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# Nocturnal Fun on the Beach

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## Level

Any

## Key question

What do we learn from playing games on the beach?

## Key outcomes

Explain how animals use their senses to detect and respond to their environments. Use activities on the beach at night to explain features of coastal plants and animals.

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Evenings on the coast are often times of little environmental education activity. Some people are more focussed on social activities and having fun after a heavy day of environmental learning (of course this does not apply to marine educators who think all learning is fun and are always more attentive to the environment than social interest!) However it is possible to combine fun and education by having social, active activities with take home messages. And the beach at night is the ideal place to do it.

The advantage of the beach at night is that it has few obstacles to run into, it is soft to fall on, it provides great atmosphere, the sea and vegetation line make clear boundaries, and there are interesting nocturnal natural features to draw on.

Outlined below are a few activities that can be used on the beach at night with all age groups or a mix of ages. The messages are simple and should be understood by all and the fun appeals to primary, secondary and adults groups. Many of our favourite activities can be adapted to the beach at night. Some old classics even work better at night than in the day.

When developing the right mix of activities it is good to consider:

- the range of environmental messages you want to convey
- the physical nature of the beach, especially at the predicted tide
- natural features that can be used
- a range of active and quiet activities
- the physical and mental abilities of the group
- how friendly the group is.

## What you need

Beach area, previously checked for hazards.

Individual activity lists include:

Elastic bands

Scissors

Torches

Cloth blindfolds

Some small items of little value.

## What you do

Use the following activities in any sequence and with a group of up to 35. These instructions are provided for the teacher.

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## 1. Food Web

Messages: the interdependence of creatures and features, how impacts on the web of life affect all parts of the web

Need: net of large elastic bands, scissors, torch

Gather everyone in a circle around a torch set in the sand facing upwards. Spread a pre-made web of elastic bands (made by looping elastic bands together into a web structure) in the circle. Develop a marine 'web of life' by designating each person as a marine creature or feature, and connecting each to a section of the web by asking them to hold it. Discuss the connections between elements of the web. Ask everyone to stretch the web. Ask one to tug the web and the others to tug when they feel a tug. If one part of the web is affected it does not take long for all parts to be affected as well.

Pull out some scissors. Cut a non-structural thread of the web and watch its impact. Cutting one connection between components in the web may not have great impact but cutting too many or a really important one shatters the web. Threaten to cut several important ones, and then do it (ask them to shield their eyes). Watch them scatter.

## 2. Survival of the fittest

Messages: the fittest survive to reproduce, the fittest animal design will end up as the majority of a population

Need: cloth blind folds

Create three marine predators, for example, fish, by designating three pairs of people. One pair holds hands, one pair has a loose cloth tie between ankles, and the third pair has a one leg tied to a leg of the other. The three predators have various levels of fitness for catching prey. The other people are prey (e.g. anchovies) and can move in a designated area of the beach (use seaweed or drift wood for markers). If the group size is smaller than 12 then only use two pairs.

Have the predators chase and catch prey. They add the caught prey to themselves using the same connection technique they are using (e.g. holding hands). When two prey are caught they split off from the predator and become a new adult predator (pair) with the same fitness and chase prey. Continue until all prey is caught.

Next, group all resulting predators into the three levels of fitness. One group should have more adults. It is the fittest of the predators and has been most successful at passing on its genes to the next generation. One will be least successful and have few, if any, offspring. Each predator started as one third of the population and one will end up with greater than a third of the population. The fittest will thrive and the unfit may even die out.

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### 3. No place like home

Messages: touch is a vital sense in the sea, the role of marking foraging ranges

Need: blindfolds

Pair off people and have one of each pair blindfolded. The blind person digs a hand width burrow in the sand and makes features in the sand to help mark it. Their partner leads them five metres away and spins them. The blind one must then find the burrow using touch (some use wave direction as a clue). The ability to find the burrow depends on a person's touch technique, their search pattern and their skill at creating features recognisable by touch.

When the blindfolded person has found their burrow the pair swap roles. When most have finished gather them around the remaining pairs and comment. To make it more difficult, demonstrate how confusing it can be if extra burrows are dug to change identifying features.

### 4. Whales and krill

Messages: how sonar works, whale food

Need: one or two blindfolds

A variation of bat and moth. Form everyone into a hand-holding ring. They are the land surrounding the sea. Place a few people inside the ring, they are krill. Blindfold one to become a whale. The whale must use sonar to find the krill. The whale calls out 'whale' and the krill must reflect the sound back by calling 'krill'. The whale must catch all the krill. The land may call back 'land' if the whale is threatening to beach itself. When all the krill are caught designate new whales and krill. If the whale is having trouble, shrink the sea by moving everyone in a step. A variation is to have two whales but they must reply to each others using a whale call (e.g. singing) or they will collide.

### 5. Find your dinner

Messages: techniques for searching for food, luck and skill are both useful

Need: small objects to lose

Lose one or more small objects on the beach and describe them as food (a person with a loose earring running around on the beach is an ideal way to lose something). Ask everyone to be an animal such as a goatfish or stingray and search for the food. Let them organise themselves to be most efficient at searching as individuals, and as a coordinated group. If they have trouble, and you planted the object, shrink the search area. Did the finder use luck or technique to find the food?

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## 6. Animal movements

Messages: animals are the summation of their parts, animals move in different ways

Need: blindfolds for everyone

*Crab.* Divide into groups of four. Two people stand beside each other, and link arms. Then they stand back to back with another pair. Each person links their outer arm with the person behind them, making a solid group of four people each with their back against someone else. Keeping backs against each other, the group members walk their feet forwards for 40 cm, squatting to keep their backs together. When balanced, ask the group to walk sideways like a crab. Hopefully your crab is well coordinated (people with dubious backs or legs should not attempt this one).

*Sea slater.* Line everyone up one behind each other and ask them to blind-fold the person in front and then hold their waist. Each person is a body segment of a sea slater. They can feel with their legs but cannot see. The leader is at the head (without blindfold as the head has eyes) and leads them on a merry walk. Messages may be passed back via the nervous system (Chinese whispers). Try plenty of turns, stepping over things, going close to the water, and ducking under things (real or imaginary).

*Sea cucumber.* While everyone is still in position as a sea slater ask them to hold the waist of the person in front of the person in front. This makes the animal much more compact and the people more friendly. Lead them on another walk. People will soon realise that sea cucumbers are much less flexible than sea slaters!

## Wrap up

Always finish an activity with a wind down. A few minutes listening to the sounds of the sea, looking at phosphorescence in the water or star gazing gives the chance to remind people of a few take home messages.