 **LPS Mathematics: Year 8 Unit 6 – Grid Algebra II**

**Enquiry Question: Does every equation have a solution?**

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| **Key Topics and Learning Sequence**  |
| **= First Steps** |  **= Moving On** |  **= Stretch** |  **= Challenge** |
| **1. Order of Operations**1. Understand the **order of operations** with numbers using the grid.

 1. Build one and two-step **expressions.**
2. Build more complicated **expressions.**
3. Apply the correct order of **inverses** when **solving.**
 | **2. Equations and Identities**1. Understand the **= sign**
2. Know the notation **≡** used for **identities**
3. Know an **identity** is always true.
4. Can justify whether a statement is an **equation**, **identity**, or neither.
 | **3. Inverses**1. Know which **operations** are **inverses** of each other using the grid.
2. Find the **inverse** for a **one-step equation.**
3. Find the **inverse** for an **equation** with more steps.
4. Find the **inverse** for an **equation** involving **brackets** and **fractions.**
5. Find the **inverse** for an **equation** involving **reciprocals.**
 | **4. Solving Equations with a variable on one side**1. Fill in an unknown to make an **equation** true.

 1. Solve a **one-step equation.**
2. Solve an **equation** with multiple steps, including **brackets.**
3. **Form** and solve an **equation.**
4. Solve an **equation** involving **fractions.**
5. Solve an **equation** involving **reciprocals.**
6. Solve a **quadratic** from factorised form.
 | **5. Solving Equations with a variable on both sides**1. Solve a **two-step equation.**
2. Solve an **equation** with multiple steps.

 1. Solve an **equation** involving **brackets**
2. Solving an **equation** with a **variable** in the **denominator.**
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| **How does this unit fit into your mathematical learning journey?** | **Further Exploration, Enrichment and Cultural Capital** |
| This unit of work will build on what you learned in a previous unit called **Grid Algebra I** in Year 7. This unit will build on what you learned about equivalence of expressions to understand inverse operations and expressions. This will prepare you to apply Algebra in almost every area of mathematics and beyond. | **Reading/viewing:**  Listen to this Ted Talk on “x” <https://www.ted.com/talks/terry_moore_why_is_x_the_unknown?language=en> **Enrichment:** Explore **Fermat’s Last Theorem**, learn about who he was, why his **Last Theorem** was important, and find examples to demonstrate his **theorem.** **Cultural Capital:** Look at the Royal Institution Website and enjoy a family fun day exploring some interactive maths or listening to some talks! |

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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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