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| **Year 10 Term 1.2 - Maths** | |  | | | | | |
| **Enquiry Question: How so you cut a line or angle exactly in half?** | | | | | | | |
| **Unit title: Construction and Geometry**  **Why now?** This unit builds on work you did on **Shapes and Symmetry** in **year 7** and **Geometrical Reasoning** in **year 8** and **Circles** in **year 9**. You will explore how an understanding of shape allows you to do **precise mathematical constructions** that are important in many areas such as design and architecture. You will also learn to apply this knowledge to solving problems to do with where things have to be given certain restrictions. If you go on to study higher mathematics after GCSE you will explore these ideas again in more depth. | | | | | | | |
| **Knowledge**  Students will know about… | **Application/Skills**  Students will be able to… | | **Vocabulary**  *(Tier 2 and 3)* | **Home**  **Learning** | **Assessment** | **Extra Resources**  **Extended Reading** | **Cultural**  **Capital** |
| 1. The language of circles and drawing circles accurately 2. Triangles in intersecting circles 3. Congruence and proof 4. Rhombus and kite in intersecting circles and their properties 5. Applying this to construct perpendicular bisectors 6. Applying this to construct angle bisectors 7. Other constructions- triangles, angles, polygons 8. Loci, paths and regions using constructions 9. Problems involving loci | 1. Draw circles accurately. 2. Identify properties of shapes. 3. Construct a perpendicular bisector. 4. Construct an angle bisector. 5. Problem solve with constructions. | | ***Tier 2***  Construction  Point  Line  Regions  ***Tier 3***  Circle  Rhombus  Equilateral  bisector  perpendicular  loci/locus | **Pre-classroom:**  Pre-lesson tasks on **google classroom** to get you thinking.  Diagnostic questions  **Post-Classroom:**  Post lessons online tasks:   * My Maths * Google Form Quizzes * Independent learning notes | Summative Assessment at the end of T1. | **Enrichment:**  Can you try to construct a regular dodecagon and a pentagon. | **Cultural Capital:** The Oyster Travel Challenge  You begin your journey at point A at Brompton, in South West London.  Construct triangle ABC. The base AB is 4cm. Angle A is 77o and angle B is 69o.  Your next station is at point C.  Now construct triangle CDE using your point C. Base CD is 5cm. Angle D is 145o. DE is 3.5cm. Your next station is at point E.  Now draw the perpendicular bisector of CE. Your next station is 5.5cm upwards along this bisector.  You stop here, have lunch and then travel to Great Portland Street tube station.  6cm  **F**  **G**  **H**  6cm  4.5cm  Here construct the triangle FGH: Your next station is at point H.  Now draw the perpendicular bisector of FH.Your next station is 5cm upwards along this bisector.  From this station you get the tube to London Bridge, a large station overlooking the River Thames. This station is point J. Here, construct triangle JKL:Your destination is at point L!  9.7cm  **J**  0.7cm  3o  **K**  **L** |
| **Numeracy**  Product  Sum  Total  Add  Subtract  Difference |