

Bumper issue of summer term updates!

Welcome to our summer newsletter! We are thrilled that **2300+ schools worldwide** have joined us this year, securing their learners' numeracy skills, putting in place robust foundations from which their learners can thrive in future study of mathematics.

In this bumper summer term issue we will share with you exciting news about the spectacular **additional resources which will be added to the 23/24 Numeracy Ninjas subscription package** including the brand new **300 page Ninja Skill Focus Worksheet Pack** giving students spaced daily practice of individual Ninja Skills. Ideal for progress interventions targeting specific Ninja Skills. In addition, we will introduce our new **Ninja Skills Assessment Pack** allowing you to track your classes' progress and diagnose every learner's strengths and areas for development on a termly basis and also create personalised individual student and class diagnostic reports. Evidence the Ninja impact...

We will update you on how schools with an existing 22/23 Ninjas subscription will receive a **10% loyalty discount** on next year's subscription (if payment is received by 31st July 2023) and also how invoicing will work for next year.

Furthermore, we are excited to share that our **Numeracy Ninjas Online Shop** is now live, enabling schools to reward your learners with Ninja-branded merchandise to celebrate and reward their progress.

In this issue's episode of **Ninjas Under the Hood**, we will share with you how another finding from cognitive science, **The Interleaving Effect**, was incorporated into Numeracy Ninjas to improve students' retention and transferability of their learning.

Finally, we will announce the **spring and summer terms prize draw winners** who will be receiving Ninja-branded merchandise through the post shortly.

Thank you to all our Ninja Schools for your support and wishing you a wonderful summer term.

William & Emma
Numeracy Ninjas- Numeracy gaps, sorted.



*Thank you to all our schools worldwide,
including those outside the UK in
Australia, USA, Dubai, France, Ireland and
more!*

Numeracy Ninjas 23/24 Launch

The 23/24 Numeracy Ninjas subscription package is now live and includes the brand new 300 page **Ninja Skill Focus Worksheet Pack** and the new **Ninja Score Record Spreadsheet** in addition to updated resources from the 22/23 subscription package. Furthermore, for 23/24 we will be launching a **Ninja Skills Assessment Pack** to allow you to track your learners' progress and diagnose their strengths and areas for development.

We are pleased to announce there will be a **price freeze** (23/24 will be priced at the 22/23 rate) which we feel is very important for schools given the current economic climate. To support schools further and reward those who continue to work with us, in addition to the price freeze, we will be offering schools already with a 22/23 paid subscription an additional **10% loyalty discount** if they complete payment for their 23/24 subscription **by 31st July 2023**.

To make resubscription easy for you, all schools who subscribed for 22/23 will automatically receive an invoice from us in due course for 23/24 for the same number of students you ordered for last year and assuming you would like the Ninja Skills Assessment Pack. Your invoice will include the 10% loyalty discount. If you wish to change the order or do not wish to resubscribe please let us know. Let's now look at the additional Numeracy Ninjas resources for 23/24:

Ninja Skill Focus Worksheet Pack

This 300 page worksheet pack features 8 days' worth of questions for each of the 72 individual Ninja Skills.

This allows for intensive practice of individual Ninja Skills- ideal for progress interventions and to support students who need time to focus on individual skills intensively to accelerate their progress. By ensuring there are questions spaced across multiple days, the resource supports students' retention of the skills over time.

Answers are included back-to-back with question sheets to allow them to be printed double-sided questions-answers for ease of use.

The Ninja Skill Focus Worksheet Pack will be a free additional resource included in the 23/24 Numeracy Ninjas paid subscription.

