



Because maths matters!

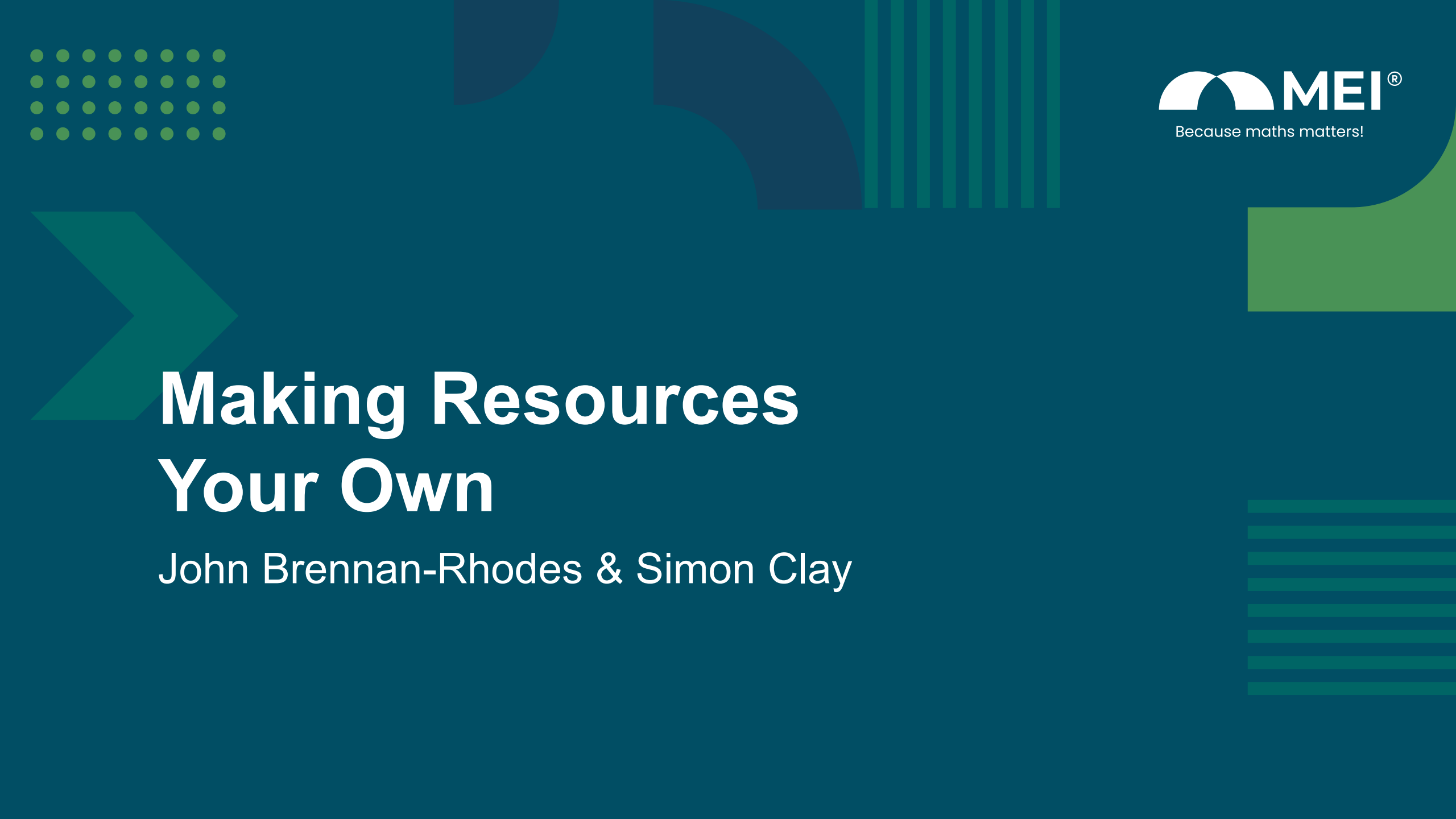
Welcome to the MEI conference 2026

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The background is a dark teal color with various geometric patterns. In the top left, there is a grid of small green dots. In the top right, there are vertical green lines of varying heights. In the bottom right, there are horizontal green lines of varying lengths. A large, light green arrow points from the left towards the title.

