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ADVANTAGE

SCHOOLS ACHIEVING
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Prove Its A Practical Guide



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Prove Its

'Just because we taught it doesn't mean they learned it'

Prove Its are designed to be a mini bank of assessment questions that enable pupils to prove their application of knowledge and skills. Pupils engage with a range of Prove Its to allow teachers to assess whether the learning has "stuck", whether the children can apply their learning in a range of contexts. Prove its help teachers and children consider what a child's next steps are in order to be fully competent within each strand.

Maths 'Prove Its':

- 'Check Its' are used to make a quick assessment a few weeks after teaching a strand. This is a quick 'check' question to gauge whether the learning has stuck.
- 'Beat Its' assess rapid recall of key number facts.
- 'Think Its' include a range of problem solving and reasoning questions. These can be used as a starter activity, an extension task or could even be a short lesson in itself,
- 'Test Its' are mini assessments used to assess learning at the end of a unit. They could also be used pre unit to support the planning process.
- There are **over 1000** 'prove its' covering every maths strand from year 1– year 6. Teachers can also make their own using templates.



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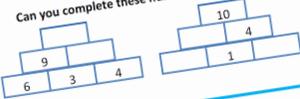


Prove Its

Check it!

You can make the number by above by adding the two numbers below.

Can you complete these number walls?



Addition & Subtraction

1 = 100-1 and 2 digit numbers using 0-20 including missing no. problems.

Think it!

Put these numbers in order, starting with the smallest.

$$\frac{1}{5}, 0.75, 0.33, \frac{1}{2}, \frac{4}{10}, \frac{5}{10}$$

Explain your reasoning using diagrams.

2. Fractions and shows common equivalent fractions (including common denominator)
EOP

Beat it!

My Time:

- 1) 99, 96, _____ 2) 65, 60, _____
- 3) 34, 44, _____ 4) _____, 50, 60
- 5) 3, _____, 23, _____ 6) 88, _____, 94
- 7) 69, _____, 49, _____ 8) 13, 15, _____
- 9) 110, _____, 80 10) _____, 6, 9

Counting in ones of 1, 2, 5 and 10 from zero and count in 10s from any number.

Comprehensive coverage of the NC strands

Can be found embedded within our fundamentals assessment tracker or on the portal

Border colours match the area of learning

Beat It!
Reasoning and Problem Solving 2

In this grid the points are equally spaced.

- 1) What are the coordinates of the point B?
- 2) Point D is directly below point C.
What are the coordinates of the point D?

3) Draw the reflection of the triangles in the mirror line.

4) Describe each of the following translations as how many steps left or right followed by how many steps up or down.

A to B:
A to E:
A to C:
B to D:



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Check Its

Check it! PA

You can make the number by above by adding the two numbers below.

Can you complete these number walls?

Addition & Subtraction

* * and—1 and 2 digit numbers using 0-20 (including missing no. problems).

Check it! PA

At a dance party there are 4 girls to every 3 boys.

There are 63 children in total.

How many girls are there?

* Compares quantities using ratios: **Algebra & Ratio/Proportion**

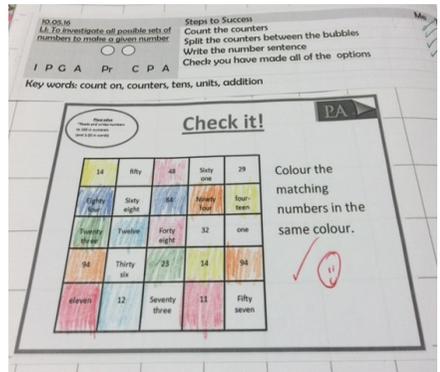
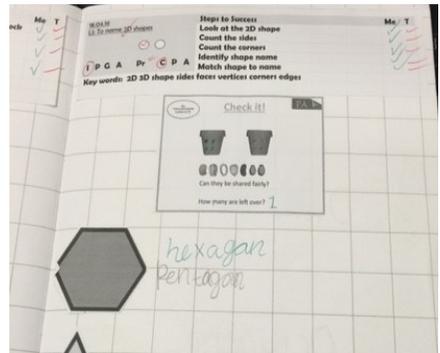
Check Its are designed to assess prior learning, to allow teachers to have a tool by which they can continually assess if learning has “stuck”. Check Its are about testing prior learning, not new learning. They are a quick and simple way of asking a child to refer back to something that has already been taught and assesses whether a child has truly mastered a concept/ skill.

