

Ordered strictly alphabetically

p2 discreteGraph,

p2 frequencyTable, (frequency table, frequency tree and 2 way entry table)

p2 groupedGraph,

p3 MMRQgrouped, (mean, median, mode, range, quartiles)

p3 MMRQseparate, (mean, median, mode, range, quartiles)

p3 probabilitySingle,

p4 probabilityTree, (including list all possible ways to select 2 items)

p4 proportionalGraph, (pictogram + pie chart)

p4 scatter,

p4 stemLeaf,

p5 Venn,

## discreteGraph

8. state what is wrong with a given graph e.g. missing title on axes, missing or wrong values on an axis, missing key etc.
6. given dual column table or side-by-side or back-to-back bar (i) complete and/or (ii) interpret e.g. how many A or how many more/fewer A than B or which category has the same/a given frequency
5. interpret bar or line graph - must find the frequency total
4. complete bar or line graph - frequencies are between labels on axis
3. interpret bar or line graph - frequencies are between labels
2. complete bar or line graph - only frequencies which are labelled on axis
1. interpret bar or line graph - only frequencies which can be read off axis labels

## frequencyTable

11. word problem which is easy to solve by drawing a 2 way entry table or frequency tree
10. complete frequency tree or 2 way entry table and then answer a probability question {not conditional}
9. complete 2 way entry table
8. complete frequency tree {one data item is sum of two cells}
7. complete frequency tree {each data value given is for only one cell}
5. interpret 2 way table - find probability {sum of row or column}
4. interpret 2 way table - find probability {individual cell}
3. complete tally and frequency table
2. **scaffold to** complete tally and frequency table **scaffold is** tally is partially completed
1. **scaffold to** complete tally and frequency table **scaffold is** given either tally or frequency

## groupedGraph

1. draw a frequency polygon given a (grouped data) frequency table

## MMMRQgrouped

6. estimate mean given frequency table {of continuous data}
5. state mean given frequency table {of discrete numerical data}
4. **scaffold to** state mean given frequency table {of discrete numerical data} **scaffold is** extra columns to calculate sub total
3. state median and mode or range given frequency table {of discrete numerical data}
2. **scaffold to** state median and mode or range given frequency table {of discrete numerical data} **scaffold is** encouraged to write out all data values
1. from line graph or bar chart or table or pictogram or pie chart state the mode

## MMMRQseparate

12. complete 5 fig summary and work out range and IQR {un-ordered data}
11. complete 5 fig summary and work out range and IQR {ordered data}
9. state mean of unordered data items
7. state median {even number} of unordered data items
5. state range of unordered data items
3. state median of {odd number} of unordered data items
2. state mode or modes of unordered data items

## probabilitySingle

14. estimate {expected value} given incomplete table of probabilities and number of trials
13. find missing probability given incomplete table of probabilities
11. write down probability of **not** a single event {probability is e.g. 0.3}
9. which is best estimate of probability {different number of trials} and explain why
8. state probability of event in words {using general knowledge} using only: impossible, likely, evens, likely, certain
7. show probability of single event on probability line
6. state probability of event in words {which is possible to calculate numerically} using only: impossible, likely, evens, likely or certain
5. write down probability of **not** an event {no diagram}
4. **scaffold to** show probability of single event on probability line **scaffold is** given suitable but incomplete fraction labels {diagram for all experiments except regular dice}
3. write down probability of single event **harder** because no diagram
2. write down probability of single event **easier** because diagram shows all possible outcomes
1. **scaffold to** label probability line with decimals, percentages and fractions **scaffold is** some labels are given

## probabilityTree

6. given information about 2 independent events **either** complete an incomplete tree and give probability of one outcome **or** state the errors in an incorrectly labelled tree
5. find a probability of 2 independent events given tree and probabilities on all branches
2. **scaffold to** calculate combined probability of 2 independent events **scaffold is** given a 2 way entry table labelled with outcomes of each event
1. systematic list all possible outcomes e.g. 3 starters and 2 mains

## proportionalGraph

8. draw pie chart given frequency table {NC easy scale factor}
7. complete pictogram where  $1/2$  and/or  $1/4$  symbols are required
5. interpret pictogram with  $1/2$  and  $1/4$  symbols {questions may also include finding total or back to back}
3. complete pictogram - only whole number of pictogram symbol {complete tally first for some questions}
2. interpret pictogram - only whole number of pictogram symbol
1. **scaffold to** interpret pictogram - only whole number of symbols **scaffold is** encouraged to write e.g. dots or T T for 20 inside symbol

## scatter

3. interpret scatter {easy scale} estimate value {expected to draw and use line of best fit}
2. complete and interpret scatter: plot two extra points {easy scale} and state what kind of correlation shown

## stemLeaf

9. interpret stem and leaf diagram find: interquartile range, median, mode, probability less or greater than a value, range {harder key e.g.  $2|5 = 250$  or  $2.5$ }
7. draw and interpret stem and leaf diagram find: median, mode, probability less or greater than a value, range {harder key e.g.  $2|5 = 250$  or  $2.5$ }
6. interpret a stem and leaf diagram, find: median, mode, probability less or greater than a value, range {harder key e.g.  $2|5 = 250$  or  $2.5$ }
5. interpret/draw a stem and leaf diagram, find: median {odd number of items}, mode, probability less or greater than a value, range {data only TU}
3. **scaffold to** draw stem and leaf diagram {data only TU} **scaffold is** given rough and neat grid and reminded to write a key
2. **scaffold to** draw stem and leaf diagram {data only TU} **scaffold is** given first few items placed into rough stem and leaf
1. **scaffold to** interpret a stem and leaf diagram: write out all data long-windedly {data only TU} **scaffold is** given reminder and grid to write values in

## Venn

13. complete Venn diagram when e.g.  $A = \{\text{multiples of 3}\}$  and  $B = \{\text{factors of 12}\}$
12. complete Venn diagram given clues involving  $A \cap B$  and /or  $A \cup B$
11. solve word problem using Venn diagram and clues
10. find probability {simple not conditional} from Venn diagram
7. complete Venn diagram when  $A = \{\text{given}\}$ ,  $B = \{\text{given}\}$  and  $\xi = \{\text{given}\}$
4. complete  $A \cap B = \{\text{a list of all elements}\}$  or spot the errors
3. complete e.g.  $A'$  or  $B' = \{\text{a list of all elements}\}$  or spot the errors given a complete 2 loop Venn diagram
2. complete e.g.  $\xi$  or  $A$  or  $B = \{\text{a list of all elements}\}$
1. **scaffold to** add one more shape/word to a Venn diagram and begin to understand  $\in$   
**scaffold is** Venn diagram with just one set and teacher writes “is a member of ”