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| **Core Knowledge Map** |
| Subject: Maths | Year: 8 | Term: 1 |
| What are we learning? |
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| **Unit 1: Ratio and scale** | **Sparx IL Code** | Sad face outline with solid fill | Nervous face outline with solid fill | Smiling face outline with solid fill |
| Use ratio notation  | M885 |  |  |  |
| Solve problems in the form 1:n or m:n | M543 |  |  |  |
| Divide in a given ratio | M525 |  |  |  |
| Express ratio in their simplest form | M885 |  |  |  |
| Express ratios in the form 1:n (H) | M543 |  |  |  |
| Compare ratios and related fractions | M267 |  |  |  |
| Use π as a ratio in circumference calculations | M169 |  |  |  |
| Calculate the gradient of a straight line (H) | M544 |  |  |  |

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| How will I be assessed  |
| Retrieval Tasks. Exit Tickets. Topic Test at the end of the unit. |
| Big questions: |
| Can you…?* give the ratio of boys to girls, in its simplest form, for a class that contains 18 boys and 12 girls.
* explain the purpose of ratios?
* explain why order is important in ratios?
* explain how ratios can be used, to compare more than two items?
* choose the bigger/better etc. one given two ratios in the form 1:n?
* explain how a ratio is affected or not affected by applying the four operations to each part?
* use bar models to represent ratios and manipulate them?
* simplify ratios, and explain what is meant by common factors?
* explain the similarities and differences between ratios and fractions?
* find the perimeter of a circle given its radius or diameter?
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| How does this build on previous learning? | How will this link to my future learning? |
| * Multiplication and division
* Use of bar models.
* link to the similarity (but also differences) of simplifying fractions
* finding common factors
 | * ratios will be studied again in Year 9
* Trigonometric ratios in Year 9 and GCSE
* ratio features notably in the GCSE course.
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| Core knowledge: | Key vocabulary: |
| * a **ratio** compares how much of one thing there are compared to another.
* A **ratio** is expressed in the form a : b where a and b are integers. You can have three or more part ratios eg a : b : c
* The **gradient** of a line tells us how steep it is.
* The **circumference** of a circle is the perimeter length.
 | RatioEqual partsFor everyProportionSimplifyShareCommon factorsEquivalent | PerimeterCircumferencePi (π)DiameterRight-angledGradientSlopeSteep |
| Need more help? Use the Sparx Independent Learning Codes above |