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| **Core Knowledge Map** |
| Subject: L2 Further Maths | Year: 10/11 | Term: 1 |
| What are we learning? |
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| Unit 1 Objective | Sparx Code |
| Introductions to matrices | P774 |
| zero and identity matrix | P774 |
| Transforming Matrices | P214 |
| Combinations of transformations | P951 |

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| How will I be assessed  |
| Topic test at the end of the unit. This will be made up of exam questions. |
| Big questions: |
| * Given A = $\left[\begin{matrix}12\\7\end{matrix}\right]$ and B = $\left[\begin{matrix}13&6\\-4&-5\end{matrix}\right]$ , what is 2A, 3B and ½A?
* Given M = $\left[\begin{matrix}2&6\\-3&4\end{matrix}\right]$ and C = $\left[\begin{matrix}1&5\\8&3\end{matrix}\right] $what is MC?
* Describe the Zero Matrix and Identity Matrix – what transformation?
* Can you perform Transformations given Matrices, such as mapping a shape under transformation matrix $\left[\begin{matrix}0&1\\-1&0\end{matrix}\right]$ ?
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| How does this build on previous learning? | How will this link to my future learning? |
| Multiplying numbers.Simplifying expressions.Solving linear simultaneous equations.Student use vectors to transform shapes by translation.Perform simple arithmetic on column vectors which are 2 by 1 matrices. | Matrices is continued in the Further Maths AS and the knowledge you have learnt in this topic will be built on further looking at larger matrices and their uses.Matrices are used in subjects/careers such as computer science, quantum mechanics, chemical engineering, and electrical circuits, Optics (reflection and refraction) to name a few. |
| * Core knowledge:
 | Key vocabulary: |
| Adding and subtracting matrices.Multiplying matrices by a scalar and by another matrix.In general, matrix multiplication is not commutative.Matrix multiplication is associative.Know that AI = IA = A.Understand that the matrix product PQ represents the transformation with matrix Q followed by the transformation with matrix P. | MatrixMatricesIdentityZero matrixTransformation |
| Need more help? Use the Sparx independent learning codes above. |