

Coastal Habitats

Beaches and Sand Dunes

What is sand?

Sand is made up of tiny loose pieces of rock, minerals, soil and sometimes even gemstones, along with the remains of plants and animals that once lived there.

These tiny pieces are called grains. They're smaller than gravel but larger than mud or clay particles.

Sand grains vary enormously in size, colour, shape and texture. Some are hard, others softer. Some have sharp, jagged edges, while others have been worn smooth and polished over time. In shape, grains can be flat, oval or round. Examined under a microscope, a single handful of sand can reveal a surprising story about where it came from and how it formed.



Where is sand found?

Sand is found in many places all over the world. It covers most of the land and is found on some beaches at the bottom of oceans. In some deserts and on some beaches, the wind blows sand into large hills called dunes. Sometimes sand gathers at the openings of deep canyons.

Because sand grains are small and light, they travel easily. It is mostly the most other kinds of rock. Wind, water, and ice can carry sand far away from the place where it first formed.

Animals that live in sand!

Many animals make their home in sand, using it as shelter from harsh weather and predators. Some live close to the water's edge, while others prefer the dunes further from the shore.

Sand habitats support a surprisingly wide range of larger animals, including eagles, pelicans, penguins, seals, sea turtles, molluscs and crabs — each adapted to survive in this shifting, exposed environment.



Animals that depend on sand for survival!

When ready to nest, a female sea turtle crawls above the high tide line to find a protected spot on the beach. Using her front flippers, she digs out a shallow body pit, then uses her hind flippers to excavate a deeper egg cavity. The depth of the cavity is determined by the length of her stretched hind flipper and can reach up to 100cm deep.

She then deposits between 50 and 200 eggs, depending on the species. The eggs are soft-shelled with a papery to leathery texture, roughly the size and shape of a ping pong ball, and are surrounded by a thick, clear mucus as they fall into the cavity.

Once laying is complete, the female uses her hind flippers to cover the nest with sand. Burying the eggs serves three purposes: it protects them from surface predators; it keeps the soft porous shells moist and prevents them from drying out; and it helps maintain the correct temperature for incubation.

Experts can identify the species from the type of mound left behind and the distinctive flipper track pattern in the sand.

Sea turtle eggs!

