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@ Ben Big Maths

What is Big Maths Beat That?

Big Maths is growing fast because it works! If you're looking for a simple but highly effective way to significantly strengthen your whole school numeracy journey then choose Big Maths! Big Maths provides a clear framework (CLIC) for getting all children numerate, along with a weekly assessment, i.e. a 'progress check' (Big Maths Beat That) that is linked into that framework. 'Big Maths Beat That' is only a small part of the Big Maths teaching approach.

'Big Maths Beat That' Challenges consist of the CLIC Challenges and Learn Its Challenges, which collectively provide a set of comprehensive questions that assess a child's ability in core maths. 'Big Maths Beat That' has been specifically designed as the assessment element of Big Maths and allows a teacher to measure the progress of each child on a weekly basis.

The CLIC Challenges are aligned to each term of a child's journey through Primary School, assessing their knowledge of core maths skills and their position on that journey. This allows teachers and school leaders to keep a constant 'progress check' as the weeks go by... all linked into National Curriculum age expectations!

The Learn Its Challenges assess those essential facts that, once secure, will allow a child to continue their journey, tackling increasingly complex questions more logically and successfully. Teachers must ensure that the child can recall their Learn Its instantly before attempting the next challenge.

'Big Maths Beat That' Challenges inform teachers of each child's ability, which therefore accurately identifies the spread of ability across a class and informs planning and next steps. Big Maths offers a comprehensive, progressive and effective primary strategy for teaching maths, guaranteed!

There are three parts to Big Maths Beat That:

- 1. **The Learn Its Challenge:** Covers all the addition and multiplication facts needed.
- 2. **The CLIC Challenge:** Covers all the basic skills that a child needs to be properly numerate.
- 3. **The Outer Numeracy Challenge:** Covers the rest of the Maths curriculum (this part will be available in 2015).

How to use Big Maths Beat That

All 3 parts of Big Maths Beat That have common practices, principles and purposes (the specifics of how to use each part is described later).

- Use it for Summative Assessment: Big Maths Beat That provides a progressive bank of assessments. For example, there are 15 steps of progression that every child is traveling along on their 'Learn Its' journey. Big Maths Beat That has an assessment for each step and so we can use it to find out the current step of the child. Which step have they mastered? Knowing precisely where a child is up to with their Maths ability is vital information for the child's maths teacher. This is always the starting point for teaching maths.
- Use it for Formative Assessment: Because Big Maths Beat That provides a simple progressive structure we can not only see what the child can currently do and understand, but the system will also inform us what to teach the child next.
- Use it to Drive Progress: The weekly assessment of Big Maths Beat That should not be used in isolation. It is the quality of input during the week that will make the child's score improve. For example, for a child to make rapid secure progress through The CLIC Challenge



then we recommend they have a daily CLIC session using the teaching methodology of Big Maths and with the teacher guiding the child through every step of the CLIC framework Progress Drives found in 'The CLIC Book' (available from www.andrelleducation.com)

- Use it with children to Celebrate, Motivate and for FUN!: Because Big Maths Beat That allows every child to improve their score easily, all children can feel great about their Maths. The free downloadable jingles (www.andrelleducation.com) add an extra fun dimension!
- Use it to Track Progress: Crucially, Big Maths Beat That is aligned to the expected standards journey that comes through Curriculum for Excellence. For example, The CLIC Challenge follows the 'CLIC on Your Planning' journey that describes which curriculum content the child should have mastered by the end of each term in school. This means that Big Maths Beat That provides data as to which children are on track, ahead of track (and by how much) and 'off-track' and to what degree. It also provides accurate data for groups of children including entire cohorts. More information is found in the sections that follow.
- Use it Flexibly: Big Maths Beat That provides a simple but highly effective system to support all children becoming numerate. However, there are times when teachers choose to alter the system because it suits the needs of particular children and that flexibility is fully endorsed. For example, a child with a genuine relevant cognitive difficulty may need a bespoke Big Maths Beat That assessment that provides even smaller steps for success.

Use it to Hardwire Basic Skills: One of the biggest barriers to high standards in a primary school is the learning loss of basic skills. Finding time each week to revisit the recently learnt basic skills is not easy for busy teachers...but is still vital! Setting up the Big Maths Beat That system in school is quick, easy and only needs to be done once. From that point onwards the children will actually find it fun and motivating to repeat and revisit questions they can already do as they seek to achieve their best ever score!





