This guide will help you through the processes of planning, collecting appropriate field data, then analyse data to generate hypotheses. Test each hypothesis by other approaches into a geographical enquiry.

There are other valid approaches to fieldwork. It although this is not essential (e.g. numbers, sizes or frequencies).

Quantitative data: Data that records quantities. It affects how the findings can be applied.

Representative sampling: The sample is selected so that the population is equally likely to be included.

Non-probability sampling: For some qualitative methods like interviews, it may be impractical or unethical to use probability sampling. Non-probability sampling, the sample is selected through the subjective judgment of the researcher.

Geographical enquiry involves:

• Enquiry approach to help you structure your independent investigation.

• Geographical investigations: The investigation approach to help you structure your independent investigation.

• Geographical enquiry: data collection

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Enquiries are driven by curiosity. What would you like to know about that would involve you

Geographical questionnaire or qualitative?

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This guide will help you through the processes of planning, collecting and planning the overall marks in A level Geography.

**Data**

Possible strategies include sound mapping, back-deprive other senses, perhaps with a blindfold, to sensory fieldwork analysis and coding. Here the evidence can be images and film. Places can also be explored using creative writing, Discovery fieldwork includes ethnographic study of people and places. You take a structured but unplanned journey by making observations, taking photographs or making notes. This guide takes the enquiry approach to help you complete your Independent investigations.

**Enquiries are driven by curiosity.** What would you like to know about the world and why? Are things associated with each other? *e.g.* Do people with any particular characteristics (e.g. gender, age) have any particular housing characteristics (e.g. accommodation type, tenure)?**Do you need to make a hypothesis to begin your investigations?**

**Aims and hypotheses**

Are things different from each other? *e.g.* does the type of coastal zone vary between different parts of the region? Are things associated with each other? *e.g.* does the amount of rainfall in one month affect the number of rivers in that month?**Are things changing over time?**

**Secondary data**

Secondary data is the process of collecting data from existing sources. It affects how the findings can be applied. It is the data that you have collected yourself, PRIMARY data.

**Primary data**

Primary data are the data that you collect yourself, for example: interviews, questionnaires, observations, etc.

**Observations**

Observations are the things you observe while conducting research. Observations are a type of interview involving asking participants questions face to face or by telephone, in a focused discussion.

**Questionnaires**

Questionnaires are a type of survey involving asking a large sample. They are useful for gathering data on people’s perceptions and experience of the characteristics of the population.

**Interviews**

Interviews involve a smaller sample than questionnaires. They can gather more in-depth information. Focus groups are a type of interview involving selecting a group of respondents and examining their views on a particular topic in a focused discussion.

**Sampling**

Sampling is the process of collecting data. There are different methods in order to obtain a representative sample of the population. It is applied to studies using both qualitative and quantitative methods.

**Population**

The whole group of people from which a sample is chosen, e.g. the general public, students.

**Sample**

A selected portion of a population, e.g. a group of 100 people in 100 people in a town.

**Total population**

The whole group of people from which a sample is chosen, e.g. the general public, students.

**Random sampling**

This is where each member of the population has an equal likelihood of being included.

**Stratified sampling**

This is where the population is divided into smaller groups (e.g. by age, gender) and samples are taken from each group.

**Non-probability sampling**

For some qualitative methods like interviews, it may be more appropriate to use non-probability sampling. The sample is selected through the subjective judgement of the researcher.

**Convenience sampling**

Convenience sampling is where people who are easy to reach, e.g. going out to a questionnaire to the first 100 people you see on a particular morning, are taken in your sample.

**Open questions**

Open questions allow people to write down their own answers. For example: Why did you choose A level Geography? The answers are detailed text. The collated data is qualitative.

**Closed questions**

Closed questions are limited to single answers. For example: 'High Street is safe at 11 in the evening?' Answers: Yes / No / I don’t know.

**Bias**

Bias refers to an inclination or prejudice towards or against a particular characteristic or group. It affects how the findings can be applied.

**Representative**

A sample is chosen which is representative of the population. This means that the sample results are likely to be applicable to the whole population.

**Other approaches to fieldwork**

- Sensory fieldwork
- Sound mapping
- Back-deprive other senses
- Ethnographic study of people and places
- Discovery fieldwork
- Creative writing

**Data collection**

The aim of probability sampling is to select a sample which is representative of the population. There are three techniques:

- Random sampling
- Stratified sampling
- Convenience sampling

**Data presentation technique**

Graphs are an effective way of presenting information. They can be used to show relationships between variables, trends in data and patterns. There are many different types of graph used in Geography. Scattergraphs are a data presentation technique.

- Scatter graph
- Line graph
- Pie chart
- Bar chart
- Pie chart

**Enquiry investigations**

Be rigorous: how did you avoid damaging the environment or causing offence? Did you have consent to carry out observations?

