

# RME, the resolve project and mathematics by inquiry

Robyn Pierce

MGSE



THE MATHEMATICAL  
ASSOCIATION OF VICTORIA



MELBOURNE GRADUATE  
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*Shaping minds, shaping the world*



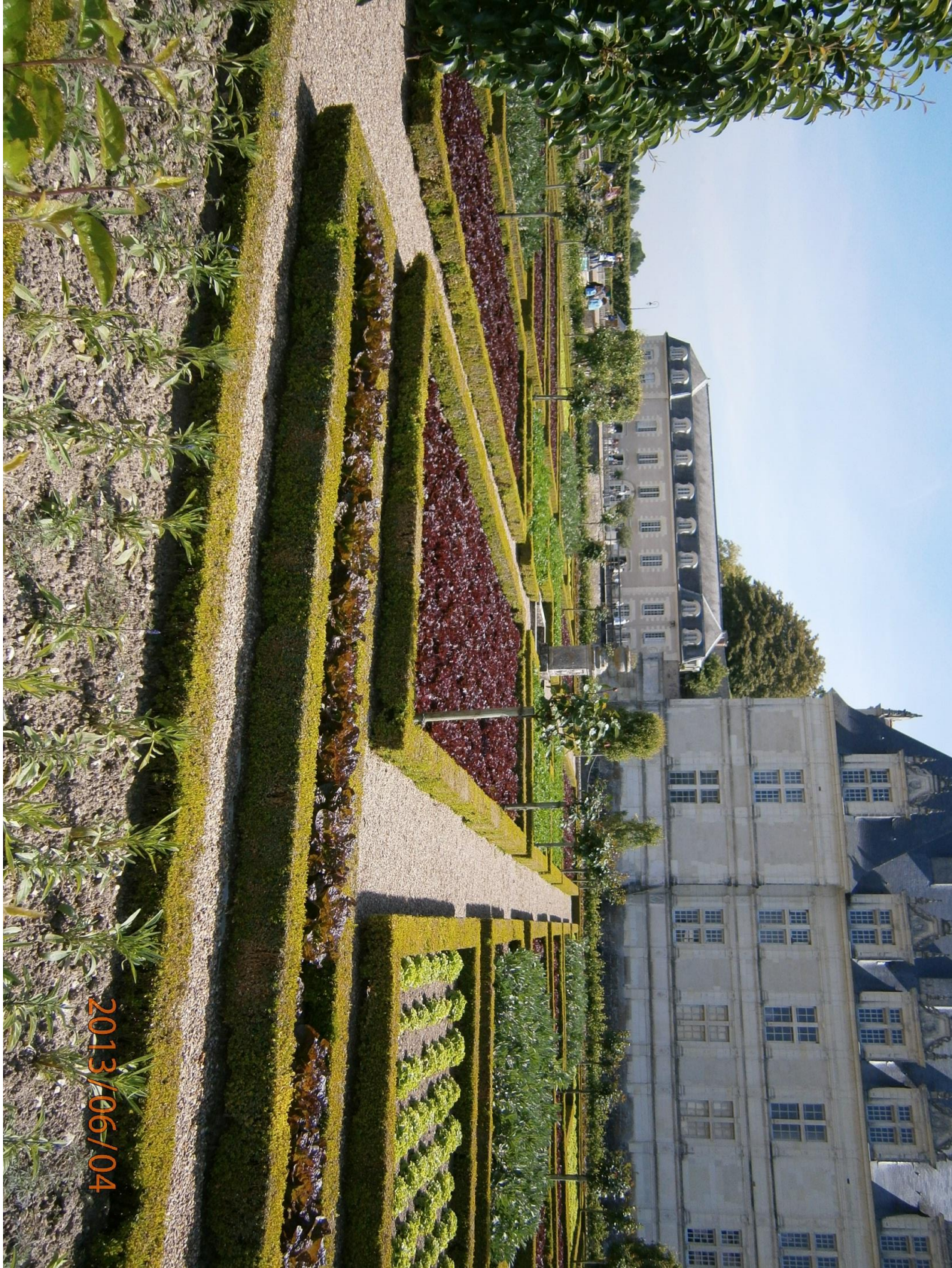
2013/06/06





2013/06/04













On this slide I had images from the internet of green and purple lettuces planted in patterns

The URL's are very long so best to just do a quick search.