NUMERACY
NINJAS

SKILL FOCUS WORKSHEET
Skill 40- Convert between fractions, decimals and percentages

SKILL 40- CONVERT BETWEEN FRACTIONS, DECIMALS AND PERCENTAGES

KEY SKILLS

Day 1		
Q	Question	Answer
1	Convert 89/100 to a percentage	
2	Convert 45% to a decimal number	
3	Convert 0.34 to a simplified fraction	
4	Convert 57% to a simplified fraction	
5	Convert 61/100 to a percentage	

Day 2		
Q	Question	Answer
1	Convert 0.58 to a percentage	
2	Convert 0.53 to a simplified fraction	
3	Convert 4/5 to a decimal number	
4	Convert 67/100 to a decimal number	
5	Convert 23% to a decimal number	

Day 3		
Q	Question	Answer
1	Convert 85% to a decimal number	
2	Convert 0.78 to a simplified fraction	
3	Convert 0.14 to a percentage	
4	Convert 91/100 to a decimal number	
5	Convert 72% to a simplified fraction	

Day 4		
Q	Question	Answer
1	Convert 9/10 to a percentage	
2	Convert 0.66 to a simplified fraction	
3	Convert 0.27 to a percentage	
4	Convert 93/100 to a decimal number	
5	Convert 0.95 to a percentage	

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Ninja Score Record Spreadsheet

By popular request we are very pleased to announce the publication of the **Ninja Score Record Spreadsheet** which will allow teachers to regularly monitor their learners' performance on Ninja Skill Checks.

The spreadsheet provides the ability for teachers to record learner's individual Ninja Scores after each session and automatically shows the Ninja Belt colour achieved during that session.

Furthermore, the spreadsheet include an analysis sheet which shows both the highest Ninja Score and Ninja Belt achieved by each student cumulatively and the average Ninja Score of your class each session.

The Ninja Score Record Spreadsheet will be a free additional resource included in the 23/24 Numeracy Ninjas paid subscription.

	A	B	C	D	E	F	G	H	I	J	K	L
1		Week	Week 1					Week 2				
2	Student n.o.	Session	1	2	3	4	5	1	2	3	4	5
3	1	A student	9	8	11	12	12	11	15	14	16	18
4	2	Another student	15	14	16	14	17	18	20	22	25	27
5	3	Yet another student	2	4	5	5	8	10	13	16	15	20

	A	B	C	D
1				
2	Student n.o.	Student name	Highest Ninja Score achieved	Highest Ninja Belt achieved
3				
4	1	A student	18	PURPLE
5	2	Another student	27	BROWN
6	3	Yet another student	20	PURPLE

	E	F	G	H	I	J	K	L	M	N	O
		Week 1					Week 2				
	Average Ninja Score across all students per session	1	2	3	4	5	1	2	3	4	5
		8	8	10	10	12	13	16	17	18	21

Ninja Skills Assessment Pack

Evidencing impact is important. We fully understand you will want to be able to evidence the impact that Numeracy Ninjas is having your learners' progress. Additionally, in order to maximise your classes' learning you will want to be aware of which of the 72 individual Ninja Skills learners need to focus on in order to improve. For this reason, we have developed the **Ninja Skills Assessment Pack**.

The pack features 3 assessments which can be taken by your classes across the academic year (start, middle and end, or termly etc). Each assessment is split into 3 sections: mental strategies, timestables and key skills and features questions which systematically test each of the individual Ninja Skills.

Target sheets are included with each assessment, allowing learners to reflect on their performance and identify their areas for improvement after their assessment is marked.

NUMERACY NINJAS ASSESSMENT 2
TEST A - MENTAL STRATEGIES

TEST A ASSESSED SKILLS - MENTAL STRATEGIES

This test will evaluate your mental calculation skills. Complete the test without a calculator and try to do all the calculations in your head rather than using written methods.

Q Assessed Skill	Correct?
1 Number bonds to 5	
2 Number bonds to 10	
3 Number bonds to 20	
4 Number bonds to 100	
5 Doubling a single digit number	
6 Doubling a two digit number	
7 Halving a single digit number	
8 Halving a two digit number	
9 Adding 10 to a number	
10 Subtracting 10 from a number	
11 Adding multiples of 10 to a number	
12 Subtracting multiples of 10 from a number	
13 How many to a multiple of 10?	
14 Add near doubles and compensate	
15 Partitioning single digit numbers	
16 Partitioning two digit numbers	
17 Add using number bonds to bridge a multiple of 10 and compensate	
18 Subtract using number bonds to bridge a multiple of 10 and compensate	
19 Count from the smallest number to the largest in a subtraction	
20 Reorder an addition	
21 Understand multiplication as repeated addition	
22 Understand division as the inverse of multiplication	
23 Equivalent calculations to make an addition easier	
24 1/2 hour clock	
25 24 hour clock	
26 How many minutes to past a time?	
27 Ordering integers by size	
28 Bridging zero	
29 Identify the missing number in a sequence	
30 Visibility tests - easy	

When your assessment has been marked, put a ✓ or ✗ in the last column based on whether you got the questions correct or incorrect to help you see your strengths and areas for development.