Check Its in Action

Plan into MTP to provide follow up assessment after the concept has been taught.

Link to previous learning

Should not need any new teaching if children have truly mastered what you are checking.



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Beat Its

My Time:

Beat it!

1) $6 + 4 =$

2) $2 + 9 =$

3) $5 + 6 =$

4) $1 + 10 =$

5) $3 + 7 =$

6) $7 + 4 =$

7) $6 + 3 =$

8) $11 + 0 =$

9) $4 + 6 =$

10) $8 + 3 =$

Addition & Subtraction

* Represents and uses number bonds and related subtraction facts within 20.

PA

My Time:

Beat it!

1)  = x

2)  x

3) $5 + 5 + 5 + 5 =$

4) $5 \times 2 = 2 \times$

5) $10 \times 3 =$

6) $18 = 2 \times$

7) $5 \times 2 =$

8) x 2 = 24

9) $20 =$ x 5

10) $2 \times 4 =$

Multiplication & Division

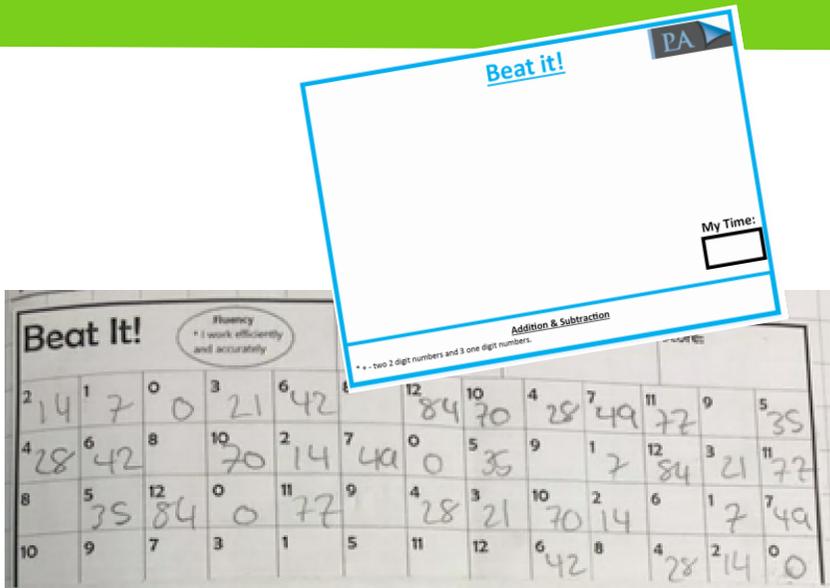
* Solves \times problems in context using materials, arrays, $\text{rep } d \div +$ & \times facts.

PA

Beat Its are designed to assess rapid recall of number facts.

The beat its are given with a timer shown, however the clock counts up rather than down. When a child has completed all 10 questions they record their time. Then they record their score. Each week they must endeavour to beat their own time and score.

Beat Its in Action



We have designed beat its for KS1 which support with children's securing of number sense.

In KS2 these can be written weekly by teachers depending on the key number facts within their year group. The blank template allows teachers and children to write their own.



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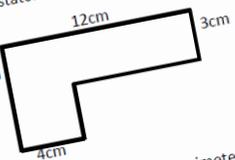


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Think Its

Think it! PA

Which statement about the shape is true?



A) The area is equal to the perimeter.
B) The perimeter is greater than the area.
C) The perimeter is 38 centimetres.
D) The area is 48 square centimetres.

Measurement
* Measures and calculates the perimeter and area of composite rectilinear shapes understanding cm² and m² as cm/m squared.

