Examples of fieldwork techniques in VCE Environmental Science

A variety of data generation and collection techniques relevant to fieldwork in VCE Environmental Science should be undertaken in VCE Environmental Science. Examples of five fieldwork techniques applicable to Units 1 to 4 are shown in the table below.

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| **Technique** | **Purpose** | **Examples** |
| Counting | A simple technique that does not require expensive equipment, involving the generation of data to be plotted as pie charts or bar graphs. | * Unit 1: counts associated with citizen science projects such as birds/frogs/bats
* Unit 2: macroinvertebrate counts to assess water quality
* Unit 3: litter counts to evaluate management strategies that address human impacts on ecosystems
* Unit 4: energy use surveys such as number of solar panels per household in a community
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| Measuring | Involves specialised equipment to generate data that may be plotted as bar graphs, line graphs or scatter plots. | * Unit 1: soil moisture content – weigh different soil samples before and after slowly drying them out in an oven
* Unit 2: water quality – salinity, pH, dissolved oxygen, temperature
* Unit 3: height of beach sediment on either side of groynes placed as a management strategy to minimise beach erosion
* Unit 4: measurement of the energy content of samples of different types of fuels
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| Environmental quality surveying | Uses an observer’s judgement to assess environmental quality against a range of indicators, often working on a sliding scale or a bi-polar scale and requiring moderation/ debriefing to reduce effects of subjectivity of the assessment. | * Unit 1: use of a class-developed sliding scale from 1 to 5 to assess river quality: clear water with visibility to the bottom = 5 through to muddy water with no visibility beyond 1 cm depth = 0
* Unit 2: use of a class-developed sliding scale to assess noise pollution: no appreciable noise = 5 through to intolerable noise = 0
* Unit 3: use of a bi-polar scale to indicate positive assessment through to negative assessment: cultural services (aesthetic values) provided by a specified ecosystem with a positive/inspiring place = +3, a place that evokes no feelings = 0, and a negative/depressing place = –3
* Unit 4: use of a sliding scale to assess the rehabilitation of sites from which energy has been sourced with no improvement being 0 to a graduated scale up to 5 being highly improved environmental outcomes
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| Sketching and photography | A snapshot of a landscape can be taken, either by drawing or with a camera, to provide qualitative data about what a place is like at a particular time and may include annotations. | * Unit 1: comparison of older photographs of a location with current sketches or photographs to determine how the location has changed over time
* Unit 2: photographs of air pollution strips in different locations
* Unit 3: comparison of ‘before’ and ‘after’ sketches or photographs at the same location to show the effects of an environmental management strategy
* Unit 4: qualitative comparison of the extent to which coastlines have retreated and eroded over time
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| Questionnaires and interviews | Used to gauge public opinion about environmental issues, attitudes and practices. | * Unit 1: recycling practices in the home
* Unit 2: attitudes to locally grown and imported raw food and/or food products
* Unit 3: stakeholder opinions about a proposed development
* Unit 4: opinions about whether to introduce a carbon tax
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