Geography fieldwork

An investigation into beach profiles and beach sediment on two beaches on the Yorkshire coast

Aims / Primary data collection

To survey and produce a beach profile for each of the two beaches.
To take a random sample of 30 pieces of sediment from each of the two beaches.
To compare the average gradients and profiles of the two beaches.
To compare the average size, shape and degree of sorting of the two beach samples.

Secondary data

Ordnance survey maps to show the local topography and work out the orientation of the beaches.
Geology maps to assess the local geology that produces the beach material.

Investigation

Our aim is to see what factors affect the size, shape and sorting of beach material and the angle and shape of the beach profile.
The local geology, rock types and structures may have an impact on beach sediment. Beach sediment may influence beach profile, larger beach material is likely to produce a steeper beach profile.
The orientation of the beach may be important since this will determine the approach and effectiveness of waves and wave processes such as erosion, transportation and deposition. It may also affect whether the waves are constructive or destructive.

NORTH LANDING ; FLAMBOROUGH

MAPPLETON : HODERNESS

FIELDWORK DATA COLLECTION SHEETS

BEACH SEDIMENT SAMPLE

Choose a random sample of 20 from each of the two beaches
Choose each pebble randomly, out of sight and with replacement

Site …….....

Number	Long axis mm (a)	Inter Axis (b)	Short Axis (c)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

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13			
14			
15			
16			
17			
18			
19			
20			

BEACH PROFILE DATA COLLECTION

Starting at the foot of the cliff and using the pentameter measure the angle of the beach down to the tide level. Most will be a downward angle , but indicate if the beach rises up at all.

Site ……..

MAPPLETON	NORTH LANDING

MAPPLETON	NORTH LANDING

BEACH GRADIENT CLASSIFICATION

SITE …….

DEGREES	**TALLY**
0	
+1	
+2	
+3	
+4	
+5	
+6	
+7	
+8	
+9	
+10	
+11	
+12	
+13	
+14	
+15	
+16	
+17	
+18	
+19	
+20	
-1	
-2	
-3	
-4	
-5	
-6	
-7	
-8	
-9	
-10	

BEACH GRADIENT CLASSIFICATION

SITE …….

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0	
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+12	
+13	
+14	
+15	
+16	
+17	
+18	
+19	
+20	
-1	
-2	
-3	
-4	
-5	
-6	
-7	
-8	
-9	
-10	

BEACH SAMPLE CLASSIFICATION AND PRESENTATION

PIE CHARTS

For each site produce a pie chart with the data classified into

Fine gravel	**2 – 5 mm**
Medium gravel	**6 – 19 mm**
Coarse gravel	**20 – 64 mm**

Include cobbles (>64 mm) in the coarse gravel

Draw one pie chart using percentages and the other using degrees

BEACH SAMPLE Tally chart

Site:	Tally	Total
Fine gravel		
Medium gravel		
Coarse gravel		

Site:	Tally	Total
Fine gravel		
Medium gravel		
Coarse gravel		