

Fieldwork - Key Terms

- Primary Data** – Information that you collected yourself for the experiments during your field study.
- Secondary Data** – Information that has been collected or created by other that you can use, for example historic maps and photographs.
- Quantitative** – Records data that can be measured in numbers.
- Qualitative** – This records descriptive data.
- Sampling** – How you chose where you would collect data along the beach or around the housing estate. Possible options are systematic, stratified or random.
- Hypothesis** - a statement or proposed explanation made on the basis of limited evidence as a starting point for further investigation.
- Risk Assessment** – Taking into consideration all potential risks to the safety of people undertaking the investigation.
- Ethical Considerations** – Ensuring that investigations are completed without damaging the environment or offending people in any way.
- Random Sampling** – Choosing people to interview or sites to sampling without any consideration of its impact on the results. To truly do this a grid could be placed over a map of the study site and numbered. Numbers would then be picked out of a hat to choose the study site.
- Systematic Sampling** – This is where you take your samples (record your data) at regular intervals. This could be every 10 meters along a beach or questioning every 10th person that passes you in a questionnaire.
- Stratified Sampling** - This is where you take your samples (record your data) every time there is a change in the characteristics such as taking beach gradient readings every time the angle of the beach changes.
- Clinometer** – A tool used to measure the angle or gradient of the beach.
- Ranging Pole** – White and red-hooped poles used to mark the distance along a study site, or provide a standardised height for beach profiles.
- Quadrat** – a 1m by 1m square used to sample a specific area.
- Beach Profile** – The experiment undertaken to assess the angle of the beach and how it vary from shoreline to land.

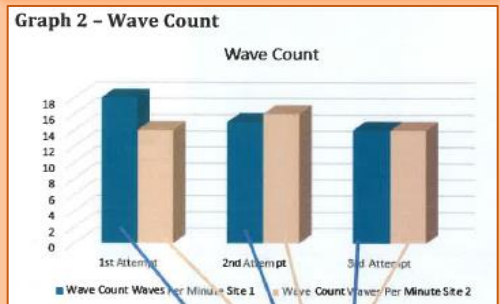


Data Presentation Techniques

Line Graphs
 They are easy to read.
 They make it easy to compare data.
 They are able to show continuous data and trends.
 They are harder to construct.
 Data sets need to be linked to make them work.

Pie Charts
 They are easy to read.
 They make it easy to compare data.
 They show proportional data.
 They are harder to construct.
 Need to convert data set into either degrees or percentages.

Bar Graphs
 They are easy to read.
 They make it easy to compare data.
 They can only show simplistic information.



GIS
 Layering information over other information, such as the arrows showing longshore drift layered on the map/
 Can show located data on a map.
 Can show more complex data.
 Can be complicated to create.
 Can require specialist software to produce.

Edexcel A- Coastal Fieldwork Skills

GEOGRAPHY

Field Work - Walton on the Naze Study Site

Investigation aim - "Investigate how and why the rates of coastal recession vary at Walton-on-the-Naze, Essex".

Possible Hypothesis

- Longshore drift will occur in a northerly direction (*because the prevailing wind is southwesterly.*)
- Infiltration rates will be quicker at the managed site (*as there will be sediment deposited there whereas it is being eroded at the unmanaged site leaving behind the clay bedrock.*)
- The beach will be steeper at protected than at the unprotected site (*as the sediment is being deposited and therefore built up on the managed site.*)
- Coastal recession will be faster at the unmanaged site than at the managed site.
- There will be evidence of rotational slumping at the unprotected site. (This is because there is permeable rock –red crag- on top of impermeable rock –London clay- meaning the red crag becomes wet and lubricated and therefore slides forward.

Advantages of site

- Has areas of protected and unprotected coast.
- Variety of landforms.
- Accessible area.
- Local (1hr30mins drive).
- Variety of land use (tourism, residential, commercial, agriculture).

The managed site is protected by groynes, a sea wall, rip rap and drainage in the cliffs.

The unprotected site has a wave cut platform and evidence of slumping because of the shape of the cliffs.



Groynes are used to trap the sediment on the beach, this creates a natural barrier so that the energy of the waves are absorbed.

Sea walls and rip rap are used to absorb the wave energy, sea walls reflect it back towards the sea

Disadvantages of Site

- Tidal so hard to get extensive time on both study sites.
- Risks posed by unstable cliffs.
- Damaged groynes reduce reliability of results.

Coastal Fieldwork Methods

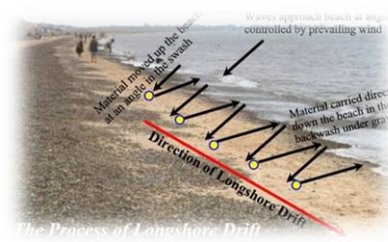
Longshore drift

To establish the direction and rate of longshore drift. Measure a stretch of beach and mark out 20 metres, stand at mid point with a stop watch, throw an orange into the sea and time how long it takes to reach the end of the beach transect.



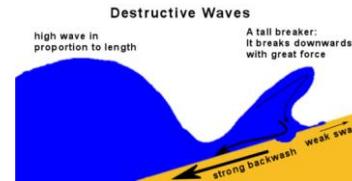
Beach Profile

To establish if the beach is being eroded (flatter beach) or if sea defences are working (steeper gradient closer to sea wall). Place a ranging pole in the beach at the shoreline and another at the first change in angle. Using the clinometer measure the angle between the 2 poles. Repeat at every change in angle.



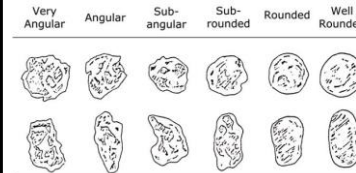
Wave Count

To establish if the waves affecting the coast are constructive or destructive. Constructive waves have a lower frequency than destructive waves. Set a stop watch and time 1 minute, count the waves that break during that time, decide if they are constructive or destructive.



Sediment Sample

To establish if sediments are different between the protected and unprotected coastlines. The size and shape of sediment will be impacted by the transportation, erosion and geology of the sediments. Collect 12 peddles, discard the biggest and smallest, measure the long axis and shapes using the powers scale.



Field Sketches

To record visual data and observations of each site. Choose a suitable area, using a pencil sketch the outline of the landforms visible. Annotate to explain what was seen and what processes operated to create it.

