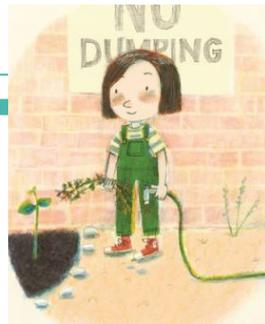

Growing Through Learning & Plants

A Cross-Curricular Approach

A BEN Workshop presented by Kelly Rodday and
Sally Baines, 17 March 2022



Sally Baines



For 13 years I have been teaching in public and private schools in the UK, China, Singapore, the US and Australia and have taught all levels from P1 to P6.

I am a keen traveller and have a BA (Hons) from the University of Durham, a PGCE (Primary Years) from St Martins and an M.Ed in Human Development & Psychology from the Harvard Graduate School of Education.

I first worked with BEN in 2019 as part of the Teacher Wellness Retreat and love working on creative curriculum design to enhance learning and enjoyment. Collaborating with teachers is a key component to my own professional development.

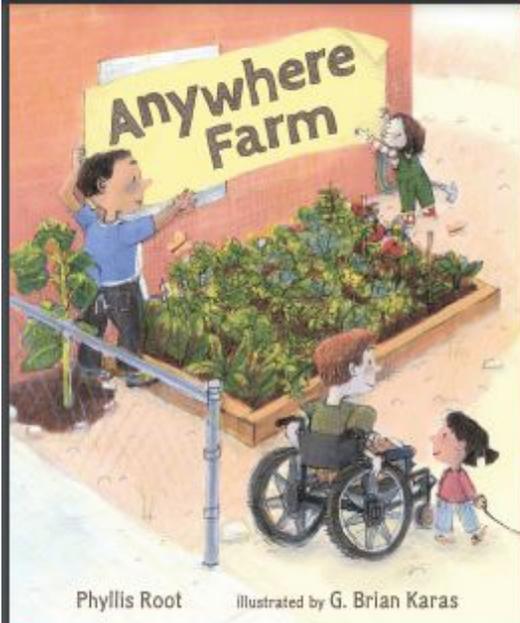
Kelly Rodday



I have been teaching for 19 years in both private and public education. I am currently the Primary 3 classroom teacher and Math Teacher Leader at St. George's Preparatory School. I have a Master's Degree in Organizational Management in Education from Endicott College.

I have provided professional development for the B.U.T.'s Annual Conferences, Somersfield Academy and the ICAN Math Program. I am a ICAN Math tutor for the Reading Clinic. I am new to BEN but loving my experience so far!

I am a Bermudian mother of two, ages 7 and 13. My 7 year old son is also in my class this year.



Phyllis Root

Illustrated by G. Brian Karas



P3 CROSS-CURRICULAR WORKSHOP

LINKING SCIENCE WITH ELA,
SOCIAL STUDIES AND MATHS

ALL PARTICIPANTS RECEIVE
COPIES OF 'ANYWHERE FARM'
BY PHYLLIS ROOT

CURRICULUM STANDARDS COVERED:
ELA: SPEAKING AND LISTENING, WRITING
BIOLOGY: PARTS OF A PLANT
SOCIAL STUDIES: ECONOMICS
MATHS: DATA

P3 Cross-curricular Workshop

4PM - 5PM THURSDAY 17TH MARCH ON ZOOM

Email admin@ben.bm to register for the workshop and your expedition to The Agra Living Institute. Spaces are limited to 14 participants. Enrollment closes March 15th so that books can be delivered prior to the workshop.

Horizons

DISCOVERING SCIENCE AND HISTORY THROUGH STORIES AND EXCURSIONS

Activities and Ideas to enrich your child's learning

Visit BEN's website to register for more Horizons resources

WWW.BEN.BM



CIE Standards covered in these lessons:

EL03

WRI04

- 3Wa6 Establish purpose for writing, using features and style based on model texts.
- 3Ro9 Use IT sources to locate simple information.
- 3Ro8 Locate information in a nonfiction text using a contents page and index.
- EL03 – WRI01
- 3Wt3 Plan main points as a structure for story writing.
- 3Wt2 Begin to organize writing in sections or paragraphs in extended stories.



