body segments and many legs such as centipedes and caterpillars

Colour

Annelids
Minibeasts with soft, segmented bodies such as earthworms or slugs

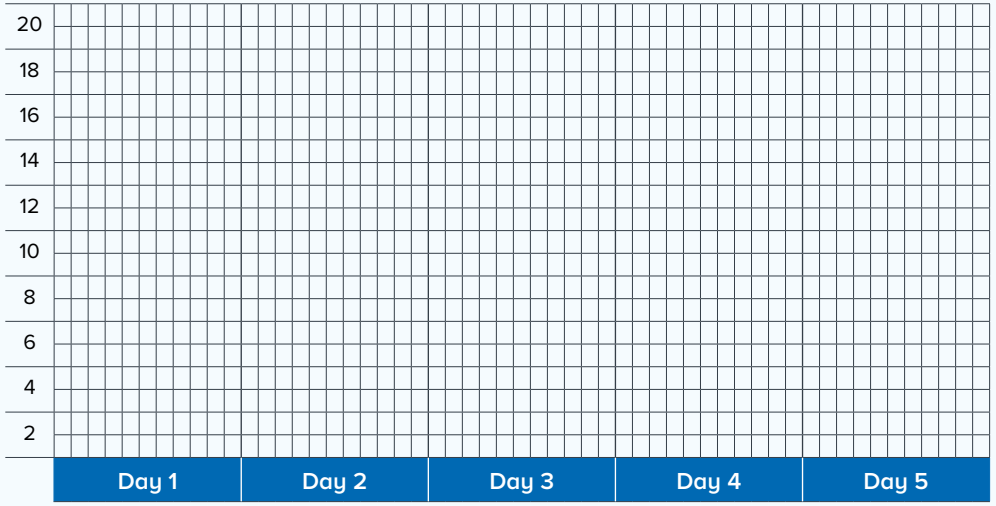
The Easter holiday is the perfect time to go minibeast spotting! There are plenty of places to find minibeasts – under rocks and logs, in the air, in trees... Make a note of all the different kinds of minibeasts you find in the table below and record the weather each day beneath.

	Number of Minibeasts Found				
Type of Minibeast	Day 1 Date:	Day 2 Date:	Day 3 Date:	Day 4 Date:	Day 5 Date:
Wingless insects					
Winged insects					
Arachnids					
Myriapods					
Annelids					

Highlight or circle what best describes the weather each day.

Day 1	Day 2	Day 3	Day 4	Day 5
				

Minibeast Hunt Graph
Plot your findings on the graph below. Remember to use the colours red, orange, blue, green and yellow, according to the graph key.



Use your graph and weather table to help you answer the questions below on a separate piece of paper.

a) In what weather conditions were you most likely to see winged insects?

b) In what weather conditions were you most likely to see wingless insects?

c) What kind of minibeasts were you most likely to see on days with heavy rain?

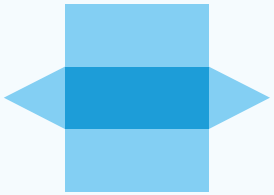
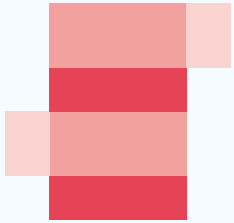
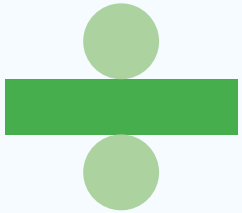
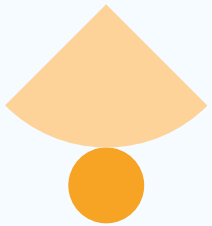
d) Did you notice any other features of your graph?

If you're not able to get out counting minibeasts, you can see how many we found at the Making Maths Count blog and use this in your graph!
blogs.gov.scot/making-maths-count/

Puzzle 4 – Easter Egg Boxes

Maths is everywhere in the world around us and shapes are just one of the ways we can see it. The shape of chocolate Easter egg boxes is a fun way to explore this.

Can you name and draw the 3D shapes for each net in the table? Once you have done this, have a look for these shapes in real life – you might find them in your home, in the buildings in your neighbourhood, even in nature out at your local park. The first has been done for you.

Net					
Name of 3D shape	Triangular prism				
Draw this 3D shape					
Where can these shapes be found?					

For an extra challenge, try identifying how many faces, vertices and edges each of the 3D shapes has.

Faces (single flat surface)					
Edges (lines between faces)					
Vertices (corners)					

Issued to Primary 6 pupils in Scotland for Easter holiday maths family fun.

Developed in partnership between the **Scottish Government** and **The Scottish Mathematical Council.**

We will be publishing our own minibeast hunt data for puzzle 3 on **25 March 2019**, with solutions and workings for all puzzles from **16 April 2019**.

Both available here **blogs.gov.scot/making-maths-count**

Parents and carers

Please check out Parentzone Scotland **www.education.gov.scot/parentzone**

and

Parent Club **www.parentclub.scot** for more ways to enjoy numeracy and maths.

What you can do as a parent or carer

- Play board games! Games can involve a lot of maths: this could be counting squares, looking for sequences, moving in different directions, exploring probability by rolling dice or being dealt a card, and following logic and rules.
- Play puzzles and puzzle-like games. Examples include Noughts and Crosses, Guess Who?, Sudoku, Dominoes, Battleships, Dots-and-Boxes and Chess. These involve strategic thinking, problem solving, and planning, as well lots of the skills mentioned above.
- Include children in activities that use maths. For instance cooking often asks for lots of quantities and measuring as well as shapes, times and temperatures. Shopping involves prices, counting money, and checking the time.
- Estimate all sorts of things together: “I wonder how many steps there are here?”
- Plan journeys together, look at maps, timetables, and talk about distances.
- Talk about maths in a positive way, that way your child will too!