



Number Partners Challenge 2017 Volunteer Tip Sheet



Round One: Birthday Cake

This challenge is all about trial and improvement. You should **spend no more than 30 minutes** on the challenge as a whole – try and get as far as you can, but incomplete entries can still be submitted. Make sure to show your working out for full points!

You will need:

- Entry sheet
- Scrap paper and pens for your working out
- *Optional:* counters/visual aids to help count

All of the activities featured in the challenge this year are adapted from resources from nrich at the University of Cambridge - <http://nrich.maths.org>



The Birthday Cake Problem

Umar was born in January, his mother bought a packet of 34 candles for his birthday cake. That year she put 1 candle on his cake, 2 candles the next year and so on.

In March Umar's little sister Hanna was born, the candles were also used for her birthday cake. The packet of candles finished on one of Umar's birthdays.

How old were Umar and Hanna when the candles ran out?

Tips for volunteers

Start by asking the children to just focus on Umar and how many of his birthdays the candles would last for. Does this total 34 candles or are there any left?

As this challenge is all about trial and improvement you could use aids (counters etc.) to count out how many candles would be needed for each birthday. Ask the children to keep a tally to keep an eye on the total.

Help the team think of different combinations of candles used by Umar and Hanna which gets them to a total of 34 candles. Complete the entry sheet together with your answers and be sure to show your working out.

For full points, teams should create a number sentence (sum) to demonstrate their working out. E.g. 'For 5 birthdays Umar would need $1+2+3+4= 10$ candles so...'



Tweet us @NumberPartners your team's photos, comments and thoughts using #CountMeIn



Round One: Birthday Cake

Umar was born in January, his mother bought a packet of 34 candles for his birthday cake. That year she put 1 candle on his cake, 2 candles the next year and so on.

In March Umar's little sister Hanna was born, the candles were also used for her birthday cake. The candles were finished on one of Umar's birthdays.

How old were Umar and Hanna when the candles ran out?



You could start by just thinking about Umar, how many of his birthdays would the packet of candles last for?

Now think about Hanna. What could you try to see how many birthdays the candles would last for both of them?



Tweet us [@NumberPartners](https://twitter.com/NumberPartners) your team's photos, comments and thoughts using [#CountMeIn](https://twitter.com/CountMeIn)



Number Partners Challenge 2017

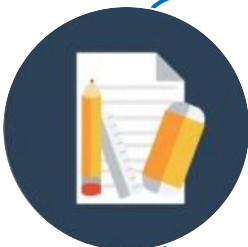


Team Entry Sheet: Round One

Team Name:		
School Name	Pupil Names	Volunteer Company

How many of Umar's birthdays would the candles last for?	/2
How old were Umar and Hanna when the candles ran out?	/3
Can you write a number sentence to show you're working out?	/3
How old was Umar when Hanna was born?	/2

Total /10



Submit your Entry

Anita Kessie, Curriculum Team Project Coordinator
Email: anita.kessie@thebp.co.uk Fax: 0207 375 2323
Mail: THEBP, 1st Floor Norvin House, 45-55 Commercial Street, London, E1 6BD

Deadline for all entries is **Friday, 31 March 2017**