SS03

ECO03

- 3.SS.G2a Identify the basic needs and resources of Bermuda
- 3.SS.E1b Explain the importance of the farming, fishing and shipping industries in Bermuda.

ECO02

- 3.SS.E3a Describe how technology can positively and negatively affect individuals and the community

SCI03

SC03-BIO02

- 3Bp1 Know that plants have roots, leaves, stems and flowers
- 3Bp3 Know that water is taken in through the roots and transported through the stem

SC03-BIO03

- 3Bp2 Explain observations that plants need water and light to grow
- 3Bp4 Know that plants need healthy roots, leaves and stems to grow well
- 3BP5 Know that plant growth is affected by temperature

MA03

MA03 – DAT01

- Answer a real-life question by collecting, organising and interpreting data, (3Dh1)
- Use Venn or Carroll diagrams to sort data and objects using two criteria. (3Dh3)
- Use tally charts, frequency tables, pictograms (symbol representing one or two units) and bar charts (intervals labelled in ones and twos) (3Dh2)



Science Biology unit *Parts of a Plant:* A collaboration with AgraLiving

Welcome to the Garden Classroom!

This lesson will incorporate a number of standards across Biology, Economics and Maths (see next slide for details).

Starter: Whole group (2 classes)

Classes will then separate, one going to:

[Activity 1](#) - Biology-based (harvesting; parts of a plant)

The other going to:

[Activity 2](#) - Social Studies and Maths focus

Then, after 30 mins, switch!

Come together (2 classes) as a group for a closing circle reflection and activity



AgraLiving lesson: standards that will be referred to...

Biology: Parts of a Plant

3Bp1: Know that plants have roots, leaves, stems and flowers

3Bp3: Know that water is taken in through the roots and transported through the stem

3Eo5: Make generalisations and begin to identify simple patterns in results

Flowering Plants

Topic: Factors affecting plant growth

3Bp2 Explain observations that plants need water and light to grow

3Bp4 Know that plants need healthy roots, leaves and stems to grow well

3BP5 Know that plant growth is affected by temperature

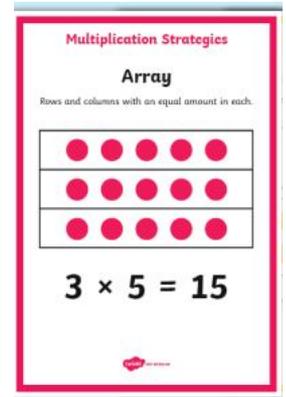
Social Studies: Economics

3.SS.G2a Identify the basic needs and resources of Bermuda

3.SS.E1b Explain the importance of the farming, fishing and shipping industries in Bermuda.

Maths:

MA03 DAT01: Answer a real-life question by collecting, organising and interpreting data (3Dh1)



