| Subject | Year | Month | |
|---|---|---|---|
| **Mathematics** | 11 | September | Balcarras From strength to strength |

## Topic:

## Probability 2

4 lessons

Content (Intent)

| **Prior Learning** | **Future Learning** |
|---|---|
| Year 9 Probability April<br>Year 11 Probability 1 September | |

### Objectives

- Find the probability of an event happening using relative frequency;
- Estimate the number of times an event will occur, given the probability and the number of trials – for both experimental and theoretical probabilities;
- List all outcomes for combined events systematically;
- Use and draw sample space diagrams;
- Work out probabilities from Venn diagrams to represent real-life situations and also 'abstract' sets of numbers/values;
- Use union and intersection notation;
- Compare experimental data and theoretical probabilities;
- Compare relative frequencies from samples of different sizes;
- Find the probability of successive events, such as several throws of a single dice;
- Use tree diagrams to calculate the probability of two independent events;
- Use tree diagrams to calculate the probability of two dependent events.
- Draw probability frequency diagrams

| **Pedagogical notes (implementation)** | **How will understanding be assessed & recorded (Impact)** |
|---|---|
| Probability without replacement is best illustrated visually and by initially working out probability 'with' replacement.<br>Encourage students to work 'across' the branches working out the probability of each successive event. The probability of the combinations of outcomes should = 1.<br>Emphasise that were an experiment repeated it will usually lead to different outcomes, and that increasing sample size generally leads to better estimates of probability and population characteristics.<br>Probabilities written in fraction form should be cancelled to their simplest form. | **End of half term** no<br>**End of Year** Year 11 mocks in November<br>**How can parents help at home?**<br>**MathsWatch clips**<br>**Qualification KS3:** P5, P6, P7<br>**Qualification KS4:** 57, 58, 125, 126 151, 175, 185, 204 |

Further reading/discussion

| **Reading / Enrichment** | **Literacy** | **Numeracy Links** | **Careers Links** |
|---|---|---|---|
| http://passyworldofmathematics.com/real-world-venn-diagrams/ | | | Statistician<br>Bookmaker<br>Financial Analyst<br>Underwriter<br>Actuary |