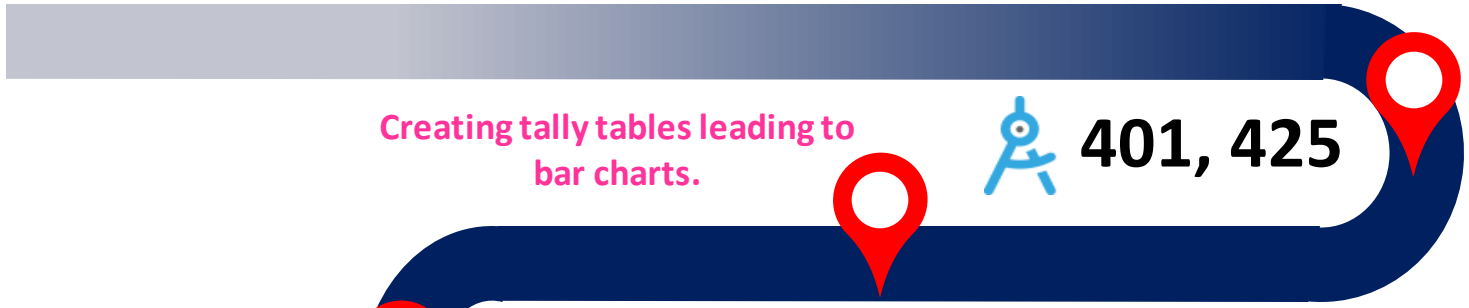
DATA

YEAR 7 AUTUMN 1: Presenting and interpreting data

Prior learning:

- Interpret and construct pictograms (year 3)
- Read timetables (year 4)
- Interpret and construct pie charts and line charts (year 6)
- Calculate and interpret mean as an average (Year 6)



Creating tally tables leading to bar charts. 401, 425

Interpret diagrams that display data. 425-427

Construct a pie chart. 427-429

Calculating the mode, median and mean of a set of discrete data. 404-409

Combined average questions. 413, 419

Calculate the range from a set of data. 410

Problem solving with averages. 419-421

Compare sets of data using average and range. 413, 419

Averages from frequency tables. 414-418

Next steps:(Year 9 AUT2)

- Calculate and interpret averages from grouped frequency tables
- Moving averages
- Extrapolate and interpolate form scattergraphs

