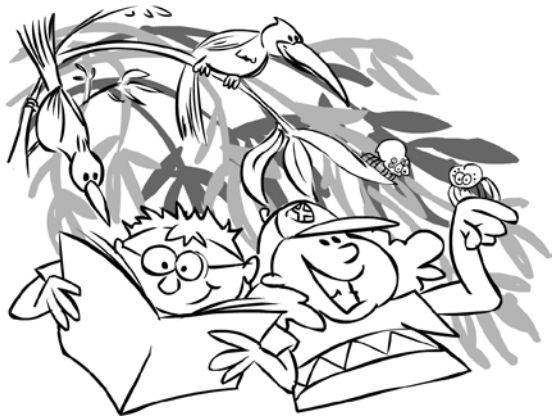

A G.A.T.E.WAYS JOURNEY

for gifted Year 1 and 2 children

with a love of science and animals

'OUR FEATHERED FRIENDS'

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.

This series of workshops aims to understand why birds are found in nearly every environment from the frozen Antarctic to the jungles of the Amazon. Birds are undoubtedly rulers of the skies but some can outrun a horse while others can dive to great depths like whales and seals. With over 10,000 different species, there are many stories to be told about birds. Like mammals, birds existed during the time of the dinosaurs but really took off, so to speak, after most of the dinosaurs were wiped out. Scientists now recognise dinosaurs as the most likely ancestor of birds. This means that birds could be described as the only surviving branch of dinosaurs, although some controversy still exists about the connection with dinosaurs. How did they become so successful?

Feathers and wings go some way to explaining why some birds can fly nonstop around the planet and survive an Antarctic winter without any food. In this program we will examine the main feather types; flight, contour and down. We'll look at these feathers under the microscope to discover their microscopic secrets.

We'll build a small bird from scratch so that we understand its anatomy and we'll also experiment with handmade wings to better understand how birds fly. Each week we will focus on some of the special talents of birds.

Requirements:

In Session 1 bring a small labelled photograph of yourself and a stamped, self-addressed DL envelope for your report. Each session bring a blank exercise book and a writing pencil, a snack (no nuts please). If you are able, in Week 2 bring one of more different feathers.

Session One Flights of fancy

This week we focus on the wide variety of wings used by birds to fly far or fly fast. A wandering albatross, which has the largest wingspan of any bird, up to 3.7 metres can fly 1000 km a day without flapping its wings. How can the albatross do this? We glance at the lifestyle of albatrosses and discover the threats to their existence from long line fishing and plastic. We move to the music of Fleetwood Mac's Albatross to get a feeling for dynamic soaring. What other birds soar? We experiment with paper making different wings to work out how wings give a bird a lift. We make a bird kite to discover how some birds hover in the one spot when hunting. We'll also start our bird model.

Session Two You could have knocked me down with a feather

This week we focus on feathers. While birds of a feather may flock together, feathers, too, form clusters. Some feathers are designed especially for flight and only grow on a bird's wings. Other feathers are designed for the tail, while down feathers are designed for insulating a bird against heat or cold. Our warmest blankets and jackets often consist of the finest down feathers. We take a look at how the emperor penguin became the only animal that could survive an Antarctic winter in the open.
We examine feathers under a microscope and pull apart and reassemble the vane to discover how a bird keeps feathers stiff. We draw the small parts of a feather and find out how the shaft of a feather was once used to write. Shakespeare wrote all his plays with a quill. We also continue our bird model.

Session Three As wise as an owl or bird brained?

This week we focus on bird intelligence. We look at a number of birds that solve problems. Did you know that several birds can bend soft wire and make a hook, which is used to catch grubs? Did you know that some cormorants may be able to count to seven? We complete a number of tests used by scientists to test for bird intelligence. Can we guess how many without counting? We also examine a number of bird nests. Birds build a wide variety of nests from an extraordinary range of building materials. We try building a nest. We also look at bird eggs and try to discover why some have a camouflage pattern. We learn how to draw an egg using pins, string and a pencil. We continue our bird model.

Session Four A bird does not sing because it has the answer, it sings because it has a song.

This week we focus on the different ways birds communicate through song, calls and body language. We listen to some of the amazing songs and calls some birds can produce either to warn, threaten or simply declare this is where they belong. Songs are the most complex of bird vocalisations and we try to identify a number from urban areas in Victoria. According to Tim Low,'s recent book *Where Song Began : Australian Birds and How They Changed the World (2014) ,* bird song did emerge in the Australian fauna and spread to the rest of the world rather than the other way around. Some of Australia's song birds are the pre-eminent songsters in the world.

We complete our small bird model and make a brief commentary about what makes it special. :

About the presenter:

Tim Byrne worked at Melbourne Museum for 16 years and enjoyed the close proximity to the state's bird collections. He has always felt at home in the bush because of the presence of birds. He recently produced an education kit on the threatened mallee fowl for schools in the Mallee.