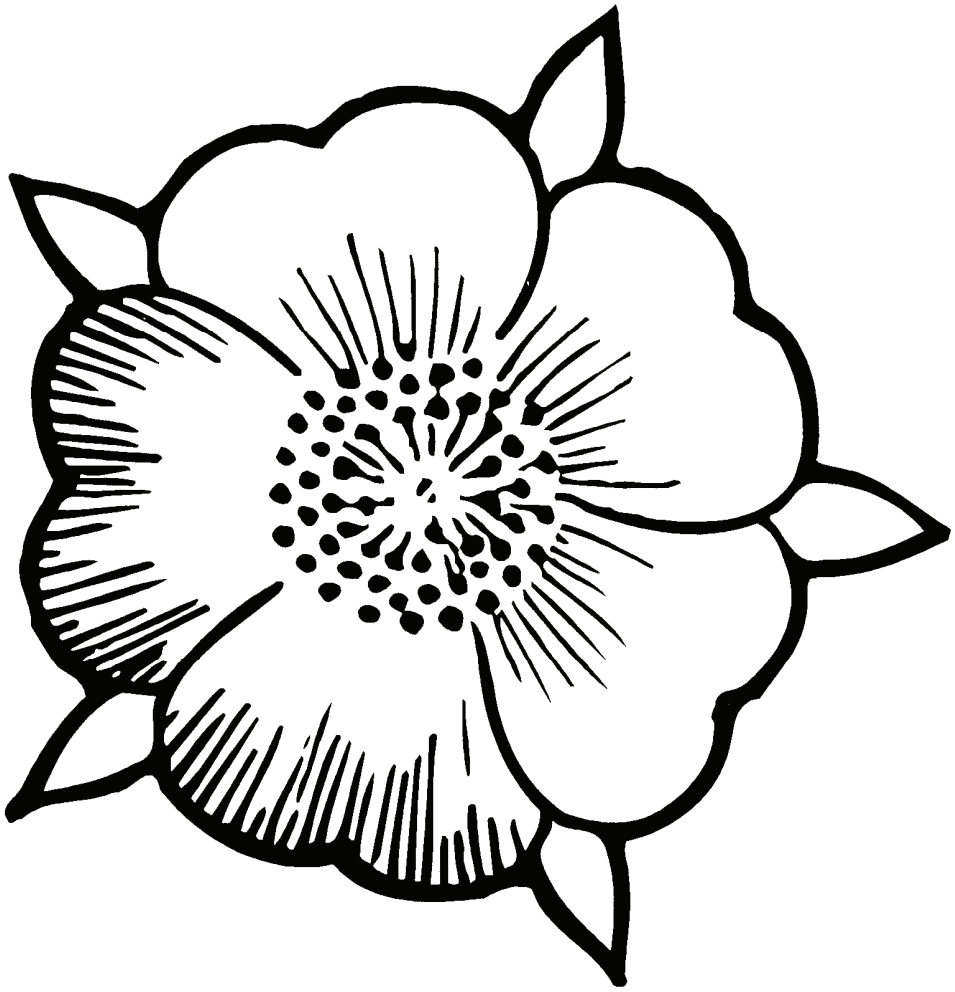
Birmingham Botanical Gardens
Study Centre



General
Maths Trail
Answers for Teachers

Introduction

Useful information about the trail has been set out in the format:

- answer (when possible)
- comments (when appropriate)
- National Curriculum reference (Programme of Study)

Answers

These are not always hard and fast. Prices change, temperatures change and some questions depend on debate. But best of all, you and your pupils may have your own ideas about how to tackle a particular question. Jolly good too: you know them better than we do.

National Curriculum References

The following abbreviations have been used:

Ma2 - Number

Ma3 - Shape, Space and Measures

followed by the standard notation found in the Mathematics document.

There is of course, using and applying mathematics (Ma1) throughout the trail.

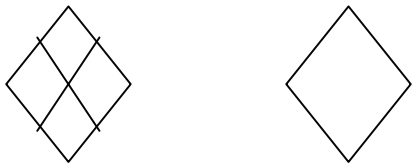
If you don't already have a maths trail around your own school grounds or locality, then we hope that this trail gives you some ideas.

Meanwhile, enjoy the Botanical gardens trail and may the sun shine on you!

Written in connection with Birmingham City Council's Education Department

Q	Answer	Comments	NC Ref/s
1	Depends	Use present cost on board	Ma2 4a, b
2	30º	90º ÷ 3	Ma2 3a, h Ma3 2a, h
3	17	18, if you count the step onto the landing	Ma2 2a
4	30th April 1988		Ma3 4d
5	165	There may be more! The main object is circle recognition and the counting: it's the thought that counts……	Ma2 2a Ma3 2b
6	Picture completed	The tracery at the front is the important part: the ribs of the roof detract	Ma3 2c
7	160 years depends	160 + (this year – 1989)	Ma2 2a 4a, b
8	Various	At the top….. …..below	Ma3 2b
9	Including square, rectangle and pentagon	Note symmetry in the patterns	Ma3 2b c
10	6		Ma2 2a
11	4 rails 8 children	……the children can have fun investigating possible answers. What if each child holds 2 rails or every other child holds 2 rails…?	Ma2 2a 4a, b
12	Lots!	Will you ask for plane and solid shapes?	Ma3 2b

13	Top circle 46 Layers 6 Total 276	The method assumes the same number of bricks in each layer….. …..counting to check misses the point!	Ma2 2a 4a, b
14	6 benches hexagon	Pretty well regular	Ma2 2a Ma3 2b
15	Octagonal		Ma3 2b
16	10 in the windows	Each of the two patterns show 5 rhombuses	Ma2 2a 4a Ma3 2b



4 small and 1 large

17	Depends	(this year – 1895)	Ma2 2a 4a, b
18	90 years	(1940 – 1850)	Ma2 2a 4a, b
19	8 Octagon	Pedants who insist that the bit that sticks out makes 3 more sides will have to call the floor an undecagon	Ma2 2a Ma3 2b
20	Octagon		Ma2 2a Ma3 2b