MOVING THROUGH SAND - ANIMAL EXAMPLES

Atlantic Razor Clam

These clams have a shell with two halves that can open like a book. They also have a squirmy foot that protrudes from the lower end of their shells, which flicks to propel themselves forward and contorts to help bury themselves in the mud.

Fennec Fox

Hairy pads or bristles on the feet of desert creatures help them move on loose sand by providing a braking mechanism as the feet push backwards.

Mudskippers

Pectoral fins in mudskippers have been modified to take the weight of their upper bodies, allowing them to walk, hop and jump on land as well as skip over the surface of the water when they need to make a run for it!

Polar Bears

While they are the biggest bears alive, polar bears have relatively small paw pads. That's to decrease the amount of their skin that comes in contact with the frozen ground while they walk or stand. There's just one problem: less skin gripping the ground should mean a greater chance of slipping and sliding, wasting energy while walking, and losing precious fractions of a second when lunging to make an attack. Polar bears avoid these dangers with a relatively simple solution: the microscopic bumps (papillae) on their paw pads are 1.5 times taller than those on other bear species.

Sand Dollar

Unlike sea stars that use tube feet for locomotion, a sand dollar uses its spines to move along the sand, or to drive edgewise into the sand. On the upper half of the sand dollar's body, spines also serve as gills.

Sand Lizard

The sand lizard The lizard creates a wave-like motion along its body, pushing against the sand particles to move forward. Their head is often adapted with a shovel-like shape to help slice through the sand.

Penguins

When moving through sand, penguins primarily "waddle" by using their short legs and feet to push themselves forward, similar to how they move on other surfaces, though they might also utilize a "belly slide" motion on particularly loose sand, essentially "tobogganing" to navigate more easily; this movement is most efficient for penguins on snow and ice, but can be adapted to softer terrain like sand in certain situations.

Camels

Camels have wide, flat feet with two toes that are similar to snowshoes. The large surface area of their feet helps them balance on loose sand. The hairy pads on their feet help them brake when pushing their feet backward on loose sand.