

Maths in the Mansion



During the late 19th century, Wilbraham and Mary Egerton lived at Tatton Park, their country estate. They were renowned for their lavish entertaining and parties held at Tatton. They loved to show off their classically designed Mansion. To help them prepare for these parties, they employed many servants. A lot of the work that the servants did was physically demanding but they also had to use their knowledge of maths to complete their tasks. It was important to ensure there were enough supplies for the master, mistress and their guests.

Here are some of the problems the servants may have come across. Have a go at solving them and see whether you would have been able to work at Tatton!

Activity 1: Preparing Dinner

Lord and Lady Egerton have announced they will be having 22 guests for dinner in the dining room. Cook is preparing mashed potatoes as part of the meal and has asked one of the kitchen maids to work out how many potatoes will need to be peeled and how many pans will be required to boil them in.

First, write down how many people will be coming for dinner. Cook has said that 1lb or 500g of potatoes will serve 3 people. Use your 3 times table to work out how many pounds or kilogrammes will be needed altogether.

The pans in the kitchen at Tatton are huge and very heavy as they are made of cast iron. Weigh 500g potatoes and put them in a pan and see if you can lift it. Cover the potatoes with cold water and then try lifting the pan again. Imagine how difficult the pan would be to lift when it is hot. How many pans do you think the kitchen maid would use to cook all of the potatoes?



Activity 2: Weekly Wages

The Housekeeper is preparing for a ball that Lord and Lady Egerton will be holding in the autumn. There will be 200 guests so she will need to employ some extra staff to help. She needs to work out the cost of the extra staff for the week. Can you help her figure it out?

Here is a list of the staff and how much they earn in a year.

Title	Number	Wage		Title	Number	Wage
House steward	1	£120		Nursery maid	1	£35
Housekeeper	1	£100		Still room maid	2	£20
Butler	1	£80		Kitchen maid	4	£15
Valet	1	£30		Scullery maid	4	£10
Lady's maid	1	£30		Laundry maid	2	£15
Cook	1	£50		Dairy maid	2	£12
Footman	4	£25		Kitchen man	4	£15
Under butler	2	£40		Baker	1	£20
Housemaid	8	£25				

The extra staff required are 4 housemaids, 2 kitchen maids, 3 scullery maids and 4 footmen. What would be the extra cost to hire them all for a week? Don't forget there are 52 weeks in a year!

Activity 3: Please take your seat for dinner

When Wilbraham and Mary held a dinner party, guests couldn't just sit where they liked. The hosts would draw up a seating plan with the help of the Butler, so that guests would sit next to and opposite people they either knew or had something in common with so there would be plenty of conversation. Also, ladies and gentlemen would sit alternately.

Imagine you are having some of your friends around for a Victorian dinner party. Draw a rectangle for the table with squares equally around it for the chairs. Write down where you would like each of your friends to sit. Don't forget to include yourself and make sure no one is left out with no one to talk to. Don't forget that girls and boys have to sit alternately. How many girls and how many boys have you invited? Should this number be the same? Is it easier to have an odd or even number of guests? It's harder than you think!

