ACHIEVERS ARC

2027 SEC 1 LESSON PLAN

SEMESTER 1 (NOV – JAN)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1	Primes, Factors and Multiples	1) What prime and composite numbers are. 2) How to find the square root of a perfect square and the cube root of a perfect cube. 3) Finding the highest common factor (HCF) and lowest common multiple (LCM) in real life applications.
2		
3	Real Numbers	1) What negative, rational and real numbers are. 2) How to order these numbers and perform operations on them. 3) Using these numbers in real-world contexts.
4		
5	Approximation and Estimation	1) What approximation and estimation are. 2) How to round off numbers to a required number of decimal places and significant figures. 3) Using approximation and estimation in real life applications.
6		
7	Revision Chapters 1 to 3	
8		
9	Topical Practice 1	

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2027 SEC 1 LESSON PLAN

SEMESTER 2 (JAN – APR)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1 2	Algebra and Algebraic Manipulation	1) What algebraic and linear expressions are. 2) How to add, subtract, expand, factorise and simplify linear expressions.
3 4	Simple Equations of One Variable	1) What linear equations and mathematical formulae are. 2) How to solve linear equations with integer or fractional coefficients, and fractional equations that can be converted into linear equations with integer coefficients. 3) How to evaluate an unknown in a formula.
5	Angles and Parallel Lines	1) What complementary and supplementary angles are. 2) How to identify various types of angles (i.e. acute, right, obtuse, straight and reflex angles). 3) How to use properties of angles formed by intersecting lines (i.e. adjacent angles on a straight line, angles at a point and vertically opposite angles) to solve geometrical problems. 4) How to use properties of angles formed by two parallel lines and a transversal (i.e. corresponding angles, alternate angles, interior angles and their converse) to solve geometrical problems.
6	Triangles, Quadrilaterals and Other Polygons	1) What polygons (including triangles and special quadrilaterals) and their properties (including angle and symmetric properties) are. 2) How to construct triangles and quadrilaterals using mathematical instruments. 3) How to solve problems involving the properties of polygons.
7 8	Ratio, Rate & Speed	1) What ratio and rate (including speed) are. 2) How to find ratios involving rational numbers, up to three quantities. 3) How to distinguish between constant and average rates.
9	Revision Chapters 4 to 5	
10	Revision Chapters 6 to 7	
11	Mid Year Examination Mock Test	

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2027 SEC 1 LESSON PLAN

SEMESTER 3 (APR – AUG)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1 2	Percentages	1) What percentage and percentage change are. 2) How to use percentages greater than 100%. 3) How to compare two quantities by percentage.
3 4	Sequences & Number Patterns	1) What number sequences are. 2) How to recognise patterns in number sequences. 3) How to find a formula for the general term of a number sequence.
5 6	Linear Functions and Graphs	1) What linear functions and graphs are. 2) How to plot points on graph paper and draw the graph of a linear function. 3) How to find the gradient of a straight line and state its y-intercept.
7 8	Revision Chapters 8 to 10	
9	Perimeter and Area of Plane Figures	1) How to find the perimeter and area of plane figures (such as squares, rectangles, triangles, circles, parallelograms and trapeziums). 2) How to solve problems involving the perimeter and area of plane figures (including composite figures).
10	Volume & Surface Area of Prisms and Cylinders	1) How to convert between cm3 and m3. 2) What prisms are. 3) How to find the volume and surface area of cubes, cuboids, prisms and cylinders. 4) How to solve problems involving the volume and surface area of composite solids.
11	Topical Practice 2	
12	Topical Practice 3	

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2027 SEC 1 LESSON PLAN

SEMESTER 4 (AUG – OCT)

LESSON	LESSON NAME	LEARNING OBJECTIVES
1	Perimeter and Area of Plane Figures 2	1) How to find the perimeter and area of plane figures (such as squares, rectangles, triangles, circles, parallelograms and trapeziums). 2) How to solve problems involving the perimeter and area of plane figures (including composite figures).
2	Volume & Surface Area of Prisms and Cylinders 2	1) How to convert between cm3 and m3. 2) What prisms are. 3) How to find the volume and surface area of cubes, cuboids, prisms and cylinders. 4) How to solve problems involving the volume and surface area of composite solids.
3	Data Handling	1) What frequency tables, pictograms, bar graphs, pie charts and line graphs are. 2) How to collect, classify, tabulate, display, analyse and interpret data so as to make inferences, predictions and informed decisions. 3) Why different statistical diagrams are appropriate for different purposes. 4) Why some statistical data or diagrams can lead to. misinterpretation.
4 5 6	Problems in Real World Context	1) Solving problems involving algebra, factors and multiples, numbers, approximation and estimation, linear equations, angles, polygons, ratios, rates, percentages, patterns, linear functions and graphs, area and perimeter, volume and surface area, and money in real-life applications.
7 8	End of Year Examination Mock Tests 1 to 2	
9	Topical Practice 4	
10 11	End of Year Examination Mock Tests 3 to 4	

