Share Multi Academy Trust

Curriculum Planning Template

Subject: Maths Year 9 Ability Higher

Half Term 1 / weeks	**Week 1-2**	**Week 3-6**	**Final week of the half term**
Topic	Unit 1- Integers, Powers and Roots	Unit 2- Area of 2D shapes, circles, surface area and volume	Reteach and Retention
Topic overview **Students will learn…**	To recall and apply number skills including negatives, powers and roots applying them to real world contexts such as HCF and LCM	To recall and apply a range of formulae with respect to shapes correctly substituting values leading to appropriate answers.	Focus on the process of reteach and retention for this half term, knitting together the learning in reaction to the assessments completed. Students will follow a bespoke set of lessons looking at errors seen this in the work covered in this half term and any supporting knowledge. If this is covered staff will look forward to cover historic supporting knowledge for the next half term.
Components	Students should be able: • To write numbers as words and vice versa • To use place value to give the value of a digit's place in a number • To put positive, negative and decimal numbers into order • When multiplying and dividing with negatives: + + = +; - - = -; + - = -; - + = + • To understand the term reciprocal and know how to use it • To know how to find squares, cubes, square roots and cube roots of a number • To know what prime numbers, factors and multiples are and be able to find them • To write a number as a product of primes • To know what HCF and LCM are and be able to find them, from both list and Venn diagrams	Students should be able: • To find the perimeter and area of rectangles, triangles, parallelograms and trapeziums • To find the perimeter and area of compound shapes. Setting work out in a logical manner • To find the circumference and area of circles. Giving your answer in terms of ∏ when needed • To know what the terms Face, Edge and Vertex mean • To find the volume of cuboids and triangular prisms. • To find the surface area of cuboids and triangular prisms. • To find the volume and surface area of compound volume shapes	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups that have been flagged in this block of learning. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention. Clear areas for improvement are monitored by individual staff and at a departmental level.
What students should already know **(prior learning components)**	Students should be confident at describing and giving explain of types of number (odd, even, prime, etc). A02 questions using get students to explain how they know, push that a prime number only has 2 factors. Students should be confident with basic arithmetic with numbers (add, subtract, multiply and divide integers) Check understanding is strong of place value,	Students should be confident with shape names and types. Again, the number skills of our students will be tested. Students should be able to give and use formulae for area of basic 2D shapes and understand different units of measurement (cm, m,)	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
Transferrable knowledge (skills)	The topic will build students' confidence with basic number skills. These skills underpin almost all of subsequent mathematics. This is particularly the case with confidence with negative values which will be used repeatedly in any unit that uses substitution and formulae.	The topic will build students' confidence with basic shape and the use of basic formula. These skills will be used again when asked to complete more complicated area and volume questions not cover here and	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build

		then again in 3D shapes. The use of exact value of pi starts the use of accuracy in answers that well be worked on further when students meet surds.	confidence and improve students' ability to answer these and directly sequential problems.
Key vocabulary student will know and learn	Addition, Subtraction, Multiply, Divide, Cube, Square, Factor, Integer, Powers, Reciprocal	Rectangle, Triangle, Parallelogram, Trapezium, Circumference, Area, Circles, Radius, Diameter, Compound, Surface area, Volumes, Prisms, Cross section	
Assessment activities	Sparx homework- Integers, Powers and Roots Year 9 Test 1 - This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	Sparx Homework - Area of 2D shapes, circles, surface area and volume Year 9 Test 1 - This will be completed in lesson (~50mins) at the end of the half term before the R&R section. It will cover the topics taught in this unit primarily but other previous knowledge maybe included.	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Sparx clips: M704, M527, M522, M288, M110, M135, M150, M608, M322, M108, M365 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Sparx clips: M390, M695, M291, M610, M705, M722, M534, M661, M722 Departmental lesson folder Departmental resource folder www.corbettmaths.com www.justmaths.co.uk www.mathsbox.org.uk www.mathsgenie.co.uk www.mathspad.co.uk	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes **Why this topic is important…**	The start of this unit uses the 4 basic operations which have been covered numerous times in earlier years. Although its is often seen as basic more topics/marks visit the skills of multiplication than any other that we teach. An advancement through these skills will lead to increasingly challenging values being used to work with and then into problems that use these skills "in context" The unit finishes with LCM/HCF which is often present in problem solving questions as well as factorising that will be used in harder quadratic problems in KS4.	The recall of formulae is a strong corner stone of this unit with these formulae being used in much bigger more complex questions later. This recall will be needed as a "given" in these harder questions so a good grounding in this is needed now. The topic also allows the increased use of estimation of answers to check if the answers are suitable along with rounding of answers. The use of Pi allows the chance for the teaching a value of exact answers and how this is beneficial to levels of accuracy that cannot be attained when rounding. An appreciation of how to "break up" a question into steps will also be key to future challenging questions requiring mathematical structure and rigour.	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students' progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.