**Quadrat (open & divided)**

- A square, often ready made, of a specific size eg 0.5m²
- Marks out a specific area to count different things eg litter, size of pebbles, vegetation type
- Can be subdivided into smaller squares and can be used to work out the proportion of different things eg % of open space, % of sand, shingle, rock, % of different plants
  - Ready made quadrats are quick and easy to use
  - Using a specific marked out area helps make your survey sites/method more standardized and reproducible.
  - Can be difficult to find a standardised system to place quadrats & introduces bias
  - Can eliminate a lot of results found just outside the quadrat
  - Counting creates quantitative data but is open to human error especially %

**Flow Meter**

- A pole with paddles at the end which digitally records the speed they turn eg meters per second (units can often be changed to suit)¹
  - Can be used to measure water flow and wind speed in a standardized way
  - Produces quantitative data so can be plotted on a graph
  - Quite simple to use
  - However, can be difficult to places to ensure wind/water flow is not interrupted / paddles can get blocked & give slower results.
  - Equipment specialist & expensive

**Decibel Reader**

- A handheld devise that records sound levels in decibels eg in environmental surveys
  - Provides quantitative data of noise levels to compare different areas.
  - Using the same piece of equipment makes method more standardized
  - Quite simple & quick to use
  - However, can be difficult read the dial that reacts very quickly to changing noise levels.
  - Equipment specialist & expensive

**Anemometer**

- A handheld digital devise that records wind speeds eg in coastal investigations
  - Provides quantitative data of wind speed that can be plotted in a graph
  - Using the same piece of equipment makes method more standardized
  - Quite simple & quick to use—units can be changed with most devices
  - However, can be difficult to read the dial that reacts very quickly to changing wind levels.
  - Equipment specialist & expensive

**Theodolite**

- A precision instrument that uses lasers to measures distance and angles eg beach profiles, gradients, width and depth of channels/valleys etc
  - Provides very accurate quantitative data.
  - Using the same piece of equipment makes method is standardized
  - Very expensive and highly specialised equipment

**Calliper**

- An instrument that can measure objects between two fixed points
  - Provides quantitative data so averages can be calculated
  - Fairly simple to use
  - More accurate than using a ruler as the object is fixed
  - Cannot be used with very small objects or very large objects eg sand/boulders
**Questionnaire:** Enables you to collect people’s opinions, ideas, thoughts & perceptions on a wide range of topics eg a new or proposed development, environmental quality

- Open or closed questions or a combination. Can use Bipolar scale (see above) or a Likert scale (eg how far do you agree with the following statements).
- Can collect lots of detailed qualitative data on a wide range of topics.
- Can be tailored to focus on exactly what you want to find out.
- Visual representations makes it easier to recall later.
- Can be used to collect and present the data in one go.

**Pros:**
- Can be used to gather a lot of qualitative data on different things quite quickly
- Whilst the data is based on opinions it give a numerical score so can be plotted on a graph / calculate statistics and show differences more easily
- Designing questionnaires can be difficult eg open questions are difficult to manage eg in recording and presenting later;
- Closed questions can be quantified eg 25% people thought …….’ which makes it easier to present and analyse
- People can refuse to answer, lie, tell the interviewer what they think they want to hear.

**Cons:**
- Choosing an appropriate scale is difficult. A small scale eg 1-4 means the range in data will be narrow so there will be little difference between sites. A large scale eg 1-10 makes it difficult to decide what is different between 6 and 7.