Linking Science to ELA, Social Studies, Technology and Maths... *why?*

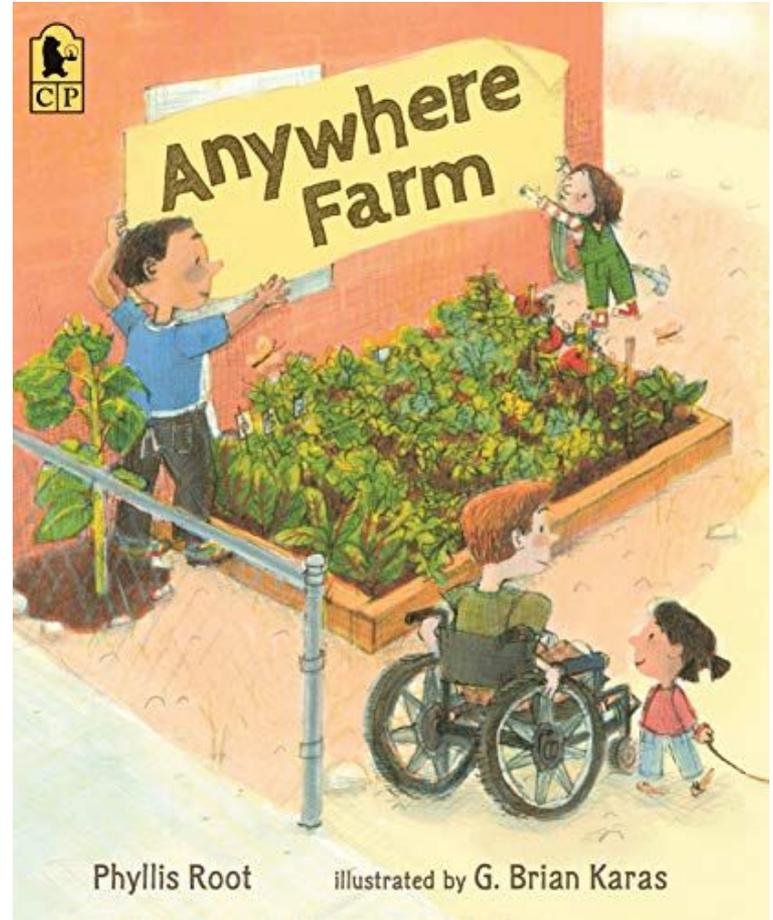


- Cross-curricular teaching can enable deeper learning as key concepts in one subject area can be revisited in other subject areas
- Reading comprehension outcomes can be improved as students develop their concept awareness and language across subjects
- When we discuss science, for example, and link it to local economics and the impact we can make, this helps “broaden horizons” and gives students more background knowledge to draw on when they are reading both fiction and non fiction texts
- Students can develop an understanding that a topic is never just one subject area!
- It’s a great opportunity to infuse some Science and Social Studies into our Language Arts.

Anywhere Farm by Phyllis Root

We are going to take a couple of minutes to read through the book and look at the vivid illustrations on our own.

*What are your initial thoughts / responses?
What do you notice?*



Lesson 1: Reading Anywhere Farm - speaking and listening	Introduction	Main	Plenary / Reflection
<p>Learning Intentions:</p> <p>EL03-SPL01: 3SL4 Listen and respond appropriately to others' views and opinions.</p> <p><i>WALT:</i> Listen and respond appropriately to others' views and opinions</p> <p><i>TIB:</i> We want to learn what others are thinking to help us develop our own ideas</p> <p><i>SC:</i> By the end of the lesson I can:</p> <ol style="list-style-type: none"> Listen and respond to a partner by agreeing, disagreeing or adding on; explain reasons for agreement or disagreement Provide more than one reason for agreement or disagreement with an idea or opinion Sustain a conversation with others (3- 4 exchanges) 	<p>Explain that as you read Anywhere Farm, students are to use the See, Think, Wonder routine (see resource), with these prompts written on the board:</p> <p>What do you see? What do you think about that? What does it make you wonder?</p> <p>Begin by using the routine with the front cover by <u>modelling</u>. For example, <i>I see a girl and an adult putting up a sign over something, suggesting that the garden is new, which I think is exciting. It makes me wonder why they created a garden there.</i></p> <p><u>Note:</u> Some students may be ready to use the routine in one go, ie respond to all the prompts at once. Others may answer just one prompt as a starting point.</p>	<p>Read Anywhere Farm to the class. As you read, talk about the book - what do they see? Think? Wonder?</p> <p>Have all the names of where you can grow an <i>Anywhere Farm</i> on pieces of paper and place in a pot (or something plant related!). See resource.</p> <p>---</p> <p>Students are to each pick out one of the pieces of paper, without looking, and then see what they have chosen!</p> <p>Explain that they are going to create an argument for why their <i>Anywhere Farm</i> receptacle is the best.</p> <p>For example: <i>A box on a bike is the best place for a seed because you can just wheel it in and out of the sun and rain, and you can take your plant on day trips so it doesn't get bored being in the same place all day.</i></p> <p>Students can write out their arguments in full, or note form.</p>	<p>Students then share their argument with a partner and the partner can respond by agreeing, disagreeing or adding on, and explain reasons for disagreeing or agreeing.</p> <p>Pairs then swap, so that students get a chance to hear lots of different arguments!</p> <p>Ask students at the end who would like to share with the class, then the whole class can respond.</p> <p>Put cards back in the box, ready for next lesson. Today they knew where the seed was planted. Tomorrow... it will be a mystery!</p>

