MADE WITH LITTLE STORYBOOK

How Do Octopuses Change Color?



A Pattern Appears

A common octopus rested pale against sand. As it crossed toward a rust-colored rock, patches of red-brown and dark brown spread across its mantle and arms. No paint entered the water. The color was already inside the octopus's skin, controlled by many tiny organs.





A Dot Called a Chromatophore

Zoom into pale-looking skin. One tiny dark dot is a chromatophore: a flexible sac that already contains pigment. Thin muscle fibers spread outward from it like spokes. When those muscles are relaxed, the pigment sac stays small, so little color shows at the surface.

> **TALK ABOUT IT**
> Find the pigment already stored in the chromatophore.

Pull Wide, Show More Color

When the radial muscles contract, they shorten and pull the sac outward in many directions. The pigment spreads across a wider disk, so more color becomes visible. When the muscles relax, the elastic sac shrinks again. The pigment does not vanish; its visible area changes.

> **TALK ABOUT IT**
> Which chromatophore shows more visible color?





Thousands Make a Pattern

Octopus skin contains thousands of chromatophores with yellow, red, and brown pigments. The nervous system controls groups of them, building spots, bands, and mottled patterns. Other cells can reflect light and change brightness too. Together, these layers make the octopus's appearance remarkably flexible.

Check your wonder

1 **What changes when a chromatophore expands?**

- **A.** The visible area of its stored pigment
- **B.** Paint enters from the water
- **C.** The octopus grows a new arm

2 **What pulls a pigment sac wider?**

- **A.** Radial muscles contracting around it
- **B.** Ocean waves pushing paint in
- **C.** The rock rubbing color onto it

ANSWERS 1-A 2-A

1. Correct. The same stored pigment spreads across a wider visible disk. 2. Yes. Shortening radial muscles pull the flexible sac outward.

THE END

Put your child in this story

Free to try. Scan the code or visit

littlestorybook.ai/learn/en/how-do-octopuses-change-color-for-kids

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