

Question: Can the crabs see the plankton they eat near the ocean floor?

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Claim 1: Yes, the crabs can see the plankton and the plankton appear _____ (*red, orange, yellow, green, blue, indigo, violet*).

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Claim 2: No, the crabs can't see the plankton.

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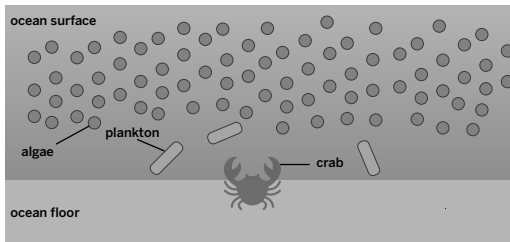
Evidence Card A: The Crabs



The crabs can see all colors of visible light as long as the light reaches their eyes.

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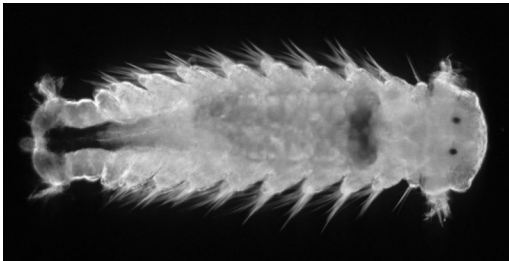
Evidence Card B: The Crabs' Environment



- The crabs spend most of their time near the ocean floor.
- There are algae everywhere in the ocean, but on the surface above where the crabs live there is a large amount of algae.

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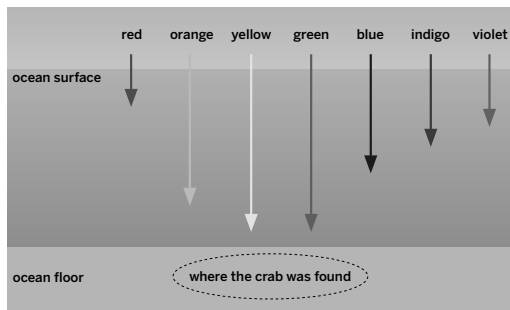
Evidence Card C: Plankton



- The plankton appear white at the surface because they reflect all colors of visible light.
- The plankton do not emit light.

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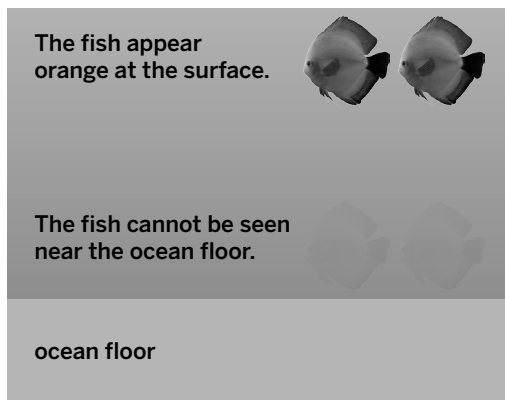
Evidence Card D: Light in the Ocean



The crabs are found near the coast, where, water absorbs red, blue, indigo, and violet light closer to the surface. Orange, yellow, and green light transmit farther toward the ocean floor.

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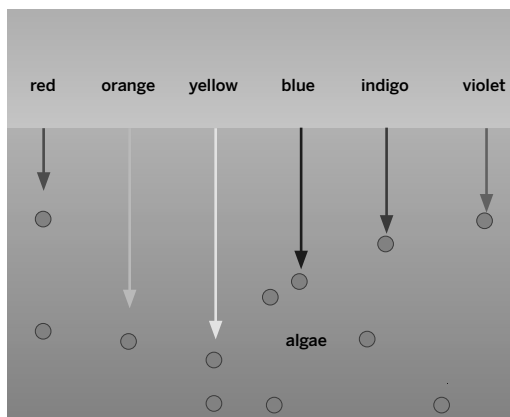
Evidence Card E: Orange Fish



There is a species of fish that appears orange to scientists near the surface of the water, but it cannot be seen near the ocean floor where the crab is found.

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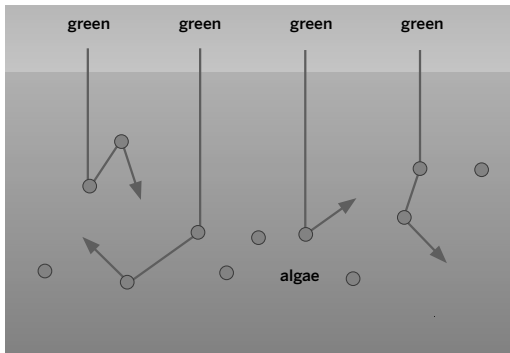
Evidence Card F: Light Absorbed by Algae



Algae absorb red, orange, yellow, blue, indigo, and violet light.

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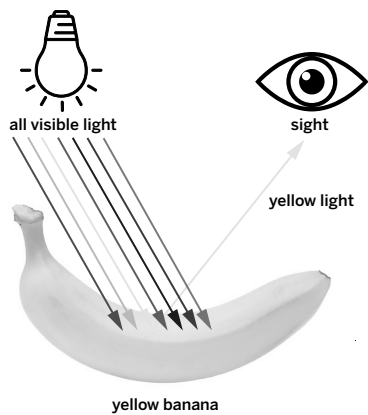
Evidence Card G: Light Reflected by Algae



Algae reflect green light. When light reflects, it can bounce off in any direction. It may or may not hit other algae.

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Evidence Card H: Vision



For a material to appear a certain color, that color of visible light needs to reflect off the material into the eyes of the organism seeing it.

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