Anywhere Farm locations!

Old empty lot	pan	bucket	pot	shoe
bin	tin	window	crate	cup
Box on a balcony ten stories up	truck	Box on a bike	boat	boot
pail	horn	can	carton	washtub
Old frying pan	yard	basket	chair	old toilet

See / Think / Wonder routine

This 1 page resource will be provided on the BEN website after the workshop.

As it states, 'This routine encourages students to make careful observations and thoughtful interpretations. It helps stimulate curiosity and sets the stage for inquiry.'

This routine is powerful in any subject, can easily be scaffolded, and used in a variety of ways (ie, individual or group)

See / Think / Wonder

A routine for exploring works of art and other interesting things.



What do you **see**?

What do you **think** about that?

What does it make you **wonder**?

Purpose: What kind of thinking does this routine encourage?

This routine encourages students to make careful observations and thoughtful interpretations. It helps stimulate curiosity and sets the stage for inquiry.

Application: When and where can I use it?

Use this routine when you want students to think carefully about why something looks the way it does or is the way it is. Use the routine at the beginning of a new unit to motivate student interest or try it with an object that connects to a topic during the unit of study. Consider using the routine with an interesting object near the end of a unit to encourage students to further apply their knowledge and ideas.

Launch: What are some tips for starting and using this routine?

Ask students to make an observations about an object—it could be an artwork, image, artifact, or topic—and follow up with what they think might be going on or what they think this observations might be. Encourage students to back up their interpretation with reasons. Ask students to think about what this makes them wonder about the object or topic.

The routine works best when a student responds by using the three stems together at the same time, i.e., "I see..., I think..., I wonder..." However, you may find that students begin using one stem at a time, and that you need to scaffold each response with a follow-up question for the next stem. The routine works well in a group discussion but in some cases you may want to ask students to try the routine individually on paper or in their heads before sharing out as a class. Student responses to the routine can be written down and recorded so that a class chart of observations, interpretations, and wonderings are listed for all to see and return to during the course of study.

Share your experience with this thinking routine on social media using the hashtags #PZThinkingRoutines and #SeeThinkWonder.



PROJECT ZERO

Harvard Graduate School of Education



This thinking routine was developed as part of the Artful Thinking & Visible Thinking projects at Project Zero, Harvard Graduate School of Education. Explore more Thinking Routines at pz.harvard.edu/thinking-routines

