MATHS TRAIL

UPPER KEY STAGE 2

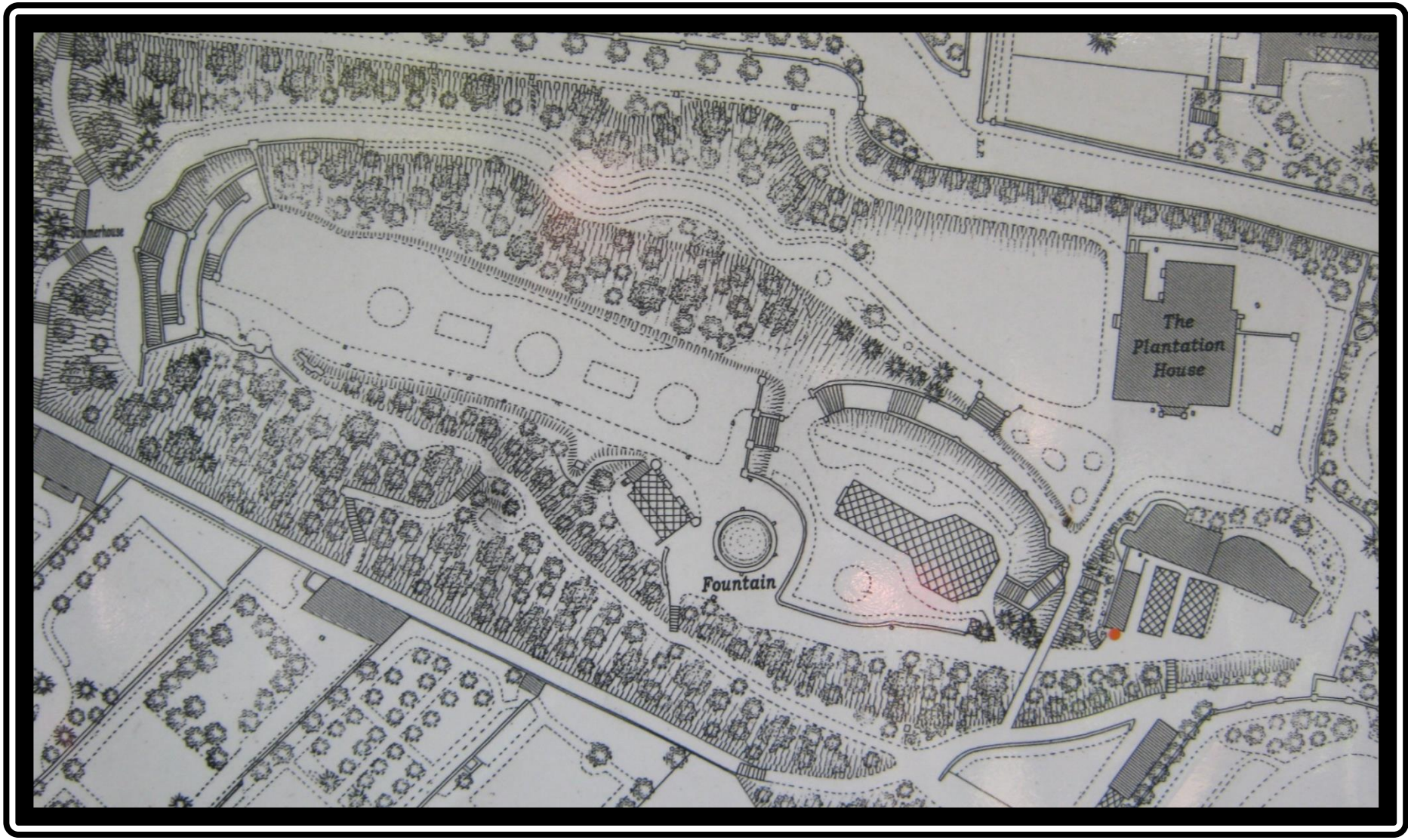
THE PLANTATION GARDEN

A beautiful secret garden in the heart of Norwich

AVENUE JUNIOR SCHOOL

heritage lottery fund

LOTTERY FUNDED


The Plantation House
Fountain

THE PLANTATION GARDEN

A beautiful secret garden in the heart of Norwich

Upper Key Stage 2 - Maths Trail

Maths is everywhere! But we rarely take the time to stop and take notice of it.