Think it! PA

Charlie cuts a 5m piece of wood into pieces, each $\frac{1}{4}$ m long.
How many pieces does he get?
How do you know?

Sarah says that Charlie gets four pieces because quarters are fours.
Is she correct?

* -- fractions with the same denominator. **EDP**

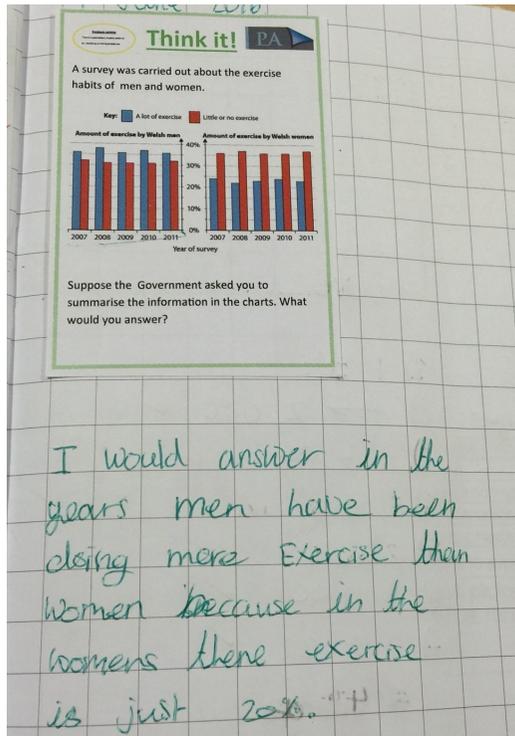
Think Its are all about the children using and applying their problem solving skills. Problem Solving is a crucial part of any weekly plan, and should be woven throughout the week. Think Its allow teachers to address the Being a Mathematician strand with ease. Think Its set out open ended tasks by which children need to consider their approach to solving problem.

Think Its in Action

Woven throughout the weekly teaching sequence.

Develop problem solving skills

Different children may tackle the problem in different ways.

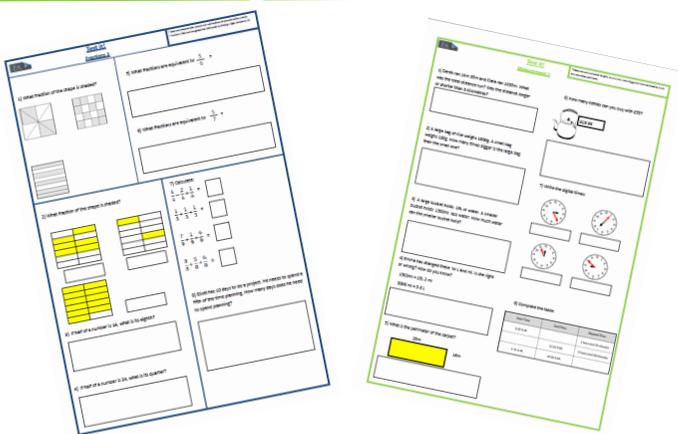


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Test Its



In order to assess what pupils have learnt during each maths unit. Pupils should spend approximately 10- 15 minutes taking a Test It. They are not designed to take up a full lesson. Test Its are designed to help teachers gain a comprehensive view of what each child has learnt. Test Its are mapped out against the curriculum objectives and allow for robust assessments, as well as providing guidance on what each child should have further addressed through intervention or follow up lessons. They could also be used as a pre-unit assessment.

Test Its in Action

Taken at the end of each unit but could also be used for pre-testing

Test a range of skills taught in the unit

Presents a range of styles of questions to pupils

The image shows a student's work on grid paper. It includes several math problems and solutions:

- Two long division problems: $4 \overline{) 248}$ and $6 \overline{) 427}$.
- A table with columns: number, multiple of 3, multiple of 4, multiple of 7, multiple of 9. Rows: 36, 14, 32, 21.
- Problem 8: 28 children go swimming in groups of 4. How many groups will there be? Answer: 7.
- Problem 9: Some children share 12 strawberries. Each child gets 3 strawberries. How many children are there? Answer: 4.
- Problem 10: Three multiplication problems in circles: $6 \times 4 = 24$, $3 \times 120 = 360$, $5 \times 50 = 250$.
- Problem 11: Put a ring round two numbers which divide by 5 with no remainder. Numbers: 7, 60, 19, 45, 37, 58. Answers: 60 and 45.
- Problem 5: Choose any division method to solve this calculation: $6432 \div 2$.
- Problem 6: $1500 \div 100 = 15$, $2230 \div 100 = 22.3$, $3000 \div 10 = 300$.