Lesson 2: Re-reading Anywhere Farm - describing a setting	Introduction	Main	Plenary / Reflection
<p>Learning Intentions:</p> <p>EL03-WR107: 3Wa1 Develop descriptions of settings in stories.</p> <p><u>WALT:</u> Develop descriptions of settings using show not tell</p> <p><u>TIB:</u> It's more interesting to the reader and creates a vivid image in their minds</p> <p><u>SC:</u> By the end of the lesson I can:</p> <ul style="list-style-type: none"> - Score3: - (a) show instead of tell the setting - (b) use sensory details - (c) show time of day - (d) show season 	<p>Recap on the last lesson.</p> <p><i>Today we are going to read the book again and I want you to think about how each seed is really the main character in its own Anywhere Farm story... What are some of the settings? A bin, a window box, a cup, even a horn!</i></p> <p><i>Today you are going to be the seed, describing your home, your Anywhere Farm.</i></p> <p>As students listen to the story again, ask them to think about what seed they would like to be - what plants do they see? Sunflowers? Beans? And think about the setting... where is your home? Are you alone, do you have <u>neighbours</u>? Students can make some notes on a piece of paper as the teacher reads.</p> <p>OR pick a setting from the cards, and pick a seed from the other pot (see resource).</p>	<p>Read Anywhere Farm to the class again.</p> <p>Then model the activity, picking a setting and a plant, and do some shared writing as a class, recapping on the skills of show not tell.</p> <p>ME WE YOU</p> <p>For example, a sunflower seed in a bucket. How can we show, not tell it's a bucket? Eg. <i>Oh you should have seen the look on the other seed's faces when I was planted into my new big, beautiful red plastic home. There is a handle shaped like a rainbow that a little girl takes hold of and she carries me places. My favourite times are when she places me against the wall during the day and I feel the warmth of the sun giving me strength. Etc.</i></p> <p>----</p> <p><u>Differentiation:</u> Some students can just describe their setting, others could describe how they are growing and where they are living.</p>	<p>Ask students to come up to the front and role play their seed - don't tell the class what seed they are, or where their Anywhere Farm is - just read the descriptions!</p> <p>The rest of the class then have to guess what their Anywhere Farm is, and possibly what seed they are by asking questions (win a sticker with the least amount of questions, ie. if they got it right away because you described it so well using show not tell!)</p>

Anywhere Farm seeds!

kale	corn	beets	zucchini	oregano
beans	jicama	broccoli	radishes	tomatoes
potatoes	peppers	peas	avocado	lemon

What might you see around your Anywhere Farm?

monarch	ladybug	bees	hummingbirds	cardinals
chickadees	snails	tree frogs	slugs	rolly pollies

Lesson 3: Writing a How-To book... How to grow an Anywhere Farm, Bermuda style!	Introduction	Main	Plenary / Reflection
<p>Learning Intentions:</p> <p>EL03 – WRI01: 3Wt3 Plan main points as a structure. 3Wt2 Begin to organize writing in sections</p> <p>EL03-WRI04: Non-chronological report and instructions</p> <p>SS03-ECO02: Describe how technology can pos. and neg. affect individuals and the community</p> <p><i>WALT: Create tutorial videos</i></p> <p><i>TIB: We want to share our information with others to effectively teach a new skill</i></p> <p><i>SC: Plan and prepare a step-by-step tutorial video with rich subject vocab</i></p> <p>Time allocation : 2 x 30 minute lessons</p>	<p>Ask students: How do you learn new skills? -Books? -Friend or family member? -Take a class? -YouTube?</p> <p>Allow students to share the best thing they learned how to do. <i>How did you learn it?</i> <i>Did a friend teach you?</i> <i>Did you read a book?</i> <i>Did you search for a YouTube video?</i></p> <p>Why would people prefer to use YouTube to share information or How To's? Now people can share information much quicker using technology</p> <p>Make a class list of pros and cons of using YouTube, and keep it on the wall to refer to and add to as you move forward with these next few lessons.</p>	<p><i>We are going to be planning and then creating our own How To Videos - How to grow an Anywhere Farm, Bermuda style! Our audience will be beginner gardeners across Bermuda</i></p> <p>Together brainstorm a class list of possible topics and what materials you will require, eg. how to plant a seed. Have a think before the next session.</p> <p>-----</p> <p>Me- We-You</p> <p>Watch the mentor video from AgraLiving (first 1.5mins) - pause and write down steps on the board. How to plant a seed</p> <p>As a class, use the graphic organizer to fill in the steps noted during the video (see resource), then complete 2nd page - <i>What would Claire's plan have looked like?</i></p> <p>Use the graphic organizer to demonstrate the planning process for your own lesson. <i>Make it as Bermudian as possible!</i></p>	<p>Students go through their steps themselves to make sure that everything has been included.</p> <p>Then, to make sure someone unfamiliar with the How To would know what to do, students share their ideas / graphic <u>organiser</u> with the class or a partner.</p> <p>Ask students to feedback: What is one thing their classmate has done well? What is one thing they could improve on?</p> <p>Use the remainder of the lesson rehearsing - make it clear and catchy! <i>Remember your audience! We want to inspire them to start their own Anywhere Farm!</i></p> <p>Gather materials for your video (Real or homemade props), ready for next lesson</p>

