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| **Key Topics and Learning Sequence** | | | |
| **= First Steps** | **= Moving On** | **= Stretch** | **= Challenge** |
| **1. Calculating Probabilities**   1. Order events based on their **likelihood**      1. Know that probabilities **sum** to 1 2. Order events on a **number line** based on their probability 3. **Calculate** probabilities based on **data** in a table | **2. Combining Probabilities**   1. Know the difference between **dependent** and **independent** events 2. Know what **mutually exclusive** events are      1. Draw **Venn diagrams** to show how two events relate      1. Calculate the **probability** of event A **AND** B occurring and the **probability** of event A **OR** B occurring 2. Understand and be able to quantify **odds** and **risk** | **3. Tree Diagrams**   1. Draw, complete and interpret **frequency tree** diagrams 2. Draw a **tree diagram** representing a repeated event      1. Read and calculate the **probabilities** in a tree diagram 2. Draw a tree diagram with **different** events 3. Read and calculate these **probabilities** | **4. Conditional Probability**   1. Draw a tree diagram showing **dependent** events 2. Calculate probabilities for combinations of **dependent** events      1. Calculate **conditional probabilities** using the formula      1. Use **Venn diagrams** to calculate **conditional probabilities** 2. Explore more complex probability problems such as **Monty Hall** 3. Understand **probability and risk in real contexts** |
| **How does this unit fit into your mathematical learning journey?** | | **Further Exploration, Enrichment and Cultural Capital** | |
| This unit of work builds on your understanding of probability from both **year 8 and 9**, going into more detail on how to calculate probabilities and understand how to work with more complex events. This will lead onto more ideas in **year 11** and beyond. | | **Enrichment:** Read this article on Winning Odds, and find out about interesting ways to use an understanding of probability to create strategy!  [**https://plus.maths.org/content/os/issue55/features/nishiyama/index**](https://plus.maths.org/content/os/issue55/features/nishiyama/index)  **Cultural Capital:** Look at the Royal Institution Website and enjoy a family fun day exploring some interactive maths or listening to some talks!  [**https://www.rigb.org/families/family-fun-days**](https://www.rigb.org/families/family-fun-days) | |

**LPS Mathematics: Year 10 – Unit 8 Probability**

**Enquiry Question:** Given that climate change raises the Earth’s average temperature each year, what’s the probability that the temperature today is greater than this time last year?

**Date: Initial Thoughts:**

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**Date: New Thoughts:**

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**Date: Final Thoughts:**

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