

**Year 8**  
**Maths**  
**Spring 2 Level Ladder**

**Topic: Data**

**All students are expected to master at least the Level 4 content by the end of the half term.**

**Check Arbor or ask your child what their current working and target level is in Maths**


**EG:**

4A - mastered all of the Level 4 content

4B - mastered some of the Level 4 content

4C - mastered all of the Level 3 content and beginning to master some Level 4 content

3	<p>Previous skills learned (for full examples see Year 7 - Level Ladder - Spring 2 - Data):</p> <ul style="list-style-type: none"><li>★ Students can construct and interpret pictograms</li><li>★ I can complete tally charts and frequency tables</li><li>★ I can select the relevant information for a problem</li><li>★ I can extract information given in lists, tables and diagrams</li><li>★ Construct a bar chart for the data in the table below:</li><li>★ Interpret a bar chart</li><li>★ I can construct and interpret Venn and Carroll diagrams</li></ul>
4	<p>Previous skills learned (for full examples see Year 7 - Level Ladder - Spring 2 - Data):</p> <ul style="list-style-type: none"><li>★ Plot a line graph</li><li>★ Put the results into a grouped frequency table.</li><li>★ Find the mode and range of the set of numbers</li><li>★ Find the mean and median of the set of numbers</li><li>★ Construct a frequency table for discrete data</li></ul> <p>New skills to master as well as consolidating any other Level 4 skills:</p> <ul style="list-style-type: none"><li>★ I recognise that some events are more likely than others</li></ul> <p>Compare the likelihood of seeing a red car or a pink car</p>

	<ul style="list-style-type: none"> <li>★ I can use the vocabulary of probability (certain, likely, unlikely, impossible)</li> <li>★ I can describe the likelihood of an event</li> </ul> <p>Describe the probability of you coming to school tomorrow</p>										
5	<p>Previous skills learned (for full examples see Year 7 - Level Ladder - Spring 2 - Data):</p> <ul style="list-style-type: none"> <li>★ Compare 2 sets of data using the range and one of the median, mode or mean</li> <li>★ Understand the mode, median, mean and range</li> </ul> <p>New skills to master as well as consolidating any other Level 5 skills:</p> <ul style="list-style-type: none"> <li>★ I can interpret pie charts and percentage bar charts</li> </ul> <p><b>If the whole pie chart represents 60 people, how many does the B section represent?</b></p>  <ul style="list-style-type: none"> <li>★ I can use the 0 to 1 probability scale</li> </ul> <p>Mark on a probability scale the probabilities of it raining on your school (a) in January (b) on 15th July</p> <ul style="list-style-type: none"> <li>★ I can find the probability when rolling a dice or tossing a coin</li> </ul> <p>What is the probability of getting a 5 when rolling a fair dice?</p> <ul style="list-style-type: none"> <li>★ I can find the probability of an event not happening</li> </ul> <p>If the probability of my team winning is <math>\frac{3}{5}</math>, what is the probability that they won't win?</p> <ul style="list-style-type: none"> <li>★ I can estimate the probability based on an experiment</li> </ul> <p>Of 20 cars entering the car park, 11 were red, 4 were silver, 3 were blue and 2 were green. Estimate the probability that the next car entering will be silver.</p>										
6	<p>Previous skills learned (for full examples see Year 7 - Level Ladder - Spring 2 - Data):</p> <ul style="list-style-type: none"> <li>★ Construct a frequency diagram for the data in the grouped frequency table</li> <li>★ Can calculate the mean from a frequency table</li> <li>★ Can construct and interpret line graphs</li> <li>★ Understand discrete and continuous data</li> <li>★ Can construct and interpret two-way tables</li> </ul> <p>New skills to master as well as consolidating any other Level 6 skills:</p> <ul style="list-style-type: none"> <li>★ Construct a pie chart for the data (favourite ice-cream flavours) here:</li> </ul> <table border="1" style="border-style: dashed; border-collapse: collapse; width: 100%; text-align: center;"> <thead> <tr> <th style="padding: 5px;"><i>Vanilla</i></th> <th style="padding: 5px;"><i>Choc-chip</i></th> <th style="padding: 5px;"><i>Mint</i></th> <th style="padding: 5px;"><i>Strawberry</i></th> <th style="padding: 5px;"><i>Rum n' Raisin</i></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">12</td> <td style="padding: 5px;">6</td> <td style="padding: 5px;">3</td> <td style="padding: 5px;">9</td> <td style="padding: 5px;">6</td> </tr> </tbody> </table>	<i>Vanilla</i>	<i>Choc-chip</i>	<i>Mint</i>	<i>Strawberry</i>	<i>Rum n' Raisin</i>	12	6	3	9	6
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	<p>★ I can record all the outcomes for 2 events List the possible outcome if I toss a coin and roll a dice.</p> <p>★ I can use the sum of probabilities being 1 If the probability of a home win is <math>\frac{6}{11}</math> and the probability of a draw is <math>\frac{3}{11}</math>, what is the probability of an away win?</p> <p>★ I can estimate the frequency of an event happening If I roll a fair dice 300 times, estimate the frequency of getting a 2</p>
7	<p>Previous skills learned (for full examples see Year 7 - Level Ladder - Spring 2 - Data):</p> <ul style="list-style-type: none"> <li>★ Use frequency tables of grouped data to estimate the mean</li> <li>★ Specify a hypothesis and test it by designing an appropriate survey sheet or experiment that takes bias into account.</li> <li>★ Find modal class of grouped data.</li> <li>★ Understand and use relative frequency.</li> <li>★ Plan data collection considering source, sample size and accuracy</li> <li>★ Use frequency tables of grouped data to estimate the median</li> </ul> <p>New skills to master as well as consolidating any other Level 7 skills:</p> <p>★ I understand relative frequency as an estimate of probability How would you estimate the probability that it will rain on 12th April?</p> <p>★ I can find the probability of 2 independent events occurring If you take a card from a standard pack and you roll a dice, what is the probability of getting two fours?</p>
8	<p>Previous skills learned (for full examples see Year 7 - Level Ladder - Spring 2 - Data):</p> <ul style="list-style-type: none"> <li>★ I can select and use suitable graphical representations for the results of a statistical enquiry.</li> <li>★ Select the most appropriate average for conclusions of an enquiry using comparison of averages to justify any conclusions made.</li> <li>★ Understand and calculate a moving average, also use moving averages to make predictions</li> </ul> <p>New skills to master as well as consolidating any other Level 8 skills:</p> <p>★ I can construct and use a tree diagram for 2 events The probability that I am late for work is <math>\frac{2}{9}</math>. Draw a tree diagram to show the probabilities of my being late or not late on two successive days. Use your diagram to find the probability that I will be late on exactly one of the two days.</p> <p>★ Use Tree Diagrams to calculate Conditional Probability</p>