
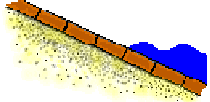

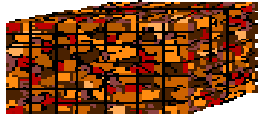
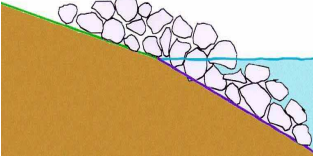




## Methods of coastal protection

HARD ENGINEERING TECHNIQUES*	Method	Description	Cost – H/L	Advantages	Disadvantages
	<p>Groynes</p> 	<p>Groynes are fences made from large wooden or concrete posts. They trap the sand and stop the beach being washed away.</p>	_____		
	<p>Revetments</p> 	<p>These are wooden posts with slats of wood or concrete laid on top of the beach to stop the sand being <b>eroded</b>.</p>	_____		
	<p>Sea Walls</p> 	<p>Rounded wall with a 'lip' at the top. This breaks up the waves energy and stops them going over the top in a storm.</p>	_____		
	<p>Gabion</p> 	<p>These are metal cages filled with rocks. They are stacked together to make a wall to protect the coast.</p>	_____		
	<p>Rip Rap – Rock Armour</p> 	<p>Concrete blocks which absorb the power of the waves.</p>	_____		

SOFT ENGINEERING TECHNIQUES**	<p>Beach Nourishment</p> 	<p>Sometimes it is necessary to replace the sand and <b>shingle</b> that has been lost by the action of the sea. Lorries are used to transport material <b>dredged up</b> from the <b>sea bed</b> to the beach.</p>	_____		
	<p>Sand dune stabilization</p> 	<p>Grasses are planted in the sand dunes to bind them together, holding them in place.</p>	_____		

\* Hard engineering – Controlled disruption of natural processes by using man-made structures

\*\* Soft engineering – Use of ecological principles to reduce erosion and stabilize the environment