[How to plant a seed](#)



PLANNING YOUR HOW TO VIDEO



Step 3

Step 4

Step 2

Step 5

Step 1



Name: _____

Date: _____



PLANNING YOUR HOW TO VIDEO



Intro

Materials

Vocabulary

Outro



Name: _____

Date: _____

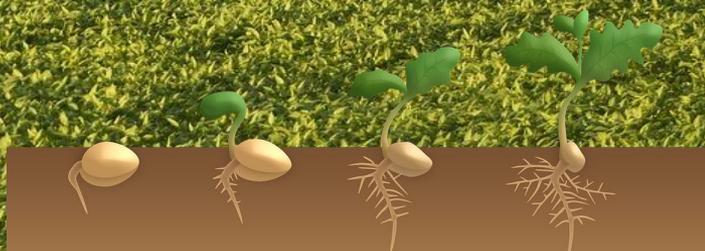
Lesson 4: Filming Anywhere Farm, Bermuda style!	Introduction	Main	Plenary / Reflection
<p>Learning Intentions:</p> <p>ECO02 again - <i>this time with a focus on our own How To videos</i></p> <p>ECO03 3. 3.SS.E1b Explain the importance of farming in Bermuda.</p> <p>BIO02 Parts of a plant</p> <p>BIO03 Factors affecting plant growth</p> <p><i>WALT: Promote the benefits of growing our own food to our community</i></p> <p><i>TIB: It's great for the environment, it's fun, it's inexpensive, it's healthy and creative!</i></p> <p><i>SC: By the end of the lesson I can produce a step-by-step tutorial video with rich subject vocab</i></p>	<p><i>This lesson is for you to have fun with your class in whichever way you see best</i></p>	<p>Options:</p> <p><i>Students work in small groups, first supporting one student in their video, and then take turns (they may have small acting roles, for example)</i></p> <p><i>Students might work in pairs, taking turns practicing with each other</i></p> <p><i>You may choose to perform the How To sketches to another class, if you can't video them</i></p> <p><i>Students might want to go outside and find / create a 'set' for their videos</i></p> <p>NOTE: While the teacher is filming the How-To video, the rest of the class can be reading / watching the clips on the Bitmoji page (see slides)</p>	<p><i>Etc! We look forward to hearing about and seeing the creativity in your classroom - it would be wonderful to put some of these videos on the BEN website and share with your community!</i></p>

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QUIZ

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Plant A Seed

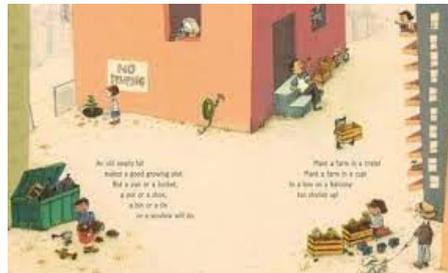


Additional resources

The lesson plans, slides, and See / Think / Wonder routine will be shared on the BEN website as of tomorrow:

<http://www.bermudaeducationnetwork.com/what-we-do/lesson-plans/>

To share any learning in action from this cross-curricular unit, please email photos to Steph at stephanie@ben.bm - and let her know if you want to be tagged! Photos will then be posted on Instagram and FB. [note: pls make sure waivers are checked, or take photos of work]



Keep in touch!



We will be asking for your feedback on this unit:

- what went well;
- what challenges there were;
- where you brought in your own ideas and resources; and
- learning that you saw in your class and in what ways.

This will help us for next year.

We will be in touch in May.

Thank you for attending. Please can you complete this [Google Form](#) providing feedback on our workshop.