Nature’s Monsters Reference Card

Station 9 Biology Lab of Horrors

How does an unusual adaptation help a real organism survive or reproduce?

Biology background

- Cymothoa exigua, the tongue-replacing isopod, is a crustacean that parasitizes fish.
- Young isopods enter a fish through its gills. A female attaches to the tongue with her legs.
- Feeding damages the tongue, which withers. The attached isopod can occupy its place and serve as a replacement.
- This is parasitism: the isopod benefits while the fish is harmed. A living host provides a place for the parasite to feed and reproduce.

Adaptation: an inherited feature shaped by evolution. Host: an organism used by a parasite. Parasite: an organism that benefits at a host’s expense.

Four features to show

Fish host and mouth; Attached isopod; Attachment legs; Feeding site and effect on host.

Model idea

Make a paper fish with a hinged mouth and a clay or paper isopod inside. Use arrows to connect attachment and feeding to the effect on the fish. Add four explained labels.

Other real monsters to investigate

Deep-sea anglerfish: a female’s bacteria-lit lure attracts prey. Parasitoid wasp: larvae develop on or in a host insect and eventually kill it. Choose one organism; research four facts and adapt the labels to its biology.

Accuracy check

“Monster” is a theme, not a scientific group. These organisms are not evil. Do not imply that all parasites replace tongues or that organisms choose to evolve traits. Mark invented behavior as fiction.

Think about it: Why is this relationship parasitism rather than mutualism?

Optional advanced extension: Explain a benefit and a cost of the adaptation, or compare parasitism with predation and parasitoid development.

Reading sources

University of Texas Marine Science Institute Tongue Snatcher
https://utmsi.utexas.edu/science-and-the-sea/radio-program/tongue-snatcher/

Woods Hole Oceanographic Institution Creature feature Anglerfish
https://www.whoi.edu/ocean-learning-hub/ocean-facts/anglerfish/

University of California IPM Parasites of Insect Pests
https://ipm.ucanr.edu/home-and-landscape/parasites-of-insect-pests/