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NUMERACY NINJAS ASSESSMENT 2
TEST A - MENTAL STRATEGIES

TEST A - MENTAL STRATEGIES

Q	Question	Answer
1	$5 - 1 = \square$	
2	$9 + 1 = \square$	
3	$20 = \square + 7$	
4	$100 - 78 = \square$	
5	Double 8	
6	$36 + 36 = \square$	
7	Half 7	
8	Half 36	
9	$50 + \square = 60$	
10	$97 - \square = 87$	
11	$34 + \square = 94$	
12	$100 - 50 = \square$	
13	$8 + \square = 30$	
14	$75 + 76 = \square$	
15	$2 = 1 + \square$	
16	$65 = 5 + \square$	
17	$86 + 9 = 86 + 4 + 5 + \square$	
18	$15 - 9 = 15 - 5 - \square$	
19	$38 - 34 = \square$	
20	$3 + 86 = \square$	
21	$82 + 82 + 82 = 82 \times \square$	
22	$2 + 11 = 22$, so $22 + 11 = \square$	
23	$67 + 63 = 60 + 60 + \square$	
24	Write quarter to 11 (pm) in 12-hour clock format	
25	Write 20:00 in 12-hour clock format	
26	How many minutes is 01:24 after 00:44?	
27	Are these numbers listed in ascending order? -10, 4	
28	$1 - 2 = \square$	
29	7, 4, 1, -2, \square	
30	Is 957 wholly divisible by 5?	

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TEST B - TIMES TABLES

Score on question	X	Score on question												TOTAL	
		1	2	3	4	5	6	7	8	9	10	11	12		
1	100%	100%	100%	100%	100%	100%	0%	0%	0%	100%	0%	0%	100%	100%	
2	0%	100%	100%	0%	100%	0%	100%	0%	100%	0%	100%	100%	100%	100%	
3	100%	0%	0%	100%	0%	100%	100%	0%	100%	100%	0%	0%	0%	0%	
4	100%	100%	100%	100%	0%	100%	100%	0%	100%	100%	100%	100%	0%	0%	
5	100%	100%	100%	0%	0%	0%	100%	100%	0%	100%	0%	100%	0%	0%	
6	0%	100%	100%	100%	0%	100%	0%	100%	100%	100%	100%	100%	0%	0%	
7	100%	0%	100%	0%	0%	100%	100%	0%	0%	100%	100%	100%	100%	100%	
8	0%	100%	0%	0%	0%	100%	100%	100%	100%	100%	100%	0%	100%	100%	
9	0%	0%	0%	100%	100%	100%	100%	100%	100%	0%	100%	0%	100%	100%	
10	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%	100%	
11	0%	0%	0%	0%	0%	0%	100%	100%	0%	100%	0%	100%	100%	100%	
12	100%	100%	100%	100%	100%	0%	100%	0%	0%	100%	100%	100%	100%	100%	
															50%

Additionally, the Ninja Skills Assessment Pack includes an **analysis spreadsheet** which gives you the option of entering each learner's score on every individual question and then producing a class progress report, or an individual learner progress report detailing their performance against each of the 72 individual Ninja Skills, included every times table from 1x1 to 12x12. Use this to target your student feedback effectively by focusing on the Ninja Skills which are not yet secure.

The Ninja Skills Assessment Pack will be an add-on available to all schools through a one-off payment of £50. Schools taking out a 23/24 paid subscription will receive a 10% discount on this resource if purchased at the same time and payment is received by 31st July 2023.

