


Subject	Year	Month	
Mathematics	9	October	
Topic:			
ERROR INTERVALS		3 LESSONS	
Content (Intent)			
Prior Learning Y7 <ul style="list-style-type: none"> Round to decimal places or significant figures Know the meaning of the symbols $<$, $>$, \leq, \geq (more of this coming in January) 		Future Learning Using bounds with different operations and in relation to SDT and density/pressure problems	
Objectives <ul style="list-style-type: none"> Recall all rounding rules Understand the difference between truncating and rounding Identify the minimum and maximum values of an amount that has been rounded (to nearest x, x d.p., x s.f.) (lower bound and upper bound) Use inequalities to describe the range of values for a rounded value (=error interval) 		For teaching purposes Possible questions <ul style="list-style-type: none"> When a number 'x' is rounded to 2 significant figures the result is 70. Jenny writes '$65 < x < 75$'. What is wrong with Jenny's statement? How would you correct it? A number was rounded to 50 to the nearest 10, what could my number have been? Misconceptions <ul style="list-style-type: none"> may think, for example, that 6729 rounded to one significant figure is 7 may struggle to understand why the maximum value of a rounded number is actually a value which would not round to that number; i.e. if given the fact that a number 'x' is rounded to 1 sf the result is 70, they might write '$65 < x < 74.99$' may think that the upper bound for 12.7 to 1 d.p. is 12.74 or 12.749 	
Pedagogical notes (implementation)		How will understanding be assessed & recorded (Impact)	
Rounding to 1 s.f. is the same as determining the place value of the first significant figure and rounding to that value. e.g. 234 to 1s.f. is rounding to the nearest hundred 1428 to 1 s.f. is rounding to the nearest thousand May want to discuss why we write 12.5 and not 12.49 as the upper bound. Could discuss the equivalence of these numbers, and the fact that we will use them for calculations later so 12.5 is preferable.		End of term Assessment in December End of Year Assessment in May 9BAM1 Roots and indices How can parents help at home? MathsWatch clips (Qualification KS3) N25, N45a, N45b	
Further reading/discussion			
Reading / Enrichment KM: Maths to Infinity: Standard form KM: Maths to Infinity: Indices Investigate 'Narcissistic Numbers'. NRICH: Power mad! NRICH: A question of scale The scale of the universe animation (external site)	Literacy Inequality Truncate Round Minimum, Maximum, lower and upper bound Error Interval Decimal place Significant figure	Numeracy Links	Careers Links: Scientist Engineer