|  |  |
| --- | --- |
| **Biology 11**  **Cnidaria Lab** | **Name: Date:**  **Block:** |

**Purpose:** To be able to identify the external structures of a Cnidarian and explain their functions.

To be able to identify a microscopic slide of a Cnidarian or Cnidarian feature.

To be able to describe the sequence of events associated with a typical life cycle of a jellyfish.

**Materials:** Cnidarian Specimen, Slide Specimen, Ruler, Animals without backbones textbook.

**Safety:** Handle specimens with care. Do not open containers!

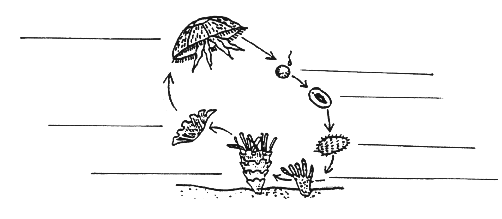
**Procedure:**

1. Using a microscope, focus in on a Cnidarian Specimen. Draw it the specimen in the space provided. Make sure to include: title, drawing, labels, total magnification, actual size, drawing size, drawing magnification.
2. Observe a preserved specimen (in a jar). Draw it the specimen in the space provided. Make sure to include: title, drawing, labels, actual size, drawing size, drawing magnification.
3. Answer the questions in the space provided.

|  |  |
| --- | --- |
| Labeled Slide of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Labeled Diagram of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**Discussion Questions:**

1. Label the following diagram using the lab textbook as a guide:



1. Describe how the function of the nematocysts and how they work.
2. What type of symmetry is exhibited by cnidarians? Explain this.
3. How extensive is their nervous system? Explain what cnidarians use.
4. Do Cnidarians breathe? Explain how they do respiration.
5. Do Cnidarians have true muscles? Describe how they might swim (medusa form).
6. Here is a list of things jellyfish HAVE and DO. Write the things jellyfish HAVE in List I. Write the things jellyfish DO in list II.

|  |  |  |
| --- | --- | --- |
| *Eat Plankton* | *Tentacles and arms* | *Simple digestive system* |
| *Catch food with tentacles* | *Drift in ocean currents* | *Live in all the world’s oceans* |
| *Stinging structures* | *Paralyze small creatures* | *Jelly-like substance (mesoglea)* |
| *Catch prey* |  |  |

|  |  |
| --- | --- |
| **List I: Things Jellyfish HAVE** | **List II: Things Jellyfish DO** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

1. Sequence the following events associated with the life cycle of a jellyfish. Number the events 1-9 with the first event being 1.

\_\_\_\_1\_\_ Male and female jellyfish produce sperm and eggs.

\_\_\_\_\_\_\_ Polyp divides and forms many tiny jellyfish that are stacked like pancakes.

\_\_\_\_\_\_\_ Planula attaches to a hard substrate to form a polyp.

\_\_\_\_\_\_\_ Ephrya disperse into ocean currents.

\_\_\_\_\_\_\_ Medusa live three to six months.

\_\_\_\_\_\_\_ Strobila begin to break free.

\_\_\_\_\_\_\_ Small swimming larvae leave the mouth or brood pouch.

\_\_\_\_\_\_\_ Each ephrya grows into a medusa.

\_\_\_\_\_\_\_ Zygote forms inside female or in brood pouches along oral arms.

1. Decide if the following statements are true or false

\_\_\_\_\_\_\_ Jellyfish are more than 95% water and have no heart, bones, or brain and no real eyes.

\_\_\_\_\_\_\_ Jellies have been on the earth for over 650 million years. They were here before dinosaurs and sharks.

\_\_\_\_\_\_\_ Jellies inhabit all oceans of the world. Some jellyfish even live in freshwater lakes.

\_\_\_\_\_\_\_ Using jet propulsion, jellies can swim up and down in search of their zooplankton food.

\_\_\_\_\_\_\_ Jellies are considered a delicacy by many people; after they have been dried and de-salted, they are (according to some) not only delicious, but low in fat, calories, and salt and rich in nutrients. Others claim they taste like rubber bands.

\_\_\_\_\_\_\_ Jellyfish are extremely fragile animals and require a special tank when they are kept in aquariums because they tend to get stuck and tear easily. Most of the tanks are cylindrical with no corners.

\_\_\_\_\_\_\_The umbrella-like form of an adult jelly is called a medusa, so named because of its resemblance to the Gorgon Medusa of Greek mythology with hair of writhing snakes.

1. How does the method by which cnidarians **obtain and digest food** differ from the method by which porifera obtain food? Include the structures and cells involved.
2. Describe three evolutionary developments that cnidarians have that enable them to capture prey and move that prey into their mouths.
3. How does the polyp differ from a medusa? Include a discussion of motility, reproduction and body form.