

PROLOGUE

This 12th teacher/parent manual in the Spiritual Syllabus Series, for use in Rudolf Steiner's Art of Education, deals with the manifest world – *Science*. The subject is taught in 3 main lessons per year; one each of Physics, Biology and Anthropology – or physical, life and human sciences, to use the gentler terms.

As well, there are 3 middle lessons; these share the 'Discovery' stream with Social Studies. Discovery is one of the 4 middle lesson streams, each with three, 3-week units per year. Each in turn as 3 strands; those of Discovery are: Physical World; Living World; Human World. In Class 5 and 6, social studies and science share 3 discovery strands each; science in Class 5 has one, and in Class 6, two. Of course one would not program a science main lesson in the same 3-week time bracket as a science middle. (Nor would one normally place any two like subjects so close.) The curriculum is like a menu, from which one orders a balanced meal. It is this *balance* between subjects which is striven for. A timetabling example might be: a main lesson on maths, then a science middle, with say a painting afternoon block – all in the same 3-week bracket.

These syllabus suggestions are just that, suggestions; new initiatives, as long as they're of value, should continually arise in the creative breast of the teacher.

Science awakens the physical body forces of the child – the inner world of pattern and structure. A rich science program from Class 1 to 12 will help this consciousness path; one which leads the child out of Chaos *Into Calm*.

SCIENCE - HEAD

CLASS 5			SCIENCE - PHYSICAL BODY		CLASS 6	
MAIN LESSONS						
BODY	SOUL	SPIRIT	BODY	SOUL	SPIRIT	
PHYSICS	BIOLOGY	ANTHROPOLOGY	PHYSICS	BIOLOGY	ANTHROPOLOGY	
AUSTRALIAN WEATHER Page 11	ECOLOGY ENVIRONMENT Page 20	7-SYSTEM PHYSIOLOGY Page 35	GEOLOGY Page 50	AUSTRALIAN ZOOLOGY Page 62	HUMAN REPRODUCTION Page 70	
MIDDLE LESSONS						
WILL	FEELING	THINKING	WILL	FEELING	THINKING	
PHYSICAL WORLD	LIVING WORLD	HUMAN WORLD	PHYSICAL WORLD	LIVING WORLD	HUMAN WORLD	
INVENTIONS Page 44			SCIENCE EXPERIMENTS Page 75	PLANT PHYSIOLOGY Page 80		

DISCOVERY - CHEST

Full Programming details in my book *A Steiner Homeschool?*

Full Primary curriculum in *La Pleroma*.

Full High School curriculum in *A Steiner High School?*

See Grammatika Grammatikos for full class 5 & 6 curriculum.

DAFFODIL AND VIOLET

The Play, *Daffodil and Violet*, was written by me (with help from my wife Susan) and performed by my Class 6 in 1978. The content was woven from several strands of the science stream, including the senses, geography, botany and even some incipient astronomy. For example, not the sequence of plant evolution from the fungi, mosses, through ferns, conifers, monocotyledons (Lonely Pandanus Palm), to the pinnacle of plants, the dicotyledons, Small Red Bottlebrush.

The performance was, I believe, history-making in so far as it was the first full-length original play performed totally in Eurythmy by children. No child spoke a word, rather expressed the script, spoken by myself and the Eurythmy teacher. Eva Fieck, in movement and choreography alone. The whole show, performed for the Mid-Summer festival, was spellbinding, and helped place Eurythmy in the school (Lorien Novalis) at the forefront of the performing arts. Our mentors, Douglas and Marj Waugh, highly acclaimed the performance, as did the young audience.

Winter Freeze approached from the south. Each day seemed similar to the last, yet each day was slightly shorter. The sun rose a little later and set a little earlier. The shadows grew longer and each night was colder than the night before.

The Sun was setting on the shortest day of the year.

Scene 1: Sunset in a great valley.

White Brilliance sat with his two little sisters on the rim of a hill overlooking Generous Garden. This leafy paradise was surrounded by a rim of towering mountains. He watched the sun set in a blaze of fiery glory; his heart was full but his eyes were sad.

White Brilliance: Ah Sun, how lucky you are, always traveling over the western horizon, yet rising each day in new lands in the east. Oh Sun, when can I travel with you again? But my little sisters, *Daffodil* and *Violet*, are too young for such a journey.

Daffodil: You can travel with Sun, don't let us stop you.

Violet: But we will be left all alone! Don't go White Brilliance.

Daff: Let our brother go, we can take care of ourselves until he returns; after all, we're growing up now. Or *I am* at least!

Viol: I suppose so, you will come back won't you White Brilliance? You won't forget us?

W. Brill: Hmmm, the two of you are already waving me goodbye. So the time is here, I have to go. Generous Garden below will protect and nurture you both. Yes, I will return to you – that is if you don't forget *me*.

Daff: How is that possible? Now we can explore Generous Garden for ourselves, but you will have to hurry, Sun has almost gone. We know the direction of *your* longing.

W. Brill: First you must *listen*. Wander where you will in Generous Garden, discover its secrets and its magic. It will be good to you. *But...* do not leave its protective embrace – and especially do not climb Crystal Mountain, or look into his Blue Eye Pool. From his great height, he sees everything in the world. If you

disobey, you may never find me again, or I you. Besides, I will be very angry.
White Brilliance touched their heads lightly and was gone – westward.

Scene 2: Generous Garden

The indigo night sparkled with showers of stars, and Generous Garden beckoned them to explore its secret places.

Daff: I want to go for a walk – now!

Viol: We should wait until morning.

Daff: Why should we? This is our first time on our own. Come on, follow me; we can see easily by starlight.

