



# Cleaning Station

## Five Fast Facts:

1. Cleaning stations are locations where larger marine organisms (generally turtles, sharks, and other large fish) stop to get “cleaned” - smaller fish and shrimp pick off the *ectoparasites* (parasites existing on the outside of the larger fish’s skin), as well as clean the larger fish’s teeth.
2. Cleaning stations are a form of *mutualism*, the type of *symbiosis* where both participants benefit.
3. When an animal approaches the station for a cleaning, it signals its ready to be cleaned by relaxing its body and opening its mouth.
4. Cleaning stations were first observed on land in 420 BC by Greek historian Herodotus, when birds were seen cleaning inside the mouths of Nile crocodiles.
5. Some species of fish mimic the appearance and behavior of cleaner fish, but will eat the actual scales or flesh of the animals that come to the cleaning station. This is an example of what type of *symbiosis*?

## Food for Thought:

1. Are all cleaning stations examples of a mutual symbiosis? Why or why not?
2. Where do cleaning stations occur?

## Activities to do with your kids:

- Science in History - students read the first account of cleaning stations by Herodotus in 420 BC, and A) translate the account into today’s vernacular (they can even recreate it in a Twitter or Facebook post), then B) conduct their own observation of some natural occurrence of mutualism, writing it down in the style of 420 BC Herodotus\*
- RAFT (Role-animal in a cleaning station relationship, Audience-partner in the cleaning station, Format-love letter/thank you note, Topic-how we help each other)





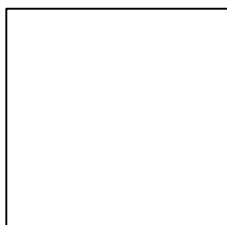
## Science in History

**Directions:** Read the following excerpt from an account written by the Greek historian Herodotus while he was observing crocodiles in the Nile River, and translate the scene into today's vernacular (via a Twitter or Facebook post - you can use the template below as a guide). Then, draw a picture to fit the image of the cleaning station Herodotus describes (via Instagram) to go along with your post.

“As (the crocodile) lives chiefly in the river, it has the inside of its mouth constantly covered with leeches; hence it happens that, while all the other birds and beasts avoid it, with the trochilus it lives at peace, since it owes much to that bird: for the crocodile, when he leaves the water and comes out upon the land, is in the habit of lying with his mouth wide open, facing the western breeze: at such times the trochilus goes into his mouth and devours the leeches. This benefits the crocodile, who is pleased, and takes care not to hurt the trochilus.”

- Herodotus, ~420 BC

**Tweeter**



**Herodotus**

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**Following**



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