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| **Key Topics and Learning Sequence** | | | | | | | |
| **= First Steps** | | **= Moving On** | | **= Stretch** | | **= Challenge** | |
| **1. Circles and triangles**   1. The language of **circles** 2. **Drawing** circles accurately 3. **Triangles** formed in circles 4. What is **congruence?** 5. How do you **know** two triangles are congruent? | **2. What’s special about a Rhombus and a Kite?**   1. What is a **rhombus?** 2. What are the properties of a rhombus? 3. How do two intersecting **identical** circles create a rhombus? 4. What happens if the **circles** are different sizes? 5. What’s the same and different between a **rhombus** and a **kite**? | | **3. Perpendicular bisectors and angle bisectors**   1. What is meant in maths by **construction**? 2. How can we use what we have already learned to construct a **perpendicular bisector** of a **line segment**? 3. How do you extend this to construct a perpendicular from a **point** to a **line**? 4. How do we use what we have already learned to construct an **angle bisector**? | | **4. More constructions**   1. Constructing an **equilateral** triangle. 2. Constructing a triangle given three sides 3. Constructing angles of 60, 30, 45 degrees. 4. Constructing a regular **hexagon** | | **5. Applying constructions to loci problems**   1. What do we mean by **locus** and **loci**? 2. **Equidistant** from a point, two points, two lines 3. Constructions in loci problems 4. Identifying **regions** in loci problems |
| **How does this unit fit into your mathematical learning journey?** | | | | **Further Exploration, Enrichment and Cultural Capital** | | | |
| This unit builds on work you did on **Shapes and Symmetry** in **year 7,** **Geometric 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 fields such as design and architecture.  If you go on to study higher mathematics after GCSE, you will explore these ideas again in more depth. | | | | **Enrichment:**  Construct a regular dodecagon and a regular pentagon. Research Islamic tiling patterns  **Cultural Capital:**  Take the Oyster Travel Challenge: details will be posted on Google Classroom. | | | |

**LPS Mathematics: Year 10 - Unit 7 Construction and Geometry**

**Enquiry Question:** “**How do you cut a line or an angle exactly in half?”**

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**Date: Initial Thoughts:**

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**Date: New Thoughts:**

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**Date: Final Thoughts:**

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