



## A G.A.T.E.WAYS JOURNEY

for curious gifted Year 3 and 4 children

with a love of hands-on mysteries

***'Super Sleuth Sandy***

***Saves the Day!!'***

**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.

Whenever the police have a particularly baffling case to solve, they call in Sandy the Super Sleuth, who has yet to come across a case which he cannot solve. But Sandy needs some assistance. Are you ready to put your skills and knowledge to work, in order to solve a series of baffling crimes? These unusual mysteries will not only test your logic and problem solving skills, but will also greatly add to your knowledge of chemistry, mathematics, botany and optics. You'll also extend your experimentation and observation skills.

### **Session 1 Sandy and the Case of the Murdered Mayor**

At the end of a particularly hot and exhausting day full of meetings, the mayor was discovered lying dead in her office. The door was closed and there were no visible signs of injury to the body. No-one had heard anything at all. Secretary Stephanie discovered her boss when she went to say good-bye for the day. The only clue left behind was a small pile of mysterious white powder spilt on the floor near the body. What could it be? Today we'll observe this powder very closely under magnification and conduct a series of chemical tests including dissolving it, heating it and having it react with other substances all in our attempt to help Sandy identify it, and hence expose the murderer. Who are the suspects and whodunnit?

### **Session 2 Sandy and the Case of the Runaway Robber**

While Mr and Mrs Rich were enjoying a fabulous night out at the opera, someone got into their home through a skylight and several of their priceless possessions were stolen including a diamond necklace and a famous painting by Van Gogh. It appears to be the perfect crime – no fingerprints, footprints, tyre marks were left behind. The thief appears to have got clean away..... but wait! What is this? In the rush to get away, the burglar appears to have spilt, unnoticed from his brief case, maps, charts and directions to his hideout. What luck for us!! Today we'll use our mathematical knowledge to read maps, plot coordinates, find our bearings, interpret compass directions and negotiate mazes to see if we can find the way to the robber's hideout. Hopefully we'll surprise the crim, help Sandy catch the robber red-handed and return the stolen goods.

### **Session 3 Sandy and the Case of the Kidnapped Koala**

Oh no – the Killingworth Zoo has hit the news and the story is not a good one! Early this morning kidnappers snatched Kenny the koala and sent the zoo director, Mr. Rudolph Cunningham, a most threatening ransom note. Either the zoo must pay a million dollars for Kenny's return within the next 24 hours, or Kenny is going to be shipped off overseas as part of the illegal native animal trade. Fortunately, the kidnappers have unknowingly provided a vital clue to their whereabouts. Enclosed in the envelope along with the ransom note were several pieces of plant material. Surely we can use this to help us crack the case! Which plants are they? Where do they come from? We use magnification, close observation, classification and matching techniques to help Sandy identify the plants, hopefully pinpoint the kidnappers' hide-out, rescue Kenny and return him safely to the zoo.

## **Session 4      Sandy and the Case of the Midnight Lights**

For several nights this week there has been an amazing light show in the skies over the city. Although the citizens have found this colourful display highly entertaining, it has severely disrupted flights at the airport and put passengers' lives at risk. So far the authorities have ascertained that no permits have been granted for these displays and that if they continue there will certainly be a disaster sometime soon. There is no time to lose!! Today we'll use lenses, prisms and mirrors, bending light in a variety of ways, to help Sandy work out how the spectacular light display was created. By finding its pathway, fingers crossed, we'll also help Sandy to trace the light back to its source, locate the irresponsible culprit and throw him in the clink.

**PLEASE NOTE:** In this journey students will use cornflour, caster sugar, table salt, sodium bicarbonate, baking powder, vinegar, celery, corn kernels and broad beans to conduct experiments. No ingredients will be ingested and gloves will be used during experiments.

### **Homework Requirements & Assessment**

Homework may be set after each session to give students extra time to explore the new concepts. At the end of the program a short written report will be completed on each student and forwarded home to parents. A copy should be made and forwarded to the school.

**What to bring:** Please bring a labelled, small photograph of yourself; a snack (no nuts please), and a stamped, self-addressed DL envelope for your report. (write your name on the back.)

### ***About the Presenter***

Maureen Frith has a Bachelor of Arts Degree, a Diploma of Teaching and a Graduate Certificate in Gifted and Talented Education. She has taught for 45 years in both Primary and Secondary schools and has performed the role of Coordinator in Science and Technology, presenting enrichment and extension programs for students and professional development for teachers. She has helped to develop curricula, including VELS Science and Thinking Skills documents. She is an active member of the Science Teachers Association and the Science Talent Search Committee. For many years she has been a club leader for the G.A.T.E.WAYS Brainwaves Club. She encourages students to be active enquirers, develop higher order thinking skills and to share their knowledge and appreciation of the amazing universe in which we live.