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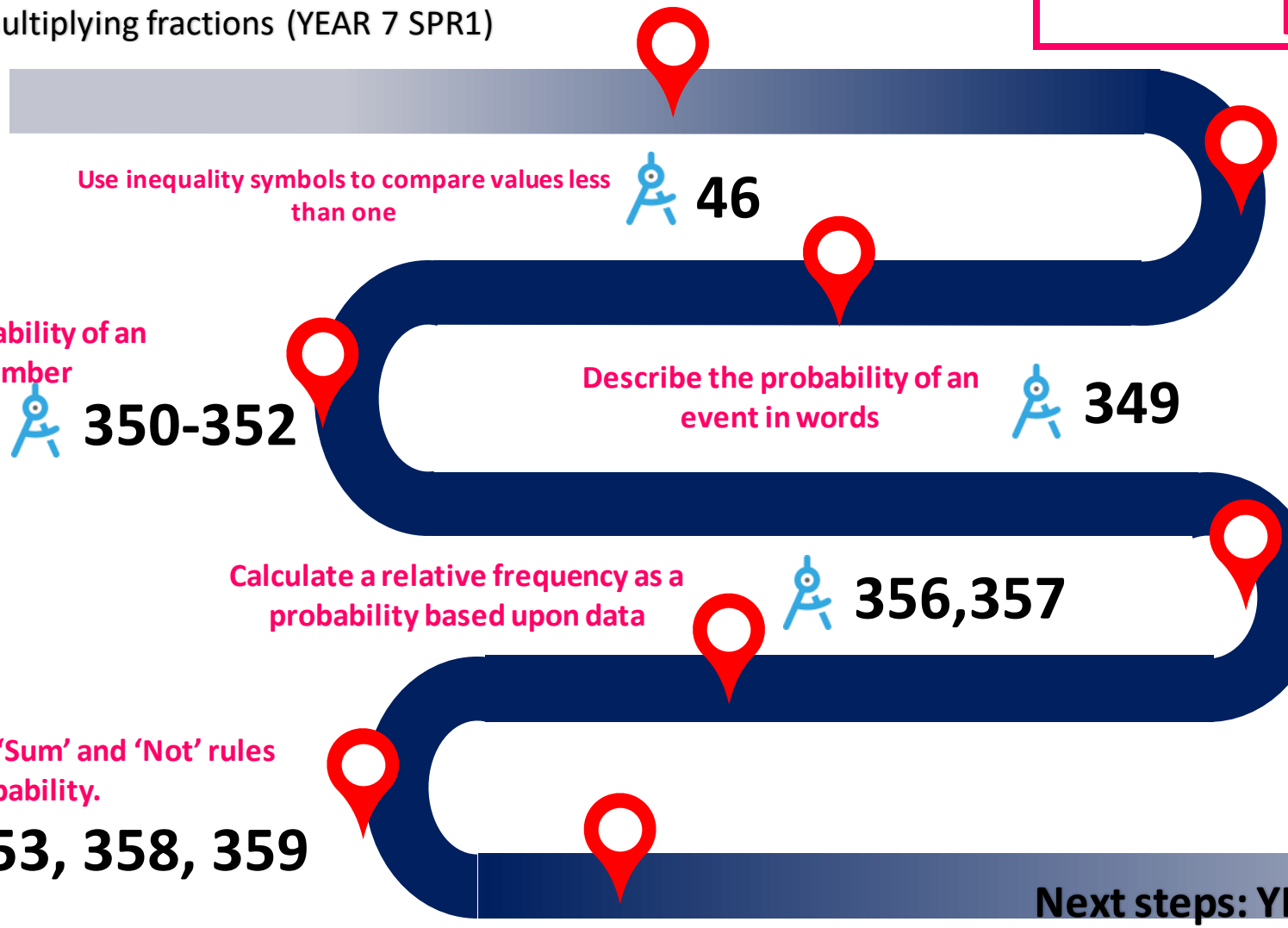
YEAR 7 SUM2 Introducing Probability

Prerequisite learning:

- Adding and subtraction of decimal values less than 1 (year 7 AU1/2)
- Compare and order fractions (YEAR7 AUT2)
- Adding and multiplying fractions (YEAR 7 SPR1)



What is probability?

Use inequality symbols to compare values less than one 46

Describe the probability of an event in words 349

Describe the probability of an event as a number 350-352

Calculate expectation based on probability values 355

Calculate a relative frequency as a probability based upon data 356,357

Calculate using the 'Sum' and 'Not' rules of probability. 353, 358, 359

Calculate using the 'Or' rule for mutually exclusive events 360

Next steps: YEAR 8 SPR2

- Use two-way tables to find probability of two events.
- Use a Venn diagram to sort overlapping events.
- Calculate probabilities from a Venn diagram.