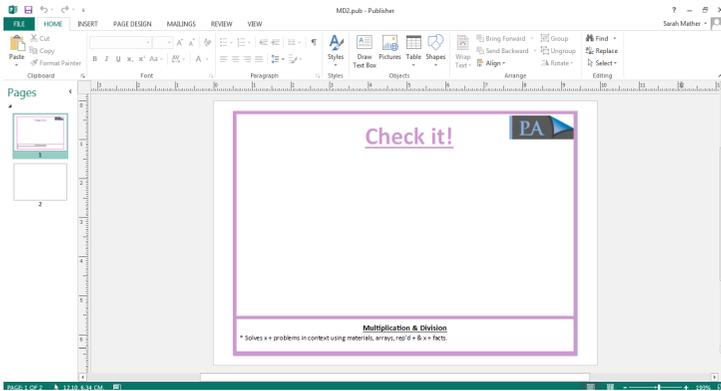


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Building your Own



As with any resource, often it is necessary to build your own assessment resources that match what has been taught. The Prove Its are designed to work as a starting point for teachers, but that over time, schools will develop their own, tailored set of Prove Its that aligns with the school's full maths curriculum.

Questions should be of a high quality, with well chosen wording and images to support what is being asked.

Teachers should ensure the pitch of the questions is appropriate.



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Building your Own

Each template links directly to curriculum objectives

Relevant objectives are included on each template.

Border colours link to the strand being assessed.



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Resources

Examples of online resources useful for creating Prove Its:

Testbase

<https://www.testbase.co.uk/>

This is Kirsty's recipe for breakfast cereal.

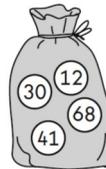
- 50 grams of oats
- 30 grams of raisins
- 40 grams of nuts



If she uses 125 grams of oats, how many grams of raisins does she need?

Two of the numbers are in the **wrong** bag.

Draw a cross (X) on each of them.



even numbers



odd numbers

IXL Maths

<https://uk.ixl.com/math/>

Year 6 > F.12 Convert fractions to decimals

Write $\frac{313}{1,000}$ as a decimal number.

Submit

Year 3 > B.6 Greatest and least - word problems - up to 1,000

A pumpkin patch monitored the number of pumpkins sold each day.

Pumpkins sold	
Day	Number of pumpkins
Wednesday	579
Thursday	527
Friday	525
Saturday	557

On which day did the pumpkin patch sell the most pumpkins?

Wednesday

Thursday

Friday

Saturday



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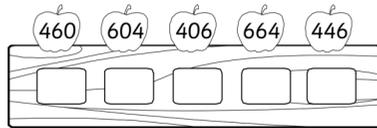
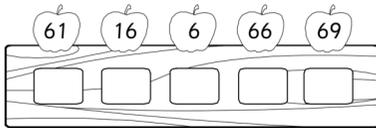
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Resources

BBC Bitesize Maths

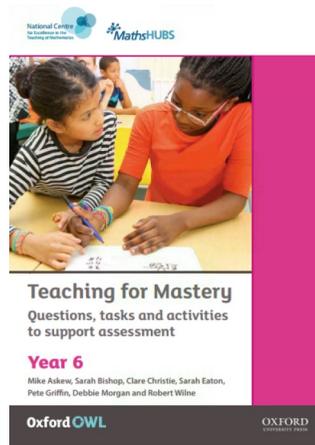
<http://www.bbc.co.uk/education>

Help Max in the forest by putting these numbers in order from highest to lowest.



NCETM resources

<https://www.ncetm.org.uk>



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