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| **Subject** | **Year 10 Foundation Threshold Concepts – Summer Term** | **How to support students’ learning** |
| Mathematics | **Fractions and Decimals**   * Order fractions and mixed numbers * Add and subtract mixed numbers * Multiply with mixed numbers * Divide with mixed numbers * Convert fractions to recurring decimals * Convert recurring decimals to fractions   **Indices and Standard Form**   * Use index rules with positive indices * Use index rules with negative indices * Simplify expressions using index laws * Use standard form with positive indices * Use standard form with negative indices * Multiply and divide numbers in standard form * Add and subtract numbers in standard form * Use standard form with a calculator   **2D and 3D Representations**   * Calculate angles in polygons * Measure and draw bearings * Calculate bearings * Construct and use scale diagrams * Create plans and elevations * Calculate surface area of cones and spheres * Calculate surface area of frustums * Calculate surface area of composite shapes   **Transformations**   * Be able to perform all four transformations; translation, reflection, rotation and enlargement * Combine the four transformations   **Congruent and Similar Shapes**   * Understand similarity * Find unknown sides in similar shapes * Understand congruence * Prove that two triangles are congruent   **Probability**   * Create and interpret sample space diagrams * Create and interpret Venn diagrams * Create and interpret Frequency Trees * Use the addition law of probability * Create and interpret tree diagrams for independent events * Create and interpret tree diagrams for dependent events   **Financial Capabilities**   * Understand basic tax calculations and payslips * Understand how to budget, and the terms income and expenditure * Use basic money management skills including getting a mortgage | * Encourage your child to review their knowledge of fractions and how to divide without a calculator * Encourage your child to have the correct equipment for lessons, e.g. a calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to look at real-life examples of standard form numbers, e.g. very small (biological cells) and very large scientific numbers (astronomical weights and distances) * Encourage your child to have the correct equipment for lessons, e.g. a calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to think about where they would see scale drawings outside of the classroom and what careers would work with scale drawings and maps * Discuss real-life applications of bearings, e.g. compass directions * Encourage them to think about units when talking about weight and distances * Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator, protractor * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to look at real-life symmetry, rotation and size changes within everyday objects * Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to look at real-life rotation and size changes within everyday objects * Encourage your child to have the correct equipment for lessons, e.g. a pencil, protractor, calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to review their prior knowledge of probability and calculations with fractions and decimals * Discuss real-life applications of probability, e.g. weather forecasting, financial investment and everyday decision making * Encourage your child to have the correct equipment for lessons, e.g. a pencil, ruler, calculator * Use [www.sparx.com](https://sparxmaths.com/)for support if needed. Teachers will have provided your child with a login and password * Encourage your child to show all their working out. If they have homework online, then encourage them to write down all their working out in their exercise books * Encourage your child to review their knowledge of percentage calculations * Discuss scenarios which incorporate tax, e.g. VAT calculations in weekly shopping, your jobs and payslips and how income tax and national insurance is calculated * Have discussions with your child around your own knowledge of purchasing a house * Encourage your child to have the correct equipment for lessons, e.g. a calculator |