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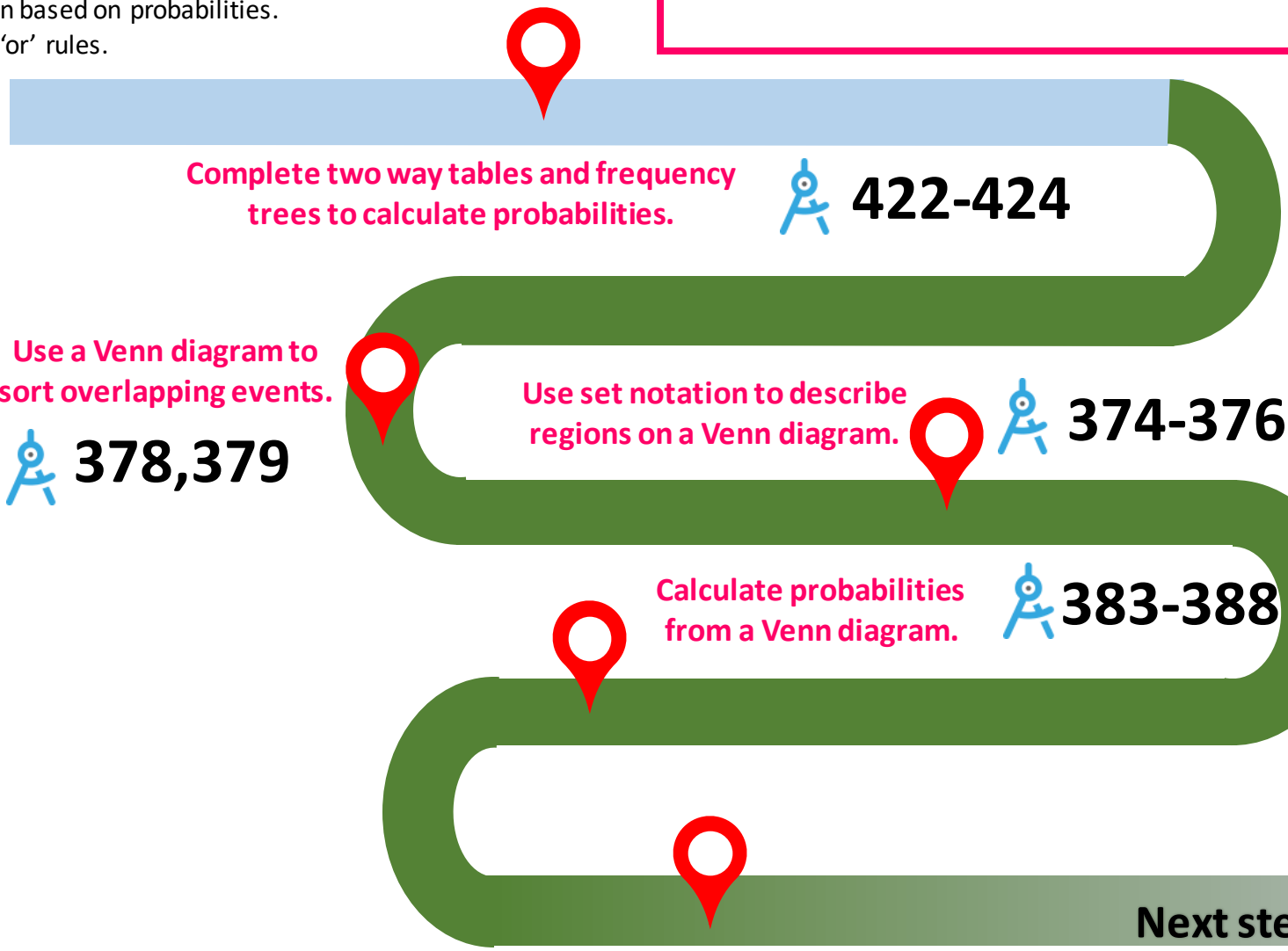
YEAR 8 SPR2: Further probability

Prerequisite learning: YEAR 8 AUT2

- Describe the probability of an event in words.
- Describe the probability of an event in numbers.
- Calculate expectation based on probabilities.
- Use ‘sum’, ‘not’ and ‘or’ rules.



Complete two way tables and frequency trees to calculate probabilities. 422-424

Use a Venn diagram to sort overlapping events. 378,379

Use set notation to describe regions on a Venn diagram. 374-376

Calculate probabilities from a Venn diagram. 383-388

Use the ‘or’ rule for two events that are not mutually exclusive. 359,360

Next steps: YEAR 10 ROUTE A and B

- Draw tree diagrams to show probabilities.
- Calculate probabilities from tree diagrams.