The earlier photos are mine and I give permission for them to be shown/ copied when useful for teaching or PD

Green and purple lettuces

Healthy garden

Beautiful patterns

# Design gardens

How many plants?  
Planting patterns?



# Growing lettuces and algebra in the kitchen garden

Your kitchen garden is planted with in a double row pattern as shown in the following diagram:



- O** for a purple lettuce
- X** for a green lettuce



# Growing lettuces and algebra in the kitchen garden



**You decide repeat the double row pattern twice more:**

Draw the planting diagram

- How many of each colour lettuce are there in the double row?
- Describe a rule for working this out based on the number of purple lettuces at the start of the row.



# Growing lettuces and algebra in the kitchen garden

Next year I change my planting pattern

O	O	X	X	O for a purple lettuce
O	O	X	X	X for a green lettuce

Describe the relationship between green and purple lettuces.

If I plant 10 repetitions of this pattern how many green and how many purple lettuces will I need?



# Growing lettuces and algebra in the kitchen garden

**In another planting I notice that no matter how many purple lettuces in each pattern there are always 4 more green lettuces.**

If the pattern starts like this fill in two more repetitions of this pattern.



If you have 27 purple lettuces how many repetitions of this pattern can you make?

How many green lettuces will you need to complete this pattern?



# Realistic Mathematics Education

- Uses realistic situations to develop mathematics
- Places less emphasis on algorithms
- Place more emphasis on sense making
- Uses “guided reinvention”

- [READ MORE about RME :](#)

- <http://e-library.math4teaching.com/what-is-realistic-mathematics-education>.

# Realistic Mathematics Education

Model of

• Model for





# Grounding learning in REAL problems: SWOT

Strengths	Weakness
<ul style="list-style-type: none"><li>• Based on strong research</li></ul> <p><b>Opportunity</b></p> <ul style="list-style-type: none"><li>• Engage more students</li><li>• Enhance students' understanding</li></ul>	<ul style="list-style-type: none"><li>• No gain without careful planning</li></ul> <p><b>Threats</b></p> <ul style="list-style-type: none"><li>• Time pressures</li><li>• Change</li><li>• Risk</li></ul>

# re (Solve)

MATHS BY  
INQUIRY



Australian Academy of Science



*Mathematics by Inquiry* is an initiative of, and funded by, the Australian Government Department of Education and Training