Be critical: did you consider the timing of your observations, your mobility, etc.? Have you taken enough data?

Be reflective: did you consider how you avoided damaging the environment or causing offence? Did you have consent to carry out observations?

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Analyzing quantitative data

Spearman's Rank Correlation Test

### Conclusion

- **Significance**: Significance testing finds the probability that any patterns in the data are due to chance. Test the null hypothesis, i.e. there is no relationship.
- **Check**: If your findings are statistically significant by comparing calculated value with critical value. A significant level of α = 0.05 means that there is less than a 5% probability that the variations or patterns observed in the data are due to chance.

#### Analyzing qualitative data

Qualitative information (such as interviews, questionnaires, open-ended writing and filing) can be analyzed objectively.

### Frequency analysis

**Example**: Analyze data that involves a particular theme. For example, in a series of 46 interviews, the critical value of the two different methods is calculated.

#### Thematic analysis

**Example**: Thematic analysis helps you to look for recurring themes within your data. Coding is a useful technique for organizing your data.

#### Descriptive coding

Describe coding the response several times and then analyze each of the themes. For example, a series of 6 interviews consists of a single word or short phrase.

#### Analyzing your data

You group together in a few related themes.

#### Exploring considerations

**Be rigorous**: Can you provide a mathematical analysis of your data? Qualitative data merely interpret the information. Distinguish between null and alternative hypotheses.

**Be critical**: Can your results statistically describe and interpret data? What statistical significance is supported by the evidence?

**Analyze**: Can you answer your questions with confidentiality and anonymity in analyzing the results?

### Data presentation

#### Normal distribution

- **Symmetrical bell-shaped curve**
- **Data measurements plotted on a frequency histogram.**
- **The mean is in the middle, with equal numbers of values above and below the mean.**

#### Uniform distribution

- **Data measurements that do not follow a bell-shaped curve.**
- **The mean is in the middle, with equal numbers of values above and below the mean.**

#### Lognormal distribution

- **Data measurements that follow a bell-shaped curve.**
- **The mean is in the middle, with equal numbers of values above and below the mean.**

#### Skewed distribution

- **Data measurements that follow a bell-shaped curve.**
- **The mean is in the middle, with an equal number of smaller and larger values represented.**

#### Frequency analysis

- **Histogram**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Bar chart**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Pie chart**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.

#### Data analysis

- **Chi-squared test**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Mann-Whitney U Test**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Spearman's Rank Correlation Test**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.

#### Significance

- **Describing your results**: Write a commented description of the patterns, trends or relationship in your results. Make comparisons between the groups of people or data measurement scales used in your study.
- **Calculating the mean ± standard deviation**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Interquartile range or mean ± standard deviation**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Reporting**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.

#### Evaluating your methods

- **Evaluating your results**: Tree value that was obtained in an ideal measurement.
- **Critical analysis**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Chi-squared Test**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Mann-Whitney U Test**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.
- **Spearman's Rank Correlation Test**: The mean is the area under the distribution curve. The mean is the distance between the highest and lowest value.

#### Exploring considerations

- **Be rigorous**: How you address the key findings of your study. Describe any statistical analysis used.
- **Be critical**: Have you conducted your hypothesis test correctly? Are your results statistically significant? Is there a threat to the validity of your study?
- **Analyze**: Have you answered your questions with confidentiality and anonymity in analyzing the results?
Interquartile range or the standard deviation. If the data are normally distributed, use the traditional bell-shaped curve. Normal distribution is the symmetrical bell-shaped curve. The spread of data around the mean is measured here. If the variable has an interval or ratio scale and the data are normally distributed, use the interquartile range or the standard deviation. If the data is skewed, use the interquartile range. The value which occurs most often is the mode. The sum of the absolute differences from the mean is the mean absolute deviation. The spread of data around the mean is measured here. The value which occurs most often in a large series of observations is the mode. From a large series of observations, the median is the part of the range that contains 50% of the cases. From a large series of observations, the mean is the part of the range that contains 50% of the cases. Suitability for variables with a nominal scale. The median is the value that is in the middle of a range of values. The interquartile range is the part of the range that contains 50% of the cases. The median is the value that is in the middle of a range of values. The mode is the value which occurs most often. The median is the value that is in the middle of a range of values. The interquartile range is the part of the range that contains 50% of the cases. The mode is the value which occurs most often. The median is the value that is in the middle of a range of values. The mode is the value which occurs most often. The interquartile range is the part of the range that contains 50% of the cases. The median is the value that is in the middle of a range of values. The interquartile range is the part of the range that contains 50% of the cases. The median is the value that is in the middle of a range of values. The mode is the value which occurs most often. The interquartile range is the part of the range that contains 50% of the cases. The median is the value that is in the middle of a range of values. The interquartile range is the part of the range that contains 50% of the cases. The median is the value that is in the middle of a range of values.