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YEAR 9 AUT1/2: DATA

Prior learning:

- Plotting coordinate points in all quadrants (YEAR 4-6)
- Simple frequency graphs and bar charts (YEAR 6, YEAR 7 AUT1)
- Calculating averages (YEAR 7 AUT1)

Use correct notation for time in the 12 and 24 hour clock.

Use correct statistical terminology to describe data and its collection.

392,393

422-424

Design and use two way tables.

Construct and interpret a variety of charts and graphs, including histograms with equal width

425,426,441

Construct and interpret stem and leaf diagrams.

430-433

402,403, 414-418

Calculate mean, median, mode and range from a frequency tables, and stem and leaf diagrams using discrete and continuous data

Mean, median, mode and range revisited.

404-410

450-452

Construct time series and interpret moving averages

Discuss reliability of data, extrapolation and interpolation.

Construct and interpret pie charts.

427-429

Draw scatter graphs and identify outliers. Describe correlation and estimate using a line of best fit.

453,454

Next steps:

- Interpretation and reasoning of statistical diagrams.
- Cumulative frequency, including inter-quartile range..
- Histograms

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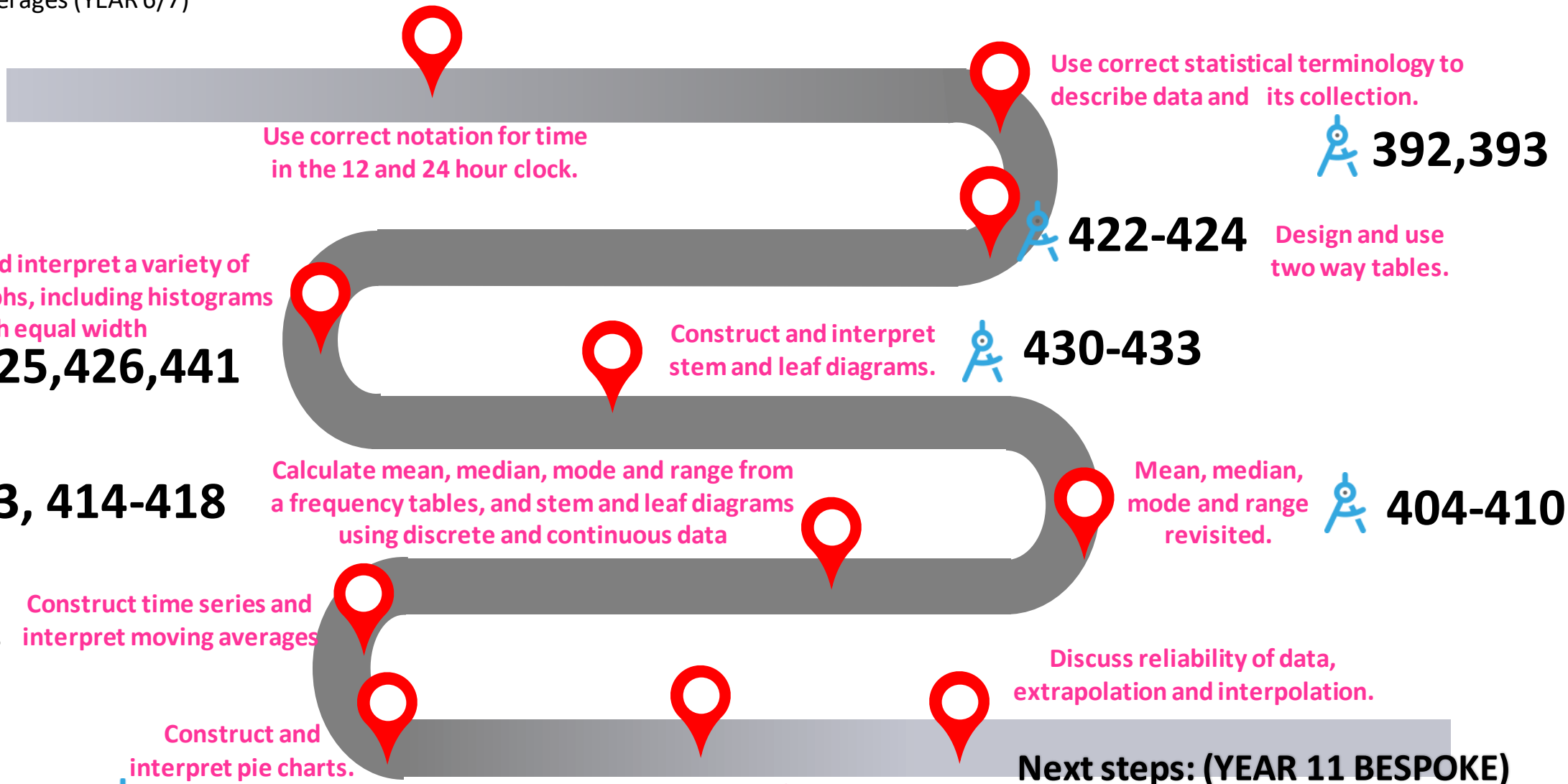
YEAR 10 ROUTE A