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2027 中一年级课程表

第 1 学期（11 月 至 1 月）

课	标题	教学目标
1	质数、因数与倍数	1. 理解什么是质数和合数。 2. 如何求一个完全平方数的平方根，以及一个完全立方数的立方根。 3. 在实际生活中如何求最大公因数（HCF）和最小公倍数（LCM）。
2		
3	实数	1. 理解什么是负数、有理数和实数。 2. 如何对这些数字进行排序以及运算。 3. 在现实生活中运用这些数字。
4		
5	近似与估算	1. 理解什么是近似和估算。 2. 如何将数字四舍五入到所需的小数位数和有效数字。 3. 在实际生活中使用近似与估算。
6		
7	复习：第1 到 第3章	
8		
9	专题练习1	

ACHIEVERS ARC

2027 中一年级课程表

第 2 学期（1 月 至 4 月）

课	标题	教学目标
1	代数与代数运算	1. 理解什么是代数式和一次式。 2. 如何对一次式进行加、减、展开、因式分解和化简。
2		
3	一元一次方程	1. 理解什么是一次方程和数学公式。 2. 如何解含有整数或分数系数的一次方程，以及可以转化为整数系数一次方程的分式方程。 3. 如何在公式中求未知数。
4		
5	角度与平行线	1. 理解什么是余角和补角。 2. 如何识别各种角（如锐角、直角、钝角、平角和优角）。 3. 如何运用相交直线所形成的角的性质（如同角、邻补角、周角和对顶角）来解决几何问题。 4. 如何运用两条平行线和一条截线所形成的角的性质（如同位角、内错角、同旁内角及其逆定理）来解决几何问题。
6	三角形、四边形与其他多边形	1. 理解什么是多边形（包括三角形和特殊四边形），以及它们的性质（包括角性质和对称性质）。 2. 如何使用作图工具作三角形和四边形。 3. 如何解决涉及多边形性质的问题。
7	比、率与速度	1. 理解什么是比和率（包括速度）。 2. 如何求涉及有理数的比，最多包含三个数量。 3. 如何区分恒定率与平均率。
8		
9	复习：第4 到 第5章	
10	复习：第6 到 第7章	
11	年中考试模拟试卷	

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2027 中一年级课程表

第 3 学期（4 月 至 8 月）

课	标题	教学目标
1 2	百分数	1.理解什么是百分数和百分比变化。 2.如何使用大于 100% 的百分数。 3.如何通过百分数比较两个数量。
3 4	数列与数字规律	1.理解什么是数列。 2.如何识别数列中的规律。 3.如何求数列通项公式。
5 6	一次函数与图像	1.理解什么是一次函数和一次函数的图像。 2.如何在方格纸上描点并作出一次函数的图像。 3.如何求直线的斜率，并写出它的纵截距（y 截距）。
7 8	复习：第8 到 第10章	
9	平面图形的 周长与面积	1.如何求平面图形（如正方形、长方形、三角形、圆形、平行四边形和梯形）的周长与面积。 2.如何解决涉及平面图形（包括组合图形）周长与面积的问题。
10	棱柱与圆柱的 体积与表面积	1.如何在 cm^3 与 m^3 之间进行换算。 2.理解什么是棱柱。 3.如何求立方体、长方体、棱柱和圆柱的体积与表面积。 4.如何解决涉及复合立体图形体积与表面积的问题。
11	专题练习 2	
12	专题练习 3	

ACHIEVERS ARC

2027 中一年级课程表

第 4 学期（8 月 至 10 月）

课	标题	教学目标
1	平面图形的 周长与面积 2	1. 求平面图形（如正方形、长方形、三角形、圆形、平行四边形和梯形）的周长与面积。 2. 解决涉及平面图形（包括组合图形）周长与面积的问题。
2	棱柱与圆柱的 体积与表面积 2	1. 在 cm^3 与 m^3 之间进行换算。 2. 求立方体、长方体、棱柱和圆柱的体积与表面积。 3. 解决涉及复合立体图形体积与表面积的问题。
3	数据处理	1. 理解什么是频率表、象形图、条形图、扇形图和折线图。 2. 如何收集、分类、制表、展示、分析和解释数据，从而得出推论、预测和合理的结论。 3. 理解为什么不同的统计图表适用于不同的目的。 4. 理解为什么有些统计数据或图表可能导致误解。
4	实际情境中的问题	1. 在现实生活中解决涉及代数、因数与倍数、数、近似与估算、一次方程、角、多边形、比率、速度、百分数、数列、一次函数与图像、面积与周长、体积与表面积以及金钱的问题。
5		
6		
7	年终考试模拟试卷 1 至 2	
8		
9	专题练习 4	
10	年终考试模拟试卷 3 至 4	
11		