

Subject	Year 9 Core Knowledge – Autumn/Spring/Summer term	How to support students' learning
Maths	<p>Autumn Term</p> <p>Number -</p> <ol style="list-style-type: none"> 1. Multiplying mixed numbers (M197, U224). 2. Dividing mixed numbers (M265, U538). 3. Number - Adding mixed numbers (M931, U793). 4. Subtracting mixed numbers (M931, U793). 5. Add numbers given in standard form (U290). 6. Subtract numbers given in standard form (U290). 7. Find the LCM using prime factor decomposition (M365, U250). 8. Find the HCF using prime factor decomposition (M365, U250). 9. Multiplying numbers in standard form (U264). 10. Dividing numbers in standard form (U264). 11. Standard form with a calculator (U161). <p>Equations, Inequalities and Expanding Brackets -</p> <ol style="list-style-type: none"> 12. Substituting into algebraic formulae (M208, U585). 13. Substituting into real-life formulae (M979, U144). 14. Solve equations with unknowns on both sides (M554, U870). 15. Expand double brackets (M960, U768). 16. Solve one-step inequalities (M118, U759). 17. Solve inequalities with two or more steps (M118, U759). 18. Solve inequalities, including with unknowns on both sides (M732, U337). 19. Form and solve inequalities (U337). 20. Changing the subject of a formula (M184, U556). 	<ul style="list-style-type: none"> • Follow the teacher's guidance and use Sparx Maths to support home learning. • If your child is struggling with a particular skill encourage them to use the support materials or contact their teacher to resolve the issue. • Sparx Maths will send a homework update. Please encourage your child to complete the homework to the best of their ability. The homework is a recap of the skills they have been taught.

Rotation, Reflection and Translation -

21. Describe translations of shapes (M139, U196).
22. Translate shapes by a given vector (M139, U196).
23. Describe rotation (M910, U696).
24. Rotate a shape (M910, U696).
25. Rotate a shape about a point (M910, U696).
26. Describe reflection (M290, U799)
27. Reflect shapes in given lines (M290, U799).

Enlargement and Similarity -

28. Explore relationships between similar shapes (M377, U551).
29. Work out missing sides and angles in a pair of given similar shapes (M324, U578).
30. Describe enlargements (M178, U519).
31. Enlarge a shape by a positive integer scale factor (U519).

Spring Term**Probability -**

32. Enlarge a shape by a positive integer scale factor from a point (U519).
33. Expected outcomes (M206, U166).
34. Using experimental data to estimate probabilities (M332, U580).
35. Understand that increasing the number of trials leads to a more accurate estimate of the theoretical probability.

Solving Proportion Problems -

36. Solve problems with inverse proportion (M478, U357).
37. Model real-life graphs involving inverse proportion (M205, U862).

Graphs -

38. Find the equation of a line from a graph (U315).
39. Solve shape problems involving coordinates (U889).

40. Understand and use $y = mx + c$ (M888, U669).
41. Determine whether a point is on a line (M888).
42. Draw quadratic graphs (U989).

Rates -

43. Convert units of area (M728, U248).
44. Convert units of volume (M465, U468).
45. Solve speed, distance and time problems (U151).
46. Interpret distance-time graphs (M581, U914).
47. Calculating speed from distance-time graphs (M247, U462).
48. Plotting distance-time graphs (M551, U403).
49. Solve problems with density, mass and volume (U910).
50. Solve problems with pressure, force and area (U527).

Angles -

51. Identify and calculate co-interior angles (M606, U826).
52. Identify and calculate alternate angles (M606, U826).
53. Identify and calculate corresponding angles (M606, U826).
54. Combining angle facts (M319, U655).

Summer Term

55. Use Pythagoras' theorem to calculate the hypotenuse (M677, U385).
56. Use Pythagoras' theorem to calculate a smaller side (M677, U385).
57. Calculate simple interest (U533).
58. Calculate compound interest and depreciation (U332).
59. Solve financial maths problems (M901).
60. Solve reverse percentage problems (U286).
61. Volume of cubes and cuboids (M765, U786).

- | | | |
|--|--|--|
| | <ol style="list-style-type: none">62. Volume of other prisms (M722, U174).63. Accurate nets of cuboids and other 3-D shapes (U761).64. Finding the surface area of cubes and cuboids (M534, U929).65. Finding the surface area of prisms (M661, U259).66. Solving equations with the variable in the denominator (M387, U505).67. Understanding sin, cos and tan (U605).68. Finding unknown sides in right-angled triangles (U283).69. Finding unknown angles in right-angled triangles (U545).70. Construct triangles when given SSS (M565, U187).71. Construct triangles when given SAS and ASA (M565, U187).72. Construct an angle bisector (M232, U787).73. Construct a perpendicular bisector (M239, U245).74. Construct a perpendicular from a point (M239 U245).75. Construct a perpendicular to a point (M239, U245).76. Understanding congruence (M124, U790).77. Know the criteria for congruence of triangles (U866).78. Identify congruent triangles (U866). | |
|--|--|--|