Making Resources Your Own

John Brennan-Rhodes & Simon Clay

Making resources your own

Departments often have a bank of resources which teachers will be expected to use. In a time pressured profession, this should be useful but actually creates a challenge. When teaching a topic you are unfamiliar with, how can you take the suggested resource and use it effectively? When seeing use of a resource by a colleague, how can you then adapt this and make it your own?

We will look at some examples, model some strategies and facilitate consideration of what effective adaptation can look like.

Example resources will be drawn from A level maths topics but strategies could be adapted across any year group.

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Why did we run this session?

SOW.doc

Think of your experience(s) of joining a maths department.

Discuss:

- What resources were available?
- How were they organised or shared?



The big folder

	A	B	C	D	E	F
1	w/b	Topic	Spec ref	Specification statement	Notes	Resources
2	07-Sep	Quadratics	B3	Work with quadratic functions and their graphs; the discriminant of a quadratic function, including the conditions for real and repeated roots; completing the square; solution of quadratic equations including solving quadratic equations in	GCSE: all covered. Quick recap needed.	Exercise 3.3 Matching quadratic graphs card sort
3						
4	28-Sep	Coordinate geometry	C2	Understand and use the coordinate geometry of the circle including using the equation of a circle	GCSE: circles centred at origin	Exercise 5.4
5						
6	23-Nov	Differentiation	G3	Apply differentiation to find gradients, tangents and normals, maxima and minima and stationary points		Exercise 10.4 Stationary points exam question (21 marks, 25 minutes)
7						
8	07-Dec	Integration	H2	Integrate x^n and related sums differences and constant multiples	Differentiation of x^n already covered, including differentiation from first principles	Exercise 11.1 Tarsia puzzle
9						
10	08-Feb	Statistical sampling	K1	Understand and use the terms 'population' and 'sample' Understand and use sampling techniques, including simple random sampling and opportunity sampling	GCSE: awareness of census, questionnaires	Exercise 14.2 Sampling table
11						
12	15-Mar	Probability	M2	Understand and use conditional probability, including use of tree diagrams, Venn diagrams, two-way tables	GCSE: listing outcomes, familiarity with dice, cards, coins, etc	Exercise 16.1
13						
14	19-Apr	Motion graphs	Q2	Understand, use and interpret graphs in kinematics for motion in a straight line: displacement against time and interpretation of gradient; velocity against time and interpretation of gradient and area under the graph	GCSE: travel graphs including interpretation of gradients	Exercise 19.4 Moving back and forth: https://www.geogebra.org/m/xtwc3xdd



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Case studies

Sample space diagrams

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2	15-Mar	Probability	M2	Understand and use conditional probability, including use of tree diagrams, Venn diagrams, two-way tables

Notes	Resources
GCSE: listing outcomes, familiarity with dice, cards, coins, etc	Exercise 16.1

- ⑪ Two dice are thrown. The scores on the dice are added.

- (i) Copy and complete Table 16.13 showing all possible outcomes.

Table 16.13

		First die						
		+	1	2	3	4	5	6
Second die	1							
	2							
	3							
	4							10
	5							11
	6		7	8	9	10	11	12

- (ii) What is the probability of a score of 4?
- (iii) What is the most likely outcome?
- (iv) Criticise this argument: 'There are 11 possible outcomes: 2, 3, 4, up to 12. Therefore each of them has a probability of $\frac{1}{11}$ '.

[illegible]

Sampling table

Sampling method	Description and advantages and disadvantages	Typical example
Simple Random Sampling	Description: Advantages: Disadvantages:	

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Simple Random Sampling	Description: Advantages: Disadvantages:	
Systematic Sampling	Description: Advantages: Disadvantages:	
Stratified Sampling	Description: Advantages: Disadvantages:	
Quota Sampling	Description: Advantages: Disadvantages:	
Opportunity Sampling	Description: Advantages: Disadvantages:	



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Group task

Examining the resources

- What do you think the intention of this resources was?
- Try to think of three (or more) other ways you could use this in the classroom
- Evaluate each in terms of:
 - Effectiveness
 - Effort required to setup
 - How much adaptation required
- How transferrable are your adaptations to other resources?



Conclusion

Making a resource your own

So what does effective adaptation of a resource look like for you?