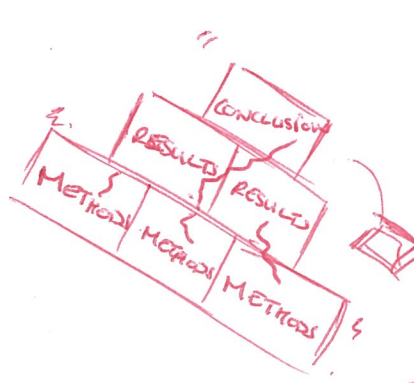




• measure more groynes
• ↑ frequency of systematic sampling (5m)
= ↑ reliability and less chance of anomalies impacting conclusions

IMPACT ON



CONCLUSIONS
The strength/validity of conclusions is weakened but not completely invalid "to an extent..."

PROBLEMS + LIMITATIONS OF PEBBLE SIZE

Reliability
Very small population/sample size - may not represent whole population of pebbles
Chance of bias in choosing stone. Also only choosing stones on the surface.

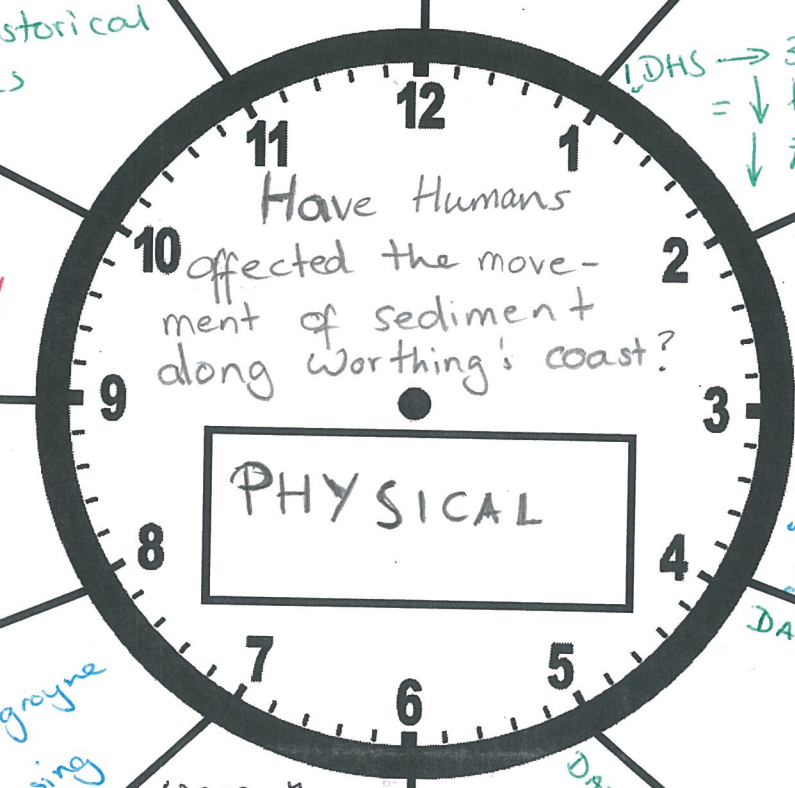
Accuracy
Difficult to determine longest axis on rounded pebbles

PROBLEMS + LIMITATIONS OF BEACH HEIGHT
Reliability
• only 1 x groyne
• 10m systematic sampling
Potential for important data to be missed + higher potential for bias

OF BEACH HEIGHT
Accuracy
• had to assume was consistent tape to bend = high chance of mis-measuring & conclusions

RESULTS AND CONCLUSIONS
MEAN BEACH HEIGHT
WEST = 10.5cm from groyne to top of beach
EAST = 90.5cm from groyne to top of beach
MEAN PEBBLE SIZE
WEST = 75mm
EAST = 20mm

EVALUATION → IMPROVEMENTS
• counted more pebbles to increase sample size = high reliability/chance of sample representing whole population
• Digital calipers to ↑ accuracy measure longest axis
• Secondary Data - Worthing beach office records = larger data set + historical records



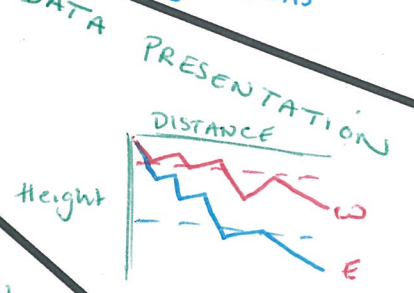
Justification of study
- Worthing large coastal town (+100k population)
- groynes = major sea defence
→ study will look at how successful groynes are



Justification of location
1. Accessible beach with groynes
2. DHS → 3km time
3. ↑ tidal range

DATA COLLECTION
• 1 x groyne
• 10m systematic sampling
• groyne to top of beach height measured at E+W

DATA COLLECTION
• 10m down groyne
• 10 x random pebbles on E+W
• Longest axis

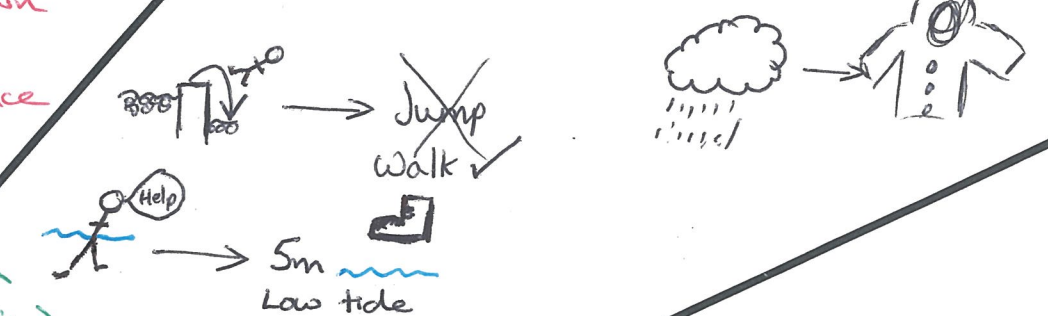


DATA PRESENTATION - PEBBLE SIZE
BOX PLOT
• Located onto base map
• Shows range of sizes found
• Measures of central tendency (ie mean, inter quartile ranges)
• Side by side comparison

LINE GRAPH SHOWING BOTH WEST + EAST HEIGHT WITH MEAN LINE

ALTERNATIVES
• Bar graph
• Proportional diagram

RISK ASSESSMENT



BEACH HEIGHT
WHY?
Beach height either side of groyne would indicate if sediment is being trapped → expectation is being higher on WEST.
Systematic → did not measure all points down groyne but necessary due to time constraints (ie finish before high tide)

PEBBLE SIZE
• Larger pebbles should collect on up drift side (ie WEST) if groynes are stopping sediment movement.
• Random sampling - heel-to-toe method
→ population size (ie pebbles on beach) too big to measure all. Random = ↓ bias

assumes constant / steady change between data points