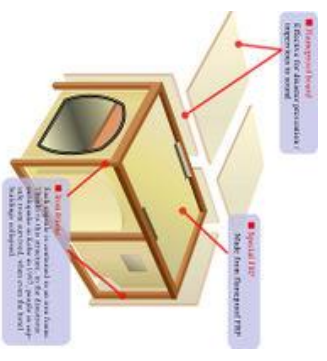
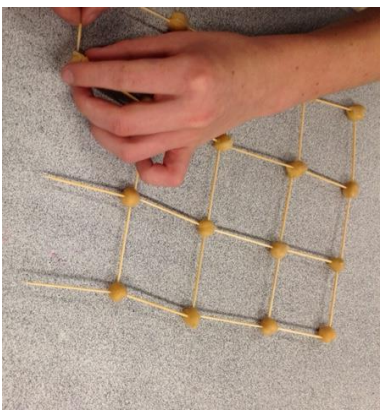
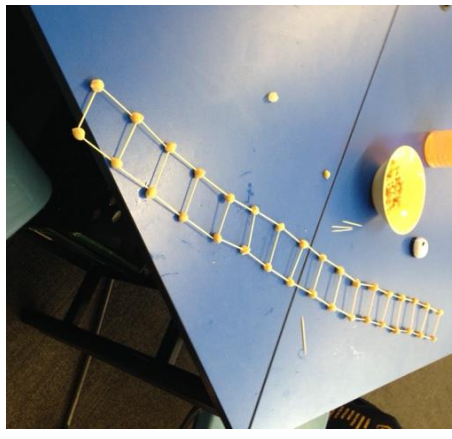
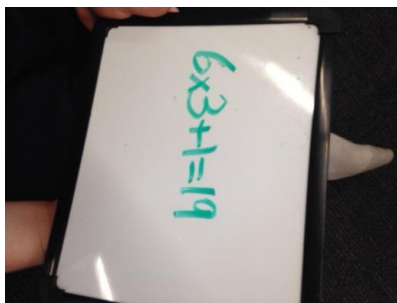
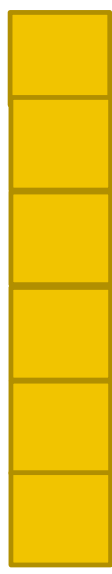
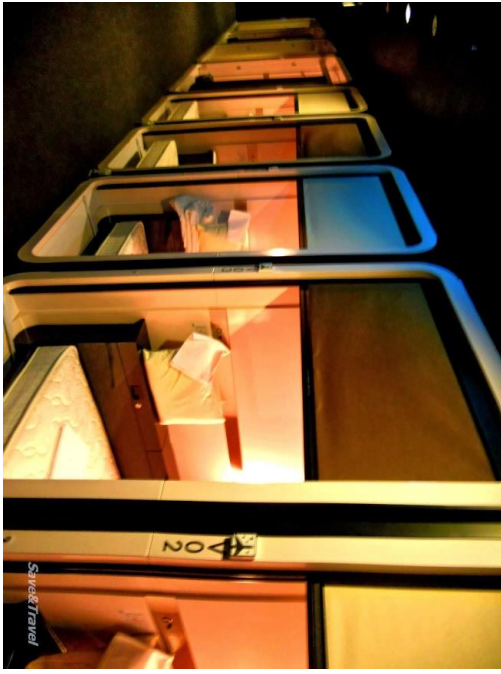
# reSolve Principles

Amplifies existing approaches to teaching mathematics through structured and purposeful investigations of mathematical and realistic contexts.

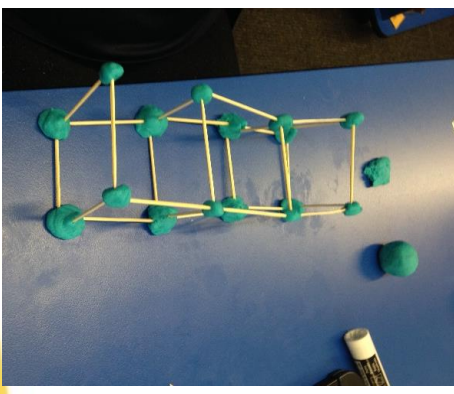
- reSolve mathematics is purposeful
- reSolve tasks are challenging yet accessible
- reSolve classrooms have a knowledge building culture

<http://www.resolve.edu.au/>

# Bringing the real world into algebra Year 5/6



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**Bringing the real world into algebra Year 5/6: teachers  
initial reactions and how they approached the lessons**

**How did it work out? Any surprises? How did the students respond?**



**Any advice for other teachers? Would you take this approach again?**

# Realistic mathematics Maths by inquiry

- Realistic – in the students mind
- Inquiry – carefully planned and guided
- Worth the time
  - Engaging
  - Memorable
  - Makes sense
- Makes maths purposeful



# RME, the resolve project and mathematics by inquiry

## Questions??

[r.pierce@unimelb.edu.au](mailto:r.pierce@unimelb.edu.au)



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