

Holding back the sea

This is a science/technology activity. Students design and build a “soft” sea wall using biodegradable materials that trap the sand and provide a basis for future plant growth.

This is a long term project and is suitable for alongside lagoon areas.

Materials

Students collect as much biodegradable material that is lying around as possible.

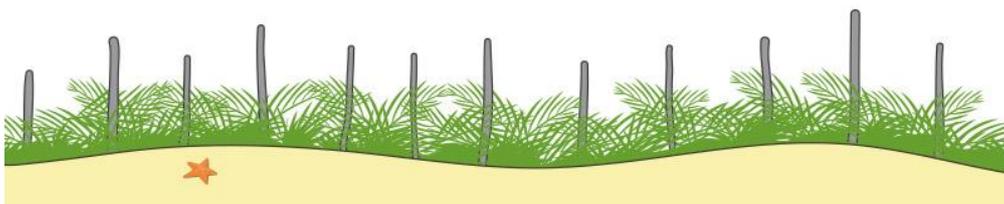
For example, old coconut palm fronds, matting, sticks, driftwood, dead plant material etc.

Building a sea wall

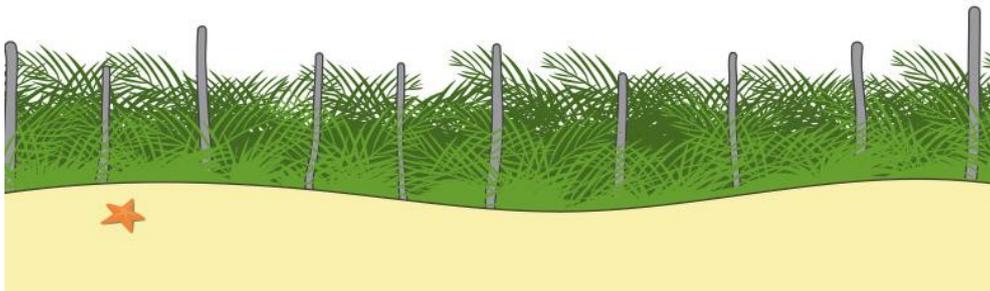
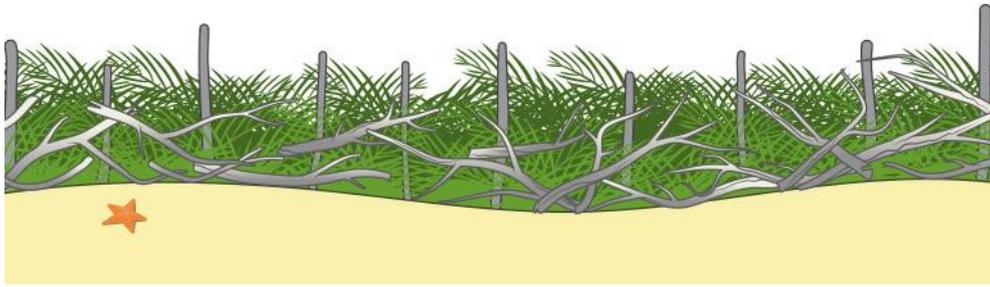
Choose the area where the sea wall is going to be built. This needs to be behind the high tide mark and about the storm/king tide high point if possible. The aim is to prevent the largest swells from flooding inland.

Place some long sticks into the sand. They should be standing upright and firm in the sand. They should be close enough together that coconut palm fronds can be weaved between them and tall enough that about one metre stands above the sand surface.

Weave coconut fronds between the upright sticks.



Slowly pile up dead plant material over the sticks, weaving it all together so the material doesn't break off easily. The material needs to be tightly bound so the wall is sturdy. Make the wall wide at the bottom and narrower at the top to increase stability.



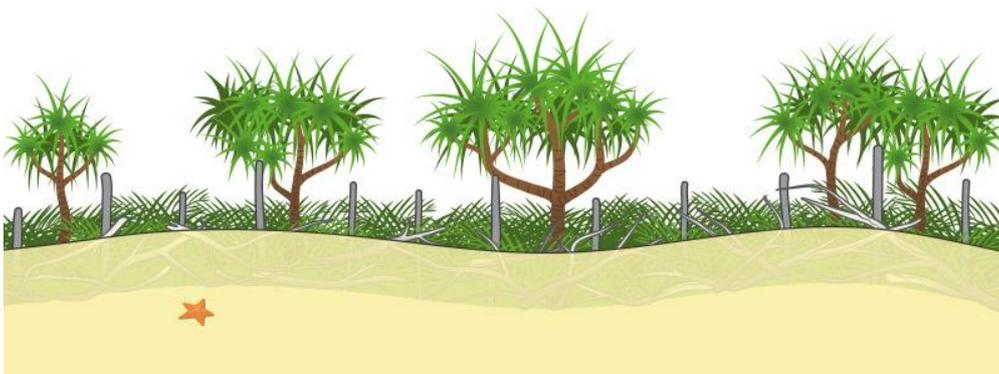
Now let nature do its thing!

The material should catch sand as it biodegrades and form a mound along the stick line.

More plant material can be added as the original material breaks down. Sand can be added along the base of the wall if needed.

As the wall material breaks down and the sand builds up a mound begins to form.

Suitable plants can be planted along the wall. They will feed off the broken-down plant material, now compost. The roots will help keep the wall firm and also help catch more sand around their base. More layers of plant material can be added to build up the wall.



Reflective discussion (activity processing)

Discuss with the teachers:

- What might be the impacts of sea level rise on this beach? On the land behind the beach?
- Were there some activities that surprised them?
- Who can walk to a beach easily?