DATA HANDLING: YEAR 10 ROUTE A AUT 2

Prior learning:

- Simple frequency graphs and bar charts (YEAR 3/4)
- Reading tables including timetables (YEAR 4)
- Calculating averages (YEAR 6/7)



Next steps: (YEAR 11 BESPOKE)

- Interpretation and reasoning of statistical diagrams.
- Cumulative frequency, including inter-quartile range..
- Histograms

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YEAR 10 ROUTE B

Prior learning:

- Calculating averages and range from frequency AND grouped frequency tables (YEAR 9 AUT 2)

YEAR 10 ROUTE B AUT2
DATA HANDLING

Statistical vocabulary and definitions, including sample, population and bias. 394

Construct and interpret cumulative frequency diagrams. 437-439

Cumulative frequency diagrams, find the median, interquartile range, greater than or less than. 437-439

Compare the mean, range, median and interquartile range of two distributions. 437-439

Interpret and construct box plots. 434-436,440

Find range, median and interquartile range to draw conclusions from box plots.

443-449 Construct and interpret histograms with unequal widths.

Estimate the median from a histogram with unequal widths.

Understand and use frequency density. 443-449

Next steps:

- Apply and use these statistical analysis skills in other subjects (geography/biology/psychology)

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YEAR 11 ROUTE A

Prior learning:

- Describing probability using words (YR7 SUM2)
- Understand how probability can be described in fractions, decimals and percentages (YR7 SUM2, YR8 SPR2, YR10 AUT2))

