



# just like us

EMPOWERING LGBT+ YOUNG PEOPLE

## Queer Eye Probability: dependent combined events

Session summary		Pupil context
<p>Pupils will learn about dependent events, using examples from the television programme <i>Queer Eye</i>. They will begin the lesson by revising independent events, combined events and sample spaces, by taking part in a fun race activity. After this you'll introduce them to independent and dependent events, before demonstrating how to solve dependent problems, and lastly giving them the opportunity to solve some themselves.</p>		<p>For KS4 pupils. They may have some familiarity with:</p> <ul style="list-style-type: none"><li>▸ mutually exclusive and independent events,</li><li>▸ conditional probability,</li><li>▸ sample spaces,</li><li>▸ tree diagrams,</li><li>▸ basic probability rules.</li></ul>
Session aims	Resources needed	Link to English curriculum
<ul style="list-style-type: none"><li>▸ Revise independent events, combined events, and how to use sample spaces.</li><li>▸ Identify independent and dependent events.</li><li>▸ Solve combined event problems using a probability tree.</li></ul>	<ul style="list-style-type: none"><li>▸ Presentation</li><li>▸ Racing track (on slides)</li><li>▸ Enough dice for pupils to use in pairs</li><li>▸ Worksheet</li></ul>	<p>Generate theoretical sample spaces for single and combined events with equally likely, mutually exclusive outcomes and use these to calculate theoretical probabilities (revision of KS3)</p> <p>Calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions (KS4)</p>
Link to Welsh curriculum	Link to Scottish curriculum	Link to NI curriculum
<p>Understand dependent and independent outcomes</p> <ul style="list-style-type: none"><li>▸ use relative frequency to test a given probability</li></ul>	<p>By applying my understanding of probability, I can determine how many times I expect an event to occur</p>	<p>Use tree diagrams to represent successive events that are not independent.</p>

<ul style="list-style-type: none"> <li>▸ complete a tree diagram for two or more independent events</li> <li>▸ use tree diagrams to calculate the probability of combined events</li> </ul>		
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### Preparation ahead of the session

- You may need to let pupils know about School Diversity Week: you can find explainer slides in our resource library.

Timing	Activity	Suggestions for differentiation
0-5	<b>Meet the Fab 5</b> <ul style="list-style-type: none"> <li>▸ Explain that the whole class is going to (pretending to) take part in Queer Eye - mathematically, that is.</li> <li>▸ Present the slides on the real Queer Eye, and say that the race that they're going to take part in is a bit more ... predictable.</li> <li>▸ Introduce the lesson aims.</li> </ul>	
5-15	<b>It's a race!</b> <ul style="list-style-type: none"> <li>▸ Ask each pupil to pick their person in the Fab 5 of choice, from the selection of twelve on the board. They can't switch their choice once it's made.</li> <li>▸ Explain that in pairs, they'll be taking turns to roll a pair of dice. Every time that person's number comes up, they move forward on the track.</li> <li>▸ Once the race is over, ask pupils to put their hand up if that person won.</li> </ul>	
15-20	<b>Combined events and sample spaces</b> <ul style="list-style-type: none"> <li>▸ Remind pupils of the definition of combined events.</li> <li>▸ Remind pupils about how to use a sample space.</li> <li>▸ Explore, using the sample space, why they could have predicted that some people were more likely to win. Which probabilities are more likely?</li> </ul>	For a foundation class, you could focus the full lesson on revising independent probabilities and sample spaces.
20-30	<b>Independent or dependent?</b> <ul style="list-style-type: none"> <li>▸ Define independent and dependent events.</li> <li>▸ Ask whether the dice roll activity was independent or dependent.</li> <li>▸ Ask pupils to work through a selection of problems and identify whether they are independent or dependent.</li> </ul>	

<b>30-40</b>	<b>Solving dependent probability problems</b> <ul style="list-style-type: none"> <li>▸ Explain how a dependent probability problem can be solved using a probability tree.</li> <li>▸ Model solving a dependent probability problem.</li> </ul>	
<b>40-55</b>	<b>Over to you!</b> <ul style="list-style-type: none"> <li>▸ Pupils work their way through a series of problems, identifying whether they are independent or dependent, and solving them.</li> </ul>	Selection of problems with varying complexity on the worksheet.
<b>55-60</b>	<b>Review</b> <ul style="list-style-type: none"> <li>▸ Match the key term to the definition.</li> <li>▸ An optional video to end - a <a href="#">lovely moment from Queer Eye</a>.</li> </ul>	