G.A.T.E.WAYS JOURNEYS PROGRAM

for gifted Year 1 and 2 children with a love of maths

‘Alice In Numberland..

Mad Hatters and Maths Matters!’

G.A.T.E.WAYS is an independent organisation offering challenging and enriching activities and experiences to develop and extend highly able children.

This mathematical JOURNEY for both girls and boys will run over four half day sessions. We all know of ‘Alice In Wonderland’ but have you ever heard of ‘Alice In Numberland’? You will have to help Alice find her way through a world of mathematical mayhem… White Addits, Mad Hatter’s Divisibili-tea Parties and a somewhat nutty Queen of Hearts who seems obsessed with subtracting people’s heads. Covering the four essential Numberland operations – Ambition, Distraction, Uglification and Derision – Alice will explore Pascal’s triangles in the addition of croquet balls, find out who is guilty in ‘The Case of the Take Away Tarts’, discover a multiplication of improbable probability problems with the cards, and sit under a factor tree for a divisibili-tea party. And all of this without a calculator in sight!

This journey is designed to make students ‘curiouser and curiouser’ about addition and subtraction through recognising challenging patterns with both regular and triangular numbers, and to help students see through the looking glass at connections between factors, multiplication and division.

Session 1 – Ambition: Calculating With The White Addit

When Alice is invited to play a game of croquet with the King and Queen of Hearts, she never expected to need the help of the White Addit in calculating the scores… Triangular numbers? Fibonacci’s Sequence? What a curious addition pattern they make! Then, when the caterpillar arrives complaining of numbers on his back that seem to chop and change more often than he changes his socks, Alice really has to put on her thinking cap.

Session 2 – Distraction: The Queen of Hearts and ‘Take Away Tarts’

One court case has all of Numberland feeling very negative – the mystery of the ‘Take Away Tarts’. Although all of the signs point to the Knave of Hearts as the guilty party, Alice isn’t so sure. The one thing that she is positive about is that this type of ‘take away’ can get very negative. Exploring subtraction of directed numbers and creative ways of seeing a fraction of nothing, can you help Alice find out who stole the tarts… after all, it is just simple deduction!

Session 3 – Uglification: All Hands On Deck In The Queen’s Garden

Bumping into the deck of cards whilst wandering in the Queen’s garden, Alice wonders why the deck is in such a royal flush. She soon discovers that problems with multiplying are multiplying their problems and if the Queen should ever discover their mistakes… let’s just say that she’ll cut the deck. So Alice has to multiply her efforts in finding patterns in multiplying – and she can use the cards to help. Teaching the deck multiplication ‘tricks’ with their times tables means that Alice can correct their mistakes… But what is the probability that Alice works it all out before she ends up minus her head?

Session 4 – Derision: The Mad Hatter’s Divisibili-tea Party

In this last session Alice sits down at the Mad Hatter’s multiplication table for a cup of divisibili-tea. But the Hatter, March Hare and Dormouse are very particular about who sits next to whom… and when it comes time for cleaning up, they follow strict factorial rules in stacking the cups, saucers and teapots. You have to help Alice create method in their mathematical madness.

About the presenter

Allen Dickson is an educator and speaker with a passion for ensuring learning is innovative, practical and enjoyable. For nearly 20 years he has specialised in the fields of Drama, English and Maths and uses his diverse range of unique skills to instil confidence in young people and initiate change in classroom practice. Often with a focus on engaging the learner, Allen runs his own educational consultancy – RethinkPD – where he speaks on a range of specialist issues both in schools and at conferences around the country.

Requirements: Please bring your pencil case, an A4 exercise book or notepad; a snack (no nuts please); Also bring a small labelled photograph of yourself to the first session as well as a stamped, self-addressed envelope for the return of your report.

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