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Cnidarian: Life on The Move Worksheet

The word cnidaria comes from the Greek meaning ‘stinging nettle.’

With a combination of muscles and nerves, ancestral cnidarians were the first animals on the planet to have animated behavior.

Cnidarians include: anemones, sea pens, corals, jellyfish, and hydra.

Features of the Phylum

- Two tissue layers with nerve and muscle tissue
- A mouth and stomach
- Nematocysts: harpoon-like structures contained in special cells called cnidocytes that can be fired both for offense and defense.
- Two main life forms: free-swimming medusa (e.g. jellyfish) and attached polyp (e.g. anemone)

Key words and concepts

Nematocyst: a capsule containing a harpoon-like structure used for protection and capturing prey, often delivering toxins. Touch or chemicals will trigger the high speed release of the nematocyst.

Life cycle of most jellyfish: Many cnidarians alternate between the two different body forms during their lives. One is the free-swimming form, called a medusa, and the other is a stationary form, called a polyp. Both body forms follow the same basic cnidarian body plan. The polyp is sessile living on a substrate with the tentacles extending up and the medusa is free swimming with the tentacles extending down. The polyp form asexually buds off the juvenile medusa form, called ephyra, which grow into adult jellyfish that reproduce sexually. (See video Moon Jelly life cycle)

Deep sea cnidarians: Cnidarians are among the most abundant inhabitants of the deep sea, where they play crucial roles in Earth’s largest ecosystem. While their nematocysts unite them into a single phylum, they have evolved a remarkable diversity of shapes, sizes, and strategies to enable their predatory life style. The bodies of these animals comprise one of the largest living biomasses on the planet.