The Learn Its Challenges

- There are 15 different Learn Its Challenge assessments. Children progress through them incrementally from 1 to 15.
- The 15 Learn Its Challenges are perfectly aligned to the 15 steps of the Learn Its Progress Drive.
- Each step of the Learn Its Progress Drive is itself linked to a term by term minimum expectation from 'CLIC on Your Planning'. All children without a genuine learning difficulty for recall should keep track with this schedule, many children will be ahead of this journey.
- In summary this can be seen in the following table:

Step	Addition Learn Its	Multiplication Learn Its	Term from 'CLIC on Your Planning'		
15		X12 Table	Primary 5: Term 4		
14		X11 Table	Primary 5: Term 3		
13		The Six Fact Challenge!	Primary 5: Term 1 & 2		
12		X8 Table	Primary 4: Term 4		
11		X4 Table	Primary 4: Term 3		
10		X3 Table	Primary 4: Term 1 & 2		
9	5+9, 6+9, 7+9, 5+7, 5+8, 6+8	X2 Table	Primary 3: Term 4		
8	5+4, 5+6, 6+7, 8+7, 8+9	X5 Table	Primary 3: Term 3		
7	3+8, 3+9, 4+7, 4+8, 4+9	X10 Table	Primary 3: Term 1 & 2		
6	6+6, 7+7, 8+8, 9+9	Multiples of 2 – In counting	Primary 2: Term 4		
5	4+2, 5+2, 6+2, 7+2, 9+2, 4+3, 5+3, 6+3		Primary 2: Term 3		
4	1+9, 2+8=10, 3+7=10, 4+6, 5+5=10	Multiples of 5 – In counting	Primary 2: Term 1 & 2		
3	2+1, 2+3	Multiples of 10 – In counting	Primary 1: Term 4		
2	3+3, 4+4, 5+5		Primary 1: Term 3		
1	1+1, 2+2		Primary 1: Term 1 & 2		



- Notice on the table below how the previous two steps of the Learn Its Progress Drive are also being re-assessed along with the new step.
- From the child's point of view this means that they must start the assessment by going back over the Learn Its from the previous two steps (starting with the step shown on the sheet furthest to the left). This should be a formality and the child should be able to very quickly write out the answers. If they are hesitant then they are not really ready for this assessment and the teacher must consider if the assessment one step down would be more appropriate.
- From the teacher's point of view this means that any learning gaps that have sneaked through the system can quickly be identified and addressed. It also means the previous two steps of recall are being further consolidated.
- Unlike the other two parts of Big Maths Beat That, the Learn Its Challenge is a timed assessment. The timer comes in the form of a jingle that can be freely downloaded from www.AndrellEducation. com. Although the fun and pacey jingle music remains the same, the timing of the period of silence in the middle of the jingle varies.
- A child is ready for the next step once they can record all the answers in the time allowed (although it can also be useful to challenge a child to now reduce their time as opposed to increasing their score before they move on to the next step).
- The recommended timings and a further explanation of which steps are assessed in each Learn Its Challenge is presented in the following table (schools may will choose to vary the timings to suit their own needs).

Learn Its Challenge	Which Steps from the Learn Its Progress Drive are Assessed?	Recommended Timings		
Ultimate	JItimate All			
15	15 Steps 13, 14 and 15			
14	Steps 12, 13 and 14	30 Seconds		
13	Steps 11, 12 and 13	60 Seconds		
12	Steps 10, 11 and 12	60 Seconds		
11	Steps 9, 10 and 11	60 Seconds		
10	Steps 8, 9 and 10	60 Seconds		
9	Steps 7, 8 and 9	60 Seconds		
8	Steps 6, 7 and 8	60 Seconds		
7	Steps 5, 6 and 7	60 Seconds		
6	Steps 4, 5 and 6	60 Seconds		
5	Steps 3, 4 and 5	30 Seconds		
4	Steps 2, 3 and 4	20 Seconds		
3	Steps 1, 2 and 3	20 Seconds		
2	Steps 1 and 2	20 Seconds		
1	Step 1 only	20 Seconds		

How the Learn Its Challenge system works

- Start by giving each child a Learn Its Challenge assessment that you know they will find relatively easy. This is a celebratory starting point for growing confidence.
- 'Big Maths Beat That!' provides every opportunity to inform teacher assessment, increase a child's awareness of their position on their core maths learning journey and develop a child's confidence and enjoyment of maths. Teachers may come across children with fragile or low confidence whose tendency is to see their score as pure attainment ("I only got 7") or in comparison to others ("They scored more than me").