This trail will take you around the garden, help you to explore and understand your environment a little better and get you thinking mathematically!

The map on the previous page shows the locations for each set of questions. Use the map to find the right spot and then have a go at them.

We hope that you enjoy the trail. The problems are designed to get you thinking. Sometimes there are no right answers and there may be several different ways of tackling a problem. Discuss your ideas with a partner.

Don't rush your trail and make sure that you enjoy the gardens too!

Information for teachers/supervising adults:

The trail should take around 1 hour to complete.

The trail is best done in small groups, each starting at a different point . If groups move around in question order, it should avoid too much congestion!

You'll need to print out enough of these booklets and bring your own pencils. A ruler would be useful as well as rubber and sharpener.

This trail is suitable for children in Years 5 and 6 (ages 9-11).

1

On the gates to the garden is a combination padlock. It has four digits.

What could the combination be to unlock the password?

If you knew that the first digit was a 3 and the final digit was a 0, how many different possibilities are there?

In the box below show some of the possibilities. Try and work systematically.

- **How many possibilities would there be?**

You don't need to do all of them to figure this out!

2

Look at the information board and then try to answer the following questions.

- **How old was Henry Trevor when he died?**

- **How long did World War I last?**

- **When did trading start at General Furnishing Establishment?**

Do any working out below.

Did you know?

Look at the prices of the furniture on the information board. What do you notice about them? Today £1 = 100p but that hasn't always been the case. Before 1971 and decimalisation pounds were made up of shillings and pennies. In old money £1 = 20 shillings or 240 pennies. It was a much more complicated monetary system!

This is the Platation Garden honesty box.

We ask visitors who are not members to make a contribution of £2 each visit.

It generates a lot of much needed money to help the volunteers maintain and improve the gardens.

- **If 330 people contributed to the honesty box in a week, how much money would be raised? Show your working out in the box below.**

- **If we reduced the contribution to £1.50 and received exactly the same amount of visitors in the following week, how much less money would be raised? Show your working out in the box below.**

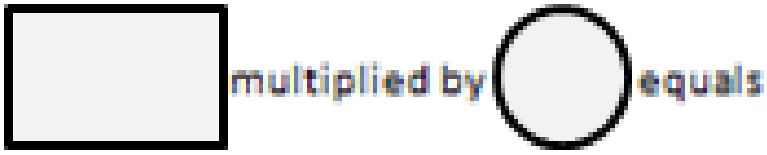
4

Welcome to The Plantation Garden! Take a look at the map of the gardens.

- **How many circles can you find on the map?**

- **How many rectangles can you count in 30 seconds*?***

- **Now use those numbers to complete this calculation:**



- **On the map there is an irregular decagon. Can you find it? Can you explain what an irregular decagon is?**

_____
_____
_____

Try and use the following words:
sides
equal
angles
shape

- **Membership to The Plantation Garden costs £7.50 for an individual and £12 for a family. On the sign it says, '*Just 4 visits a year will save you money*'.**

- **How much would it save a family of 4?**

5

Can you find the tree near the bridge that has branches and leaves that look like this?

It's called a monkey puzzle tree! Can you guess why?

Below it is a sign that tells us that this tree was planted to commemorate the centenary of Queen Victoria's death

- **The tree was planted in 2001 so what year did she die ?**

- **When she died she was 82 years old, so in what year was she born?**

- **If Queen Victoria was still alive today, how old would she be?**

- **It was planted on 19th July 2001. How many months ago was that?**

6

Can you estimate the length of the bridge in metres?

