

## A G.A.T.E.WAYS JOURNEYS PROGRAM

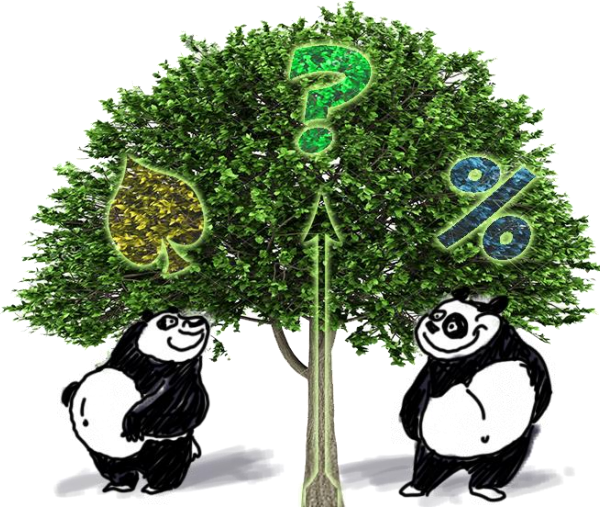
for gifted Year 1 and 2 children

with a love of maths and thinking

**'THE PARTY IS PUMPING**

**WITH KING FU PANDA!!'**

*..a mathematical thinking adventure*



**G.A.T.E.WAYS** is an independent organization offering challenging and enriching activities and experiences to develop and extend highly able children. This *JOURNEY* for both girls and boys will run over four sessions.

King Fu Panda lolls lazily beneath the old Zen elm tree, sipping on sugar beet juice and thinking about his twin children who will soon be eight years old. The twins are so alike but yet so different. Princes Lei Lei loves maths whilst Prince Lei loves magic. How exciting this birthday will be! For the first time King Fu Panda will allow the twins and a few friends to climb the staircase spiralling around the old Zen elm tree and to enter the exciting rooms that lead off it. And, because it's a special birthday, King Fu Panda has decided to invite all children who love maths. **THAT INCLUDES YOU!** So, what are you waiting for? Put on your party gear and join the twins to see what lies behind the closed doors.

### **Behind Door One: The Fibonacci Room**

Hurray, it's Prince Lei and Princess Lei Lei's birthday and its time to climb the first flight of stairs! At the entrance to the Fibonacci room (named after the mathematician who popularized the Hindu Arabic number system) we are greeted by Shri Shelley, a zen master. Once inside we have fun investigating number sequences and trying to determine the rule behind different arithmetical series. Shri Shelley challenges us to find Fibonacci's famous number sequence on a pine cone, a shell and, a cauliflower. I wonder whether we can find them! Since it's a party, zen master Shri introduces us to some amazing tricks with the Fibonacci sequence, and later Princess Lei Lei shows us how to write something called square and triangular numbers. To complete our visit all the party goers will draw an amazing Fibonacci spiral.

### **Behind Door Two: The Binary Room**

Then we're off again, up the stairs to the Binary Room. Our next Zen master, Bin Bine, is waiting to meet us. Before we enter Princess Lei Lei says to Prince Lei, "I bet I can show you that 1 plus 1 does not equal 2 but equals 10". "Impossible," says Prince Lei. "I am sure you will change your mind," she smiles wickedly. Do you think that 1 plus 1 can equal 2 and 10 at the same time? You will find out when you enter the Binary room where Zen Master Bin Bine will tell you about the binary (or base-2) number system (which only consists of two numbers: 0 and 1). To help us understand this we will draw outlines of our hands and place base-two place value labels on our fingers and using this, see who can write the highest number using the binary system. I wonder if Princess Lei Lei will write a higher number than Prince Lei because she already knows all about the binary system or will Prince Lei write a higher numeral when he understands what this wonderful system is all about. Why do we need to know about the binary system and who uses this system? All will be revealed in the Binary room!

### Behind Door Three: The Magic Room

Everyone loves magic. The twins are so excited about this room because they know Mr Ping is awaiting them. He has so much to show us party goers that our brains will be spinning! You'll use calculators, cards and dice to perform some wonderful tricks. These will include using numbers to write messages, secret codes involving multiplication and subtraction, turning your hand into a calculator and calendar maths. Then it will be time for us to invent our own magic tricks! Maybe we can even teach Mr Ping a new trick or two and wow our friends!

### Behind Door Four: The Panda Room

Zen Masters Shri Shelley and Bin Bine as well as King Fu are waiting for us in the room of the pandas. What you won't learn about pandas today isn't worth knowing! Our zen masters will WOW us with their amazing and challenging games, including a mathematical treasure hunt. As light relief and for the twins' enjoyment, the Court Jester will teach us the King Fu Panda dance and then we'll learn how to count in Panda language based on roman numerals. As a surprise present for the twins you will measure and draw a party flag, divide it into various fractions and then decorate it with some of the mathematical learnings you have mastered to date. Then you'll surprise the twins with these birthday presents – and thank them for the wonderful time that you had climbing the Fibonacci staircase.

#### Requirements:

Please bring

- an exercise book; a well stocked pencil case with scissors, a glue stick, grey leads and coloured pencils.
- a snack (no nuts please)
- a hat ( hats are mandatory in Terms 1 and 4)
- a small, labelled photo of yourself
- a stamped, self -addressed DL envelope to the first session for the report. Parents, please put child's name/year-level/program on the back.

#### About the presenter:

Sharon Leibowitz is an experienced educator with enthusiasm for ensuring that learning is creative, practical and enjoyable. She has specialised in the area of gifted education for over 20 years and has a passion for the development of Mathematical and Philosophical skills across the primary years. She particularly enjoys the task of designing Mathematical curriculum using the 'thinking treasure' of children's literature, art and science.

