

# Sea Urchins

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<sup>1</sup> Sea urchins are like rolled-up hedgehogs. They have pointy spines projecting out of their spherically shaped bodies. These needle-sharp spikes, poisonous for some species, serve as sea urchins' best line of defense. Hiding among these spines are five paired rows of tube feet (often tipped with suckers) that sea urchins control through an internal water vascular system. By adjusting the amount of water inside, sea urchins can expand or contract their fluid-filled feet to move about, gather food, or keep a good grasp of rocks.



<sup>2</sup> Beneath their intimidating assault weapons and means of transportation, sea urchins cover their bodies with a hard skeleton (also called a test). Upon a closer look, we can see that the skeleton is made up of ten fused calcium carbonate plates.

<sup>3</sup> Sea urchins are grazers. As they travel along the ocean floor, they use their mouths, located at the center of their underside, to pick up scraps of food (such as algae and dead fish). Sea urchins have a unique dental apparatus called the Aristotle's lantern around their mouths. The lantern consists of five hard, tooth-like, inward-pointing plates. Sea urchins rely on this special structure to scratch edible particles off rocks.

<sup>4</sup> Sea urchins are bottom-dwelling invertebrates often found on shores, reefs, and the seabed. They belong to the phylum of echinoderm. Sea urchins are close relatives of starfish, sand dollars, sea cucumbers, and sea lilies. Of more than 700 different species, the red sea urchin (scientific name: *Strongylocentrotus franciscanus*) is among the largest. The diameter of its test can grow to about 7 inches.

<sup>5</sup> Though sea urchins do not look tasty at all, they still cannot escape the fate of being eaten. Wrasses and sea otters, for example, are two of their many natural predators whose appetites are undeterred by thorns and toxin. Amazingly, we humans also join the rank of these animals and consider sea urchins a delicacy!

## Sea Urchins

<p>1. How many sea urchin species are there?</p> <p><input type="radio"/> A About 300</p> <p><input type="radio"/> B About 900</p> <p><input type="radio"/> C About 500</p> <p><input type="radio"/> D About 700</p>	<p>2. How many paired rows of tube feet do 3 sea urchins have altogether?</p> <p><input type="radio"/> A 30</p> <p><input type="radio"/> B 15</p> <p><input type="radio"/> C 20</p> <p><input type="radio"/> D 25</p>
<p>3. What kind of invertebrate phylum are sea urchins?</p> <p><input type="radio"/> A Arthropods</p> <p><input type="radio"/> B Echinoderms</p> <p><input type="radio"/> C Annelids</p> <p><input type="radio"/> D Chordates</p>	<p>4. What do sea urchins fill their tube feet with?</p> <p><input type="radio"/> A Water</p> <p><input type="radio"/> B Vinegar</p> <p><input type="radio"/> C Plastics</p> <p><input type="radio"/> D Calcareous plates</p>
<p>5. What do we call the structure around a sea urchin's mouth?</p> <p><input type="radio"/> A The Aristotle's tooth</p> <p><input type="radio"/> B The Aristotle's beak</p> <p><input type="radio"/> C The Aristotle's lantern</p> <p><input type="radio"/> D The Aristotle's scissor</p>	<p>6. Which of the following is <b>not</b> closely related to sea urchins?</p> <p><input type="radio"/> A Starfish</p> <p><input type="radio"/> B Sand dollar</p> <p><input type="radio"/> C Sea lily</p> <p><input type="radio"/> D Seahorse</p>
<p>7. What do we also call a sea urchin's skeleton?</p> <p><input type="radio"/> A A test</p> <p><input type="radio"/> B An armor</p> <p><input type="radio"/> C An examination</p> <p><input type="radio"/> D A case</p>	<p>8. Which of the following about sea urchins is true?</p> <p><input type="radio"/> A All sea urchins are toxic.</p> <p><input type="radio"/> B Sea urchins use a water vascular system to help them move about.</p> <p><input type="radio"/> C Sea urchins use their sharp spines to kill prey like wrasses.</p> <p><input type="radio"/> D Sea urchins only look like pincushions when they feel threatened.</p>