Travel

Viol: Oh, look at these spider webs, all sparkling with dewdrops!

Daff: I see a great cliff, so rugged and tall. I could climb to the top!

Viol: Listen, I can hear whispering. Ah, it's a little stream trickling over the stones – tinkling water whispers.

Boo Book...Boo Book.

Daff: Listen! That old ironbark tree is calling us.

Boo Book...Boo Book.

Daffodil breathed a sigh of relief and leaned against the old ironbark tree; she looked up, its distance crown seemed to mingle with the stars.

Daff: This bark feels so rough and strong; I'm sure nothing could harm it. I'm going to climb up... oo, ouch!... I didn't want to climb it anyway!

Viol: Feel this creek sand, so fine and dry, I love to trickle it through my fingers – Look, I've found some crystals! How their smooth little faces glint in the starlight.

Daff: What's that funny smell; it's coming from that hole behind the tree. I'm going to have a look – I'm going in ...

Viol: Oooo – Daffodil, come out – now!

Silence followed by silence; then a squeal of fright as Daffodil, all arms and legs, scrambled out of the hole – backwards!

Daff: It's a monster!! A beast; all tooth and claw, breathing fire – fun for your life!

Daffodil raced off, but Violet just stared in fright. Then the befuddled sleepy face of a fat, old Wombat peeped out of the burrow. He ambled off, still slightly confused. Daffodil recovered her composure.

Daff: Ha, ha... I was just pretending...

Viol: Hey, here's some honeysuckle; the flowers look just like the stars above. Smell the star fragrance – mmm. I'm going to have a drink from this little stream ... such cool, clear water, and it tastes sooo fresh.
Daff: I can even taste the stars. Honeysuckle nectar is the sweetest taste of all..

Scene 3: Crystal Mountain

CRYSTAL MOUNTAIN

I am older than the hills,
Through time I stand so tall and still,
Sometimes I see *above* the clouds,
As Deep Night draws her satin shrouds.
I follow distant starry jewels
Along their silent ways,
Reflected in my Blue Eye Pool,
Remembered in my days.

Daff: WE can climb way up on the mountain side; we'll have a lovely view.

Viol: You mean climb Crystal Mountain!? I don't think we should; there are lots of things here that we have not seen. And White Brilliance said...

Daff: We've see *everything*! Come on, or I'll leave you behind.
Daffodil and Violet ran through winding dim forest paths, some time later they emerged from the last line of leafy trees; they struggles through flowering thorn bushes, which led to fields of bare stones.

Viol: It's rocky up here, so barren. But you can sure see a long way. If this is the top of Crystal Mountain, I wonder where Blue Eye Pool is? We mustn't look remember.

Daff: Perhaps it's just over here, beyond the edge of this large rock?

Viol: Oh don't go near, I'm afraid, Remember what White Brilliance said...

Daff: It *is* Blue Eye Pool – I can't resist. It is soooo still ... Hey, somebody's looking back at me! She is me – it can't be ... but I've changed – I'm *ugly*!

Viol: No you're not, you haven't changed.

Daff: Then Blue Eye Pool is horrid. I can't bear to look at me; I'm so...ugh! Look for yourself; go on, *look*!

Violet did not want to look, but the urgency of Daffodil's command, and her own curiosity, moved her to the edge of the big, round rock. For one moment, she had forgotten the warning words of White Brilliance. She looked over the edge.

Viol: I, I can't believe it. I've changed too, but Blue Eye Pool shows that I...

Daff: See, I told you – niff – let's run away.

Viol: It's different all right, but it's still me. I always thought that I was ugly, but...

Daffodil ran over to the edge and looked down. Violet's face reflected joy and a new radiant beauty. Daffodil began to cry. It was midnight on the shortest day of the year.

Scene 4: Shadowdown

WINTER FREEZE

Winter Freeze spread his shawl of white,
Winter Freeze made the flurries fly,
Winter Freeze froze the longest night,
Winter Freeze closed the mountain's eye.

Both: Let's run! Back to Generous Garden!

And they did; across bare stones, then low scrub and thorn bushes, before disappearing into the first line of trees, then through din forest paths. They could go no further because they were tied, very tired. But they were not back in Generous Garden, they had taken a wrong turn. They were lost.

Viol: Where are we? White Brilliance will be so angry.

Daff: I'm frightened. I wish there was somewhere we could hide!

Shadowdown: I may be able to arrange that for you.

A mysterious but not unkind voice spoke from somewhere in the gloom.

Shadow: Don't be afraid. If you need to hide, I can help. My name is Shadowdown; I spend my whole life hiding – in shadows. This is a very special time of the year for me, the longest night, the reign of shadows! I have from Inspector Whitepie Magpie – and you should too!

Daff: Inspector Who? I don't want to be inspected! Can you help us?

Shadow: Certainly; come on, just follow my voice (I'm also hiding from *you!*). If you stay in the shadows, I'll be with you – um, always.

The girls followed the voice through the living darkness., Sometimes they thought they could see his dim shadowy form ahead; but mostly they could just feel his presence. His soft voice seemed to come from a different direction every moment.

Viol: Oo, I'm frightened of the dark, and of Inspector, er, Mudpie.

Daff: Me too, let's follow Shadowdown.

Shadow: Hurry along, we haven't got all year – only half of it, ha, ha, ha...

Scene 5: Shadow Hopping.

A kookaburra laughed to welcome the first grey light of dawn. This woke the girls, who did not remember where they were. Generous Garden and Crystal Mountain were gone. But they were cheered as the cool, winter sun rose in rose.