



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

for gifted & talented Year 3 and 4 children

with a love of science to

### 'Clean Chemistry: What Fun!'

**G.A.T.E.WAYS** is an independent organisation 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. Explore the bubbly, sticky and yummy world of bathroom chemistry, while learning about atoms, molecules, compounds, colloids, emulsions, acids, bases, subatomic particles, the periodic table, and much, much more. Each week students make their own chemical treat to take home and enjoy. Students also have the opportunity to practice writing chemical equations, and using the scientific method to write up their experiments.

#### **Session One: Bath time Bliss!**

We introduce many of the basic concepts of chemistry, including atoms, elements, molecules, and the periodic table. We explore how these few basic elements join together to make every substance that we know of. We introduce the difference between acids and bases, and show a variety of simple examples. Students make their own fragrant bath salts and assorted shaped bath bombs, while discovering the chemical reactions that are occurring. Bath time will never be the same again!

**Please bring: A plastic bag, a bowl and spoon, a medium sized container with a lid and a zip lock bag.**

#### **Session Two: Clean up Chemistry**

This week we explore acids and bases in more depth. We use some simple ingredients to create our own litmus paper, which we can then use to test a variety of bathroom substances for acidity/alkalinity. We also test their strength of acidity/alkalinity and see if this is an important factor in their cleaning strength. Students also examine the chemical equations that go along with the reactions involved in these cleaning products.

**Please bring: A cleaning agent from your bathroom (such as soap, Jif, etc) and two small containers with lids.**

#### **Session Three: It's a Stretch**

This week we explore the physical, as well as the chemical, composition of some substances. Mixing different chemicals together can be fun, and sometimes the unexpected may happen. Most substances are either a solid, liquid or a gas. This week we explore the chemistry of all things stretchy when students use cornflour, protein and sugar to make some interesting substances, one of which is nasal mucus (aka fake snot).

**Please bring: A reasonably large coffee cup, a fork and a medium sized container with lid.**

#### **Session Four: Lava Lamp Magic**

Sometimes chemicals do not react when they are mixed together. This does not mean that mixing them will not be fun. This week students complete their bath time by making a mesmerising, colourful lava lamp, with the help of some simple emulsions. Finally we recap all the chemistry covered over the four weeks by using a quiz that students create themselves.

**Please bring: A 1.25 litre clear plastic bottle (with lid), a 750ml bottle of vegetable oil and food colouring of your choice of colour/s.**

**Requirements:** Bring an exercise book for writing up experiments, a well-stocked pencil case, a snack (no nuts), a small photograph of yourself and a stamped, self-addressed envelope for the return of your report, In addition:

Week One: *A plastic bag, a bowl and spoon, a medium sized container with a lid and a zip lock bag.*

Week Two: *A cleaning agent from bathroom (such as soap, jif, etc) and 2 small containers with lids.*

Week Three: *A reasonably large coffee cup, a fork and a medium sized container with lid.*

Week Four: *A 1.25 litre clear plastic bottle (with lid), a 750ml bottle of vegetable oil and food colouring of your choice of colour/s.*

#### **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.

#### **ABOUT THE PRESENTER**

Anne Eastaugh has a Bachelor of Science degree with Honours, and a Diploma of Education, both from Monash University. She has worked for G.A.T.E.WAYS for close to ten years, and firmly believes that students learn best when surrounded by fun, hands-on activities. All her science experiments have been tested thoroughly by her two children. ©G.A.T.E.WAYS