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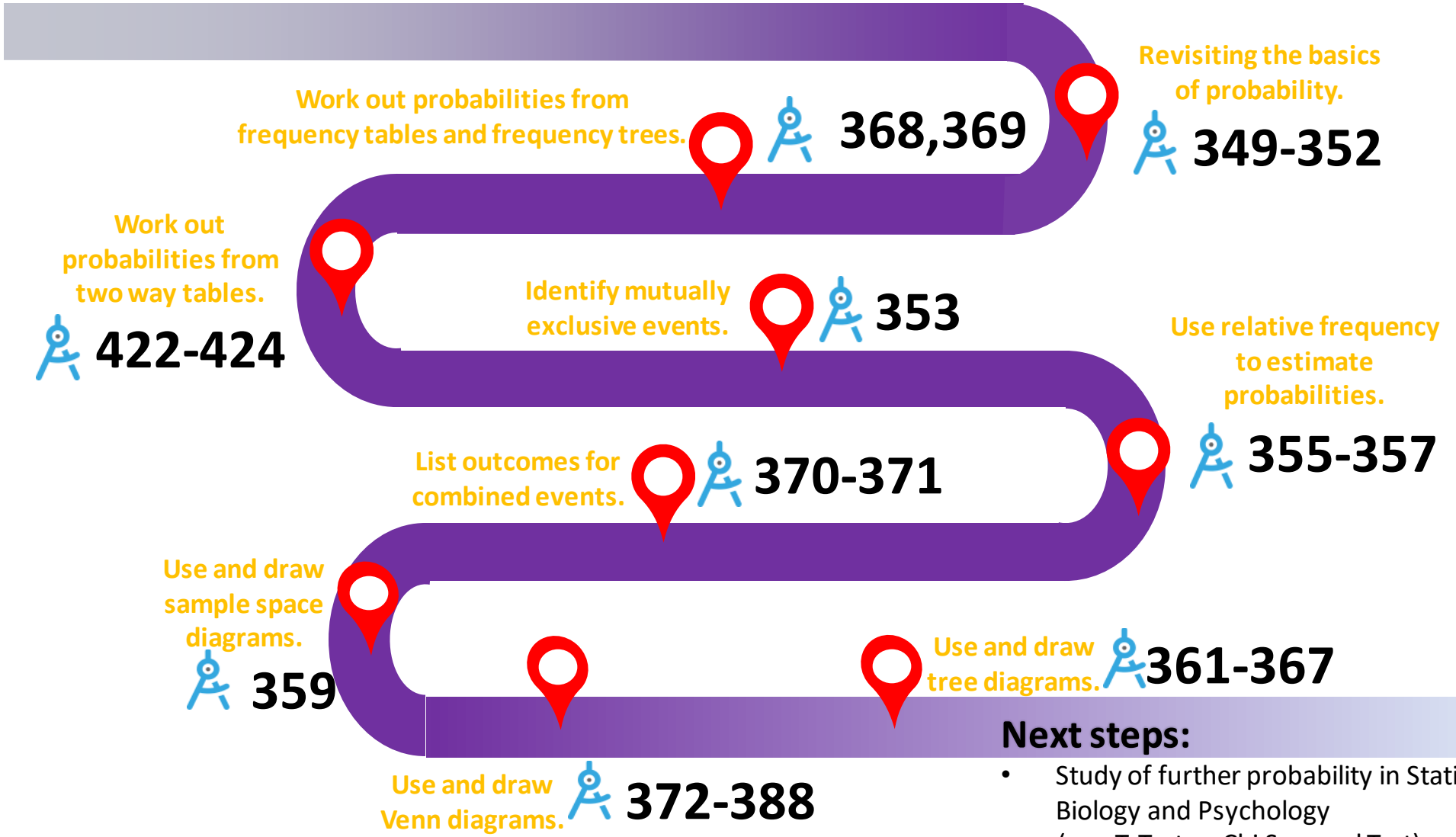
Probability



Next steps:

- Study of further probability in Statistics, Geography, Biology and Psychology
(e.g. T-Test or Chi Squared Test)

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Prior learning:

- Basic probability, including simple vocabulary (YR7 SUM2)
- Calculations with fractions, decimals and percentages (YR 7 AUT 1, YR8 SPR2)
- Construction of two way tables (YR 9 AUT1/2)

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- Probability, Venn diagrams and tree diagrams

Understand and use experimental and theoretical probability. 355

Draw and use a sample space diagram. 358-359

Draw and use a Venn diagrams for probability and sets. Use union and intersection notation. 372-388

Draw and use a two-way table for probability, including solving algebraic problems. 422-424

Understand conditional probabilities and decide if two events are independent. 361

Draw and use a probability tree diagram. 362-367

Use diagrams to calculate conditional probability. 389-391 422-424

Compare experimental data and theoretical probabilities from samples of different sizes. 356,357

Next steps:

- Comparing probability distribution tables (geography)
- Chi-squared test (biology) and T-Test (psychology)
- Venn diagrams for characterization (English)

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