- **The floor of the bridge is covered by chicken wire to stop people slipping in the wet. If a metre of chicken wire costs £0.50, then how much do you think was spent laying it? Show your working in box below.**

- **Can you see any symmetrical patterns on or around the bridge? Sketch them in the boxes below.**

7

Can you find the circular flower bed closest to the Italian terrace?

The perimeter is the distance around the outside of a shape.

The perimeter of a circle is called the **circumference**.

I measured the circumference of this flower bed in foot lengths (heel to toe) and my answer was 53 foot lengths.

- Now you measure the circumference in foot lengths. What was your answer?

- Is there a difference? Why could this be?

_____

_____

- If I told you that the length of my foot is 30cm could you calculate the circumference of the circle in cm. Show your working below.

- How long is your foot?

- Work out the circumference of the circle using your foot measuremnet. Is it close to your previous answer?

8

How many different kinds of flowers and plants can you spot in this flower bed?

The area of a shape is the amount if space it takes up.

To find the area of a rectangle you multiply its width by its length.

This flower bed is rectangular. It has a width of 6m and a length of 2.7m.

- **Can you calculate the area of the flower bed?**
  Show your working in the box below.

- **The other rectangular flower bed on the lawn is exactly the same. What is the total area of the two flower beds?**

9

Along the wall you'll find some numbers hidden amongst the brickwork!

- **There are four numbers hidden. Can you find them all?**

- **Can you put them in size order from smallest to largest?**

- **What is the difference between the smallest and largest number?**

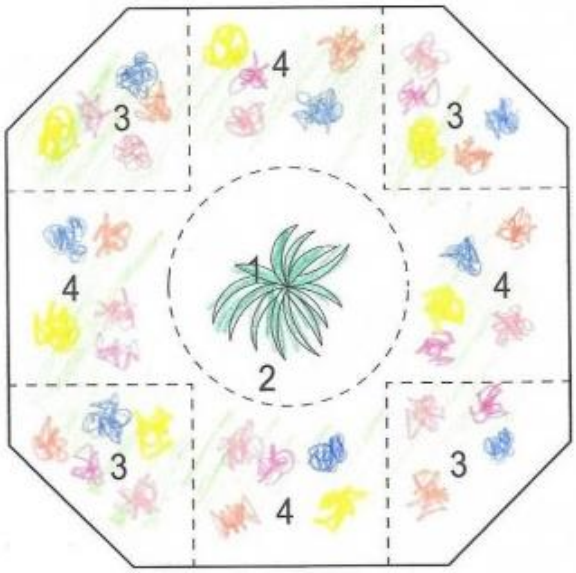
- **What is the total of the numbers?**

- **On the bird bath you will find two dates.**
  When you add these to the date on the wall, what is the total?
  Show your working in the box below.

10

Can you find the middle flower bed with the palm tree in its centre?

Below is an old planting plan for that flower bed showing the names of the plants to be planted in each section:



1. Trachycarpus fortunei
2. Geranium magnificum
3. Mixed Polyanthus
4. Mixed Polyanthus

- **Can you name three shapes that you can see in the diagram?**

1. 2. 3.

- **How many right angles can you see in the diagram?** *Mark them on.*

.

- **Can you calculate the perimeter of the shape by measuring only two sides?**

11

Can you find the plaque shown in the picture?

- **What is double 1857?**

- **What is half of 1857?**

- **How long ago was 1857?**

Estimate or measure how tall your friend is in metres and then ask them to stand beside the fountain.

- **Describe how you could use the height of your friend to estimate the height of the fountain.**

_____
_____
_____
_____

- **Use your method to estimate how high the fountain is?**

- **Two students were arguing about whether it is more accurate to use a very tall friend or a very short friend. What do you think?**

_____
_____
_____
_____

Use these spaces for working out, or perhaps write your own maths questions to challenge a friend!

You could even create your own maths trail like this one. If you do, send them in so we can add them to our website for other visitors to print off and use!


AVENUE JUNIOR SCHOOL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Learning at
The Plantation Garden