Explain to the child that they will be doing the same Learn Its Challenge next week and their only challenge is to beat their best score. Ensure that the child understands that this is a personal challenge and that beating their last score represents personal success. It is always useful to explain that if they fail to beat their previous best score this doesn't represent failure, instead, focus on the correct answers as these confirm secured steps on the learning journey (incorrect answers inform learning objectives for teacher planning). This is a very important early communication to the child.

Take the time to explain the system and personal objectives in more depth to these children. Give these children extra big celebrations for every step of progression so that the 'Big Maths Beat That!' Challenges are being used to address their confidence issues, as opposed to other attainment based testing that may exacerbate them. The whole point of 'Big Maths Beat That!' is that it offers all children the opportunity to feel good about their maths, along with the support of great teaching.

• The initial Learn Its Challenge assessment can also tell us immediately if the child is on track, ahead of track or 'off track' and to what degree. This is done by comparing the child's current year group and term

against The Learn Its Challenge Schedule. For example if they are in Primary 4, Term 3 but can complete the Learn Its 14 assessment then that child is a year ahead of expected attainment for Learn Its.

- The child does not receive an identical Learn Its Challenge each week as they may start to simply remember the answers. This is why there are multiple (10) versions of each Learn Its Challenge. This way the child has the same standard of challenge each week but the order of the questions will change.
- Some schools move forward together from the week 1 bank of Learn Its Challenges to the week 2, and then week 3 etc. giving the child the correct Learn Its Challenge from 1 to 15 that they are currently on.
- Many schools ask the children to collate their own data in a simple line graph or bar (or block) graph, i.e. the child monitors their own score going up as the weeks go by.
- There is also an extension assessment for those children that complete Learn Its Challenge 15. This extension challenge is called, 'Big Maths Beat That ULTIMATE!'
- This 'Ultimate' assessment has all 36 '1 digit add 1 digit' Learn Its and all 36 '1 digit times 1 digit' Learn Its. All 72 Learn Its are jumbled up each week. Once a child can write down all 72 answers in less than 90 seconds (some schools may choose to use 60 seconds) then they receive a 'Big maths Beat That Ultimate!' certificate (available to download from www.AndrellEducation.com).
- Timings for recall are only recommended and schools should feel free to adjust these as appropriate. The Learn Its Challenge jingles (of various timings) are available to download for free from www. AndrellEducation.com

 The reason each Learn It only appears once at each step of the Learn Its Progress Drive is that once the Learn It has been secured with instant recall then the recall is consolidated in future terms through the 'It's Nothing New' phase of CLIC and the Calculation phase of CLIC. For example the child that learns 2 + 3 = 5 with total recall in the Learn Its part of CLIC then uses it in 'It's Nothing New' by knowing 2 cats add 3 cats, 2 tens and 3 tens, 20 + 30, 2 million add 3 million etc.

The 36 Addition 'Learn Its'

+	2	3	4	5	6	7	8	9
2	4							
3	5	6						
4	6	7	8					
5	7	8	9	10				
6	8	9	10	11	12			
7	9	10	11	12	13	14		
8	10	11	12	13	14	15	16	
9	11	12	13	14	15	16	17	18

and then also uses it in Calculation, for example by knowing 42 + 3 (without needing to count on).

• The teaching philosophy for 'CLIC' and all of the 'Progress Drives' and 'CLIC' framework can be found in 'Big Maths: The CLIC Book' by Ben Harding (available from www.AndrellEducation.com).

The 36 Multiplication 'Learn Its'

x	2	3	4	5	6	7	8	9
2	4							
3	6	9						
4	8	12	16					
5	10	15	20	25				
6	12	18	24	30	36			
7	14	21	28	35	42	49		
8	16	24	32	40	48	56	64	
9	18	27	36	45	54	63	72	81

This certificate has been awarded to

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