

<b>Lesson: Probability of a Boy</b>		
<b>Learning Objectives:</b>		
<ul style="list-style-type: none"> <li>Understand outcomes of events and concept of even chance.</li> <li>Investigate real data and make comparisons with theoretical outcomes.</li> <li>Start to comprehend conditional probabilities.</li> </ul>		
<b>Starter:</b> <b>Heads or Tails?</b> Pupils write on whiteboards their choice of H/T. Coin is tossed, 'losers' sit down. Play a few times. <b>Questions:</b> Did you get the same winner? Who is most 'lucky'? What would happen if ½ the class was always Heads?	<b>Pupils</b> Put choice of H/T onto whiteboard. Participate in game.	<b>Teacher</b> Tosses coin for pupils (you could also record outcomes on board for discussion). Manage game situation.
<b>Main:</b> Using 'Being born a boy' sheet. Pupils complete sheet and use internet for further investigation. Feedback on answers given.	<b>Pupils</b> Work through sheet. Discuss their answers and ideas with other class members.	<b>Teacher</b> Assist pupils in completing sheet. Facilitate class discussion. Direct pupils in further investigations.
<b>Plenary:</b> Either introduce the 'Monty Hall' problem (see links) or Investigate the probability of 2 male children. Use on either OHT and discuss or pupils produce own argument on sheet.	<b>Pupils</b> Attempt the problem set.	<b>Teacher</b> Choose appropriate plenary for the class, and discuss with pupils.
<b>Outcomes:</b>		
<b>All pupils will:</b> Participate in the starter activity, appreciate concept of 'even' chance.		
<b>Most pupils will:</b> Complete worksheets, begin to understand differences in theoretical v experimental probabilities.		
<b>Some pupils will:</b> Start to comprehend conditional probability, attempt/complete extension tasks.		
<b>Resources:</b> Being born a boy sheet, Too many boys sheet, internet/ printed resources, plenary sheet, whiteboards and pens, coin.		
<b>Classroom Management:</b> Whole class discussion, Individual answer to worksheet/s		
<b>Keywords:</b> Probability, Chance, Gender, Evens, Outcomes, Equally likely, Likelihood.	<b>KS3 Strategy Links/NC</b> Pgs 276-285 National Numeracy Strategy Key Stage 3 MA4 5) h/i/j	<b>Cross-Curricular Links:</b> Science (NC) 2 j/m/n/o ICT 1b) Finding things out Geography 1c) (Population Trends)
<b>Prior Knowledge:</b> Simple understanding of chance and likelihood.		
<b>Assessment of Learning:</b> Class discussion, answers to worksheets.		
<b>Extension Activity:</b> Look at the 'Monty Hall' problem. See links opposite.		
<b>Homework Ideas:</b> CensusAtSchool worksheet 'Too many boys.' <a href="http://www.censusatschool.ntu.ac.uk/files/toomanyboys.pdf">www.censusatschool.ntu.ac.uk/files/toomanyboys.pdf</a> (or see with lesson resources)		

Notes:

**Plenary:**

<http://mathforum.org/library/drmath/view/55640.html>

Monty Hall Problem Links.

The first explains the problem and gives a solution. The others link to applets and simulations.

<http://www.io.com/~kmellis/monty.html>

<http://www.stat.sc.edu/~west/javahtml/LetsMakeaDeal.html>

<http://www.grand-illusions.com/monty2.htm>

Your own notes/questions:

Notes on lesson/evaluation

