

Subject: Maths

Year Group: 8

Specification: KS3 Maths Progress Delta

Active Learning Opportunities

Year 2

Lesson No	Topic & Objectives	Key Activities & Specialist Terminology	Big Think Q's & Stretch	GCSE Q Stem	Homework	Lit Num SMSC Codes
Factors & Powers						
1	1.1 Prime factor decomposition	Write the prime factor decomposition of a number.	Find the unique prime factorisation of 72. Write your answer using index notation.	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
2	<p>Do Now: Numeracy Ninja</p> <p>Plenary: TEQ (Typical exam question)</p> <p>Show me boards, Coaching, Independent Study, Student teachers etc</p>	Use prime factor decomposition to find the HCF or LCM of two numbers.	LCM & HCF of 68,124 & 220	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9

3	1.2 Laws of indices	Work out the laws of indices for positive powers.		TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
4	Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) <i>Show me boards, Coaching, Independent Study, Student teachers etc</i>	Show that any number to the power of zero is 1.	Use laws to answer questions with standard form	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
5	Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) <i>Show me boards, Coaching, Independent Study, Student teachers etc</i>	Use the laws of indices for multiplying and dividing.		TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9

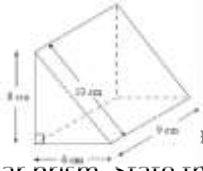
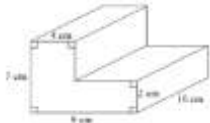
6	1.3 STEM: Powers of 10	Use and understand powers of 10.	Write 0.0000099 in standard form.	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
7	<p>Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) Show me boards, Coaching, Independent Study, Student teachers etc</p>	Use the prefixes associated with powers of 10.	How would this change if our counting system was base 5	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
8		Understand the effect of multiplying and dividing by any integer power of 10.	Evaluate the following $(7 \times 10^4) \times (8 \times 10^7) =$	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9

	1.4 Calculating and estimating	Calculate with powers.	Evaluate the following leaving your answer in a single power of 5 $5^2 \times 25^4 =$	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7, M1, C3, C5, C6, Sp2 Sp9
9						
	Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) <i>Show me boards, Coaching, Independent Study, Student teachers etc</i>	Round to a number of significant figures.	345698765567 round to 3 sf	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 1	So2, So6, So7, M1, C3, C5, C6, Sp2 Sp9
10						
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12hrs	Expressions, formulae and functions					

11	2.1 simplifying expressions	Simplify expressions involving powers and brackets.	<p style="text-align: center;">Simplify</p> $2x^2 + 3xy + 4x^2 - yx$	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
12	<p>Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) Show me boards, Coaching, Independent Study, Student teachers etc</p>	Understand the meaning of an identity.		TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
13	2.2 More simplifying	Use the index laws in algebraic calculations and expressions.	<p style="text-align: center;">Show that</p> $\frac{x^2 + 2x}{x^2 + x - 2} + \frac{x}{x - 1} = \frac{2x}{x - 1}$	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9

14	<p>Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) Show me boards, Coaching, Independent Study, Student teachers etc</p>	Simplify expressions with powers.		TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
15	2.3 Expanding and simplifying	Write and simplify expressions involving brackets and powers.	$(x + 8)(x-4) = x + 24$	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
16	<p>Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) Show me boards, Coaching, Independent Study, Student teachers etc</p>	Factorise an algebraic expression.	Factorise $4 + 12xy$.	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9

17	2.4 Substituting and solving	Substitute integers into expressions.	$X = 5$ solve for $x^2 + 5x - 15$	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7, M1, C3, C5, C6, Sp2 Sp9
18	<p>Do Now: Numeracy Ninja</p> <p>Plenary: TEQ (Typical exam question)</p> <p>Show me boards, Coaching, Independent Study, Student teachers etc</p>	Construct and solve equations.	<p>A square has the sides, $4x + 5$ and $6x - 2$.</p> <p>Use an algebraic method to find the length of one side of the square.</p>	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 2	So2, So6, So7, M1, C3, C5, C6, Sp2 Sp9
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12hrs	2D & 3D solids					

19	3.1 Plans and elevations	Use 2D representations of 3D solids.	<p>The diagrams show some solid shapes and their nets. Draw an arrow from each of the other solid shapes to its net.</p>	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
20	3.2 Surface area of prisms	Sketch nets of 3D solids.	 <p>Work out the surface area of the triangular prism. State the units with your answer.</p>	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
21	<p>Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) Show me boards, Coaching, Independent Study, Student teachers etc</p>	Calculate the surface area of prisms.		TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9

22	3.3 Volume of prisms	Calculate the volume of right prisms.	The diagram shows a prism. Work out the volume of the prism	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
23	3.4 Circumference of a circle	Name the different parts of a circle.	Mark says if a circle has an area of 79cm the diameter must be 5cm. Why is Mark wrong?	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
24	<p>Do Now: Numeracy Ninja</p> <p>Plenary: TEQ (Typical exam question)</p> <p>Show me boards, Coaching, Independent Study, Student teachers etc</p>	Calculate the circumference.	A circle has a radius of 6.1 cm. Work out the circumference of the circle. Give your answer correct to 3 significant figures.	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9

25	<p>Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) Show me boards, Coaching, Independent Study, Student teachers etc</p>	Calculate the radius or diameter when you know the circumference.
26	3.5 Area of a circle	Calculate the area of a circle.
27	<p>Do Now: Numeracy Ninja Plenary: TEQ (Typical exam question) Show me boards, Coaching, Independent Study, Student teachers etc</p>	Calculate the radius or diameter when you know the area.

TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
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28	3.6 Cylinders	Calculate the volume and surface area of a cylinder.	<p>A can of drink is in the shape of a cylinder. The can has a radius of 4 cm and a height of 15 cm. Calculate the volume of the cylinder. Give your answer correct to 3 significant figures</p>	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9
29	3.7 Pythagoras' theorem	Use Pythagoras' theorem in right-angled triangles.	<p>PQR is a right-angled triangle. PQ = 16 cm. PR = 8 cm. Calculate the length of QR. Give your answer correct to 2 decimal places.</p>	TEQ - Show understanding of worded questions and how marking schemes test working practices	Monopolise your homework Sheet 3	So2, So6, So7 , M1, C3, C5, C6 , Sp2 Sp9