Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Porifera, Cnidaria, & Ctenophora

Task 1: Copy and fill out the chart below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Kingdom | Phylum | Class | Characteristics | Examples |
| Animalia | Porifera |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Cnidaria | Hydrazoa |  |  |
|  |  | Scyphozoa |  |  |
|  |  | Anthozoa |  |  |
|  | Ctenophora | N/A |  |  |

1. Which of these animals lack tissues? Which have tissues?
2. Don any of these have organ systems?
3. Why are the terms acoelomate, pseudocoelomate, & coelomate not appropriate when describing these animals?

Task 2: Dichotomous Key

Construct a Dichotomous Key which would help someone with no knowledge of animals to distinguish between the organisms in your chart.

Task 3: Most organisms in Phyla Porifera and Cnidaria are ***SESSILE*** creatures, meaning, they are stationary. There are Cnidarians that, in the Medusa form, can move about freely. The way these organisms can mate and produce offspring is important for the existence of their species.

Many sponges reproduce ASEXUALLY by ***BUDDING***. This is when the parent cells can create a new organism, simply from replicating their own cells (remember – *mitosis*). Other sponges can reproduce SEXUALLY by releasing sperm into the water. These sperm are carried by water currents out of the Osculum of one sponge and into the interior cavity of another sponge, where they are transferred to eggs. Most sponges contain both male and female sex cells (hermaphrodites).

Cnidarians are organisms that can reproduce both SEXUALLY and ASEXUALLY. Hydra, one type of freshwater Cnidarian, can reproduce through ***BUDDING*** or ***SEXUAL REPRODUCTION.*** Cnidarians exhibit open-water fertilization, in that the male organisms release sperm into the water and it is collected by the female, who then releases fertilized eggs. The larvae (once the egg is fertilized and grows, it becomes larvae) is free-swimming (meaning it can move in the ocean).

How would the offspring of a hydra formed by asexual reproduction be different from the offspring of a hydra formed by sexual reproduction? (Think about your DNA and how you were created) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cnidarians free-swimming larvae allow the sessile creature to spread their colonies out. How is this beneficial for the species? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Opinion: Is it more advantageous to reproduce ASEXUALLY or SEXUALLY? Explain your answer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Task 4:Use half of a jar of play-doh to create a ***sponge*** for the ***Polyp*** body plan, identifying the following structures: **Osculum, pores, holdfast** (like the roots that hold it to the ocean floor). Use the identification tags to place them in the correct location.

Use the play-doh to create a ***jellyfish*** in the form of a ***Medusa*** body plan. Identify the following structure: **Tentacles and Cnidocytes.**