 **LPS Mathematics: Year 8 Unit 5 – Geometric Reasoning 1**

**Enquiry Question:** **Why are there 360o in a full turn?**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Key Topics and Learning Sequence** | | | | | | | | | |
| **= First Steps** | | **= Moving On** | | | **= Stretch** | | **= Challenge** | |
| **1. Angles**   1. Can define what an **angle** is. 2. Can define **acute**, **obtuse**, **reflex** and **right angles**. 3. Label an angle correctly **using notation**. 4. Know what the **angle sum** on a straight line is. 5. Know the angle sum **around a point**. 6. Know the history of the measurement of an angle. | **2) Measuring lengths and angles**   1. Use a **protractor** to measure and draw an acute angle. 2. Measure and draw obtuse angles. 3. Measure and draw reflex angles. 4. Measure a **line segment**. | | **3) Understanding what lines are**   1. Know what we mean by a **point**. 2. Can define a line, line segment and **line ray**. 3. Understand the links between line segments and an angle in terms of a **rotation**. 4. Know the history of the language in geometry. | | | **4) Understanding what parallel means**   1. Can define and draw parallel lines 2. Draw and identify a **transversal line** 3. Can reason to find opposite angles 4. Can reason to find **corresponding** and **alternate** angles 5. Can reason to find **supplementary** angle | | **5) Reasoning with angle facts**   1. Can find missing angles on a straight line 2. Can find missing angles around a point 3. Prove/Use the angle sum in a triangle 4. Can **apply** angle facts to other geometric shapes 5. Can find the angle between clock hands |
| **How does this unit fit into your mathematical learning journey?** | | | | **Further Exploration, Enrichment and Cultural Capital** | | | | | |
| **Reasoning** in mathematics is an especially important skill and one which is applied in many areas. You first developed this skill during your **proportional reasoning** unit in **Year 7** and later will reason when working on further algebraic and geometric topics you meet in **Year 9** and **Year 10.** | | | | **Reading:**  [**https://kids.britannica.com/kids/article/geometry/353174**](https://kids.britannica.com/kids/article/geometry/353174)  **Enrichment:** Explore the Babylonians   1. Explore who the Babylonians were 2. Explore their number system and why they chose it 3. Explore other forms of measuring angles apart from degrees   **Cultural Capital:**  Visit the Tate and go view artwork by the artist Piet Mondrian. How does this connect to this unit of work? | | | | | |

**Enquiry Question: Why are there 360o in a full turn?**

**Date: Initial Thoughts:**

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**Date: New Thoughts:**

**…………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**Date: Final Thoughts:**

**………………………………………………………………………………………………………………………**

**………………………………………………………………………………………………………………………**

**………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………**

**………………………………………………………………………………………………………………………**