Ninjas- Under the Hood

In this series of articles in our newsletters called Ninjas- Under the Hood, we share with you some of the behind-the-scenes development work and strategic decision making which went/goes into the creation of Numeracy Ninjas.

Firstly, we explained where all the 72 individual Ninja Skills came from, a prior-learning dependency analysis. Secondly, we showed how the Spacing Effect is incorporated into our resources to improve learner retention of their learning over time.

In this issue we will explain another cognitive science finding incorporated into our resources: **The Interleaving Effect**. Interleaving means arranging questions such that they regularly switch between different topics. The opposite of interleaving is blocking, which would be giving learners a list of questions all on the same topic. By interleaving questions, the science shows that learners retain their learning better over time and they also get better at identifying which strategy to use to answer each question.

We incorporate the Interleaving Effect into the Ninja Skill Book resources by:

- **Weeks 1-12:** listing 10 **different** Ninja Skills in each of the mental strategies, timestables and key skills sections
- **Weeks 13-19:** varying the **order** in which the interleaved skills appear in each of the mental strategies, timestables and key skills sections
- **Weeks 20-40:** **removing the topic tables** of mental strategies, timestables and key skills and instead choosing 10 skills from each, but arranging them in a set of 30 questions in a **randomised order**

The degree of interleaving in the sequencing of the questions in the Ninja Skill Books is phased in across the weeks which increases the level of challenge for students steadily over time.

Furthermore, each of the 72 individual Ninja Skills has multiple variations in which the question could be phrased. For example, if the question engine decided to ask the ‘number bonds to 5’ question $2 + \square = 5$, it could choose from that variation or others such as $\square + 2 = 5$ or $2 + 3 = \square$. By **contextually-varying** the number of ways in which each individual Ninja Skill could be asked we further increased the degree of interleaving within the Numeracy Ninjas resources.

By incorporating both spacing and interleaving in the question scheduling for our resources, and basing the question topics on a prior-learning dependency analysis, Numeracy Ninjas is at the forefront of using cognitive science findings in educational resources to accelerate learning.

Blocked practice	Topic A	Topic A	Topic A	Topic B	Topic B	Topic B	Topic C	Topic C	Topic C
Interleaved practice	Topic A	Topic B	Topic C	Topic B	Topic A	Topic C	Topic A	Topic C	Topic B

Ninjas Online Shop- Reward Your Ninjas

Looking for ways to reward your learners for their efforts and progress on the Numeracy Ninjas programme? We are delighted to share with you that we have launched the [Numeracy Ninjas Online Shop](#).

The shop features hundreds of different Ninjas-branded products including: t-shirts, hoodies, sweatshirts, long-sleeve shirts, jackets, vests, polo shirts, tank tops, sports wear, baby products, hats, caps, bags, backpacks, mugs, stickers, magnets, button badges, phone cases, face coverings, soft toys, stickers and more to suit all tastes and budgets.

Why not put in an order to celebrate your learners' progress now?



Spring Term Prize Draw

All paid subscriber schools are entered into the termly prize draws. The winners will receive Ninjas-branded merchandise which can be given to your own Grand Masters to celebrate their efforts and progress. Each winning school will be sent a package with your prizes shortly. The 22/23 spring term prize draw winning schools are:

1. The Bishop of Hereford's Bluecoat School
2. Framingham Earl High School
3. The Ravensbourne School
4. Stowupland High School
5. Holroyd High School
6. Buckingham Primary School
7. Sir Richard Gwyn Catholic High School
8. Sion Hill
9. Wightwick Hall
10. Notre Dame School

Summer Term Prize Draw

To give winning schools plenty of time to celebrate your Grand Masters in the summer term we have done the summer prize draw now. Each winning school will be sent a package with your prizes shortly. The following schools are winners in the 22/23 summer term prize draw:

1. Langham Oaks School
2. Heanor Gate Spencer Academy
3. Atlantic Academy
4. Kilbarchan Primary School
5. Kirkley Hall College
6. Ormiston Maritime Academy
7. The Winstanley School
8. Egglecliffe School
9. Pangbourne College
10. Looe Community Academy

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