

Zoology using its  
tentacles to grab onto



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## Zoology Preliminary Animal Worksheet Typed.

Email to Mrs. Stott. Put copy in section C of notebook.

Student Name: Justin Lee Date: 2/1/18 Section: ATM Mods 7-9 Common

name of animal: Brown Hydra (Animal Diversity Web, 2018) Phylogeny

(classification and Scientific name) Kingdom \_\_\_\_\_ Animalia (Animal

Diversity Web, 2018) \_\_\_\_\_ Phylum \_\_\_\_\_ Cnidaria

(Animal Diversity Web,

2018) \_\_\_\_\_ Class \_\_\_\_\_ Hydrozoa (Animal Diversity

Web, 2018) \_\_\_\_\_ Order \_\_\_\_\_ Anthoathecata (Animal Diversity

Web, 2018) \_\_\_\_\_ Family \_\_\_\_\_ Hydridae (Animal Diversity Web,

2018) \_\_\_\_\_ Genus \_\_\_\_\_ Hydra (Animal Diversity Web,

2018) \_\_\_\_\_ species \_\_\_\_\_ Hydra Oligactis however there are 25 total

species (Animal Diversity Web, 2018) \_\_\_ Why is this organism a member of

this phylum? This organism is a member of this phylum because it has radial symmetry. All Cnidarians are known to have tentacles which use stinging

cells to capture and kill prey. In the stinging cells which are called cnidocytes

contain nematocysts there are usually toxins which can be fired upon a

simple brush or from an impulse. Finally, an organism that is a Cnidarian can

assume two different shapes, the first one is a more mobile medusoid shape

or a more sessile polypoid shape. Jellyfish can be considered to have

polypoid shape and have their mouth and tentacles facing downward

however in a polypoid shape the mouth and tentacles are facing upward.

(Oceanic Research Group, 2007) Why is this organism a member of this

class? 1. What type of symmetry \_\_\_\_\_ Radial (Oceanic Research Group,

2007) \_\_\_\_\_ 2.

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How many germ layers \_\_\_\_Two: ectoderm and endoderm (Rutgers, 2018)\_\_\_3. Type of body cavity\_\_\_\_\_gastrovascular cavity (Rutgers, 2018)\_\_\_\_\_4. Type of segmentation and number and name of segments  
No particular segmentation (Rutgers, 2018)5. Type of support/locomotion system Has a handspring or hydrostatic support/locomotion system. In a hydrostatic skeleton the structure is maintained by the pressure of a fluid within the skeleton. This is usually maintained in animals such as spiders by muscular contractions.

A hydra is known to move by using its tentacles to grab onto its surroundings and pull itself. (Amateur Entomologists' Society, 2018)The hydra can move around in many ways, it can move by extending and contracting its muscles, looping and essentially bending its body, somersaulting by flipping onto its tentacles and back onto its base, gliding through mucous secretions that the hydra makes, actually walking on its tentacles and climbing using its tentacles to latch onto objects. Furthermore the hydra can move around through floating essentially attaching itself to something or even riding air bubbles with mucus on it or even swimming using its tentacles to propel itself in water. In all or most of these types of movements the hydra uses its base or foot as support as it attaches to the substratum. (Biology Discussion, 2016)6.

Describe the respiratory and circulatory systems Hydra's don't really have a respiratory or circulatory system as they have no need for it. In its circulatory system all cells are able together the respiratory gases they need simply through contact with water and the respiratory system is not much different.

This means there is no need for blood to transport gases as the hydras rely on simple diffusion. (Olympus America Inc., 2012) 7.

Describe the digestive and excretory systems Hydras have no excretory systems and have one opening for the digestive system which is through the mouth. Food is often broken down by the making of enzymes by cells in the endodermis. The enzymes break the food down into finer or smaller particles and the nutrients are absorbed inside food vacuoles of special type of lining cells and as I said before there is no excretory system so the products usually diffuse into the water and elsewhere in the body. This can be seen as extracellular digestion and is comparable to us when we chew our food.

(Weebly, n. d.) 8.

Describe the type of nervous system A hydra's nervous system is usually connected by many nerve cells connected in a network. This network has photoreceptors used for hunting since the organism is blind and connects it to nerve cells in tentacles which help with touch and feel making it much easier and much more efficient for the hydra when hunting for food. (Fun Science, n.

d.)The nervous system can be seen as a net of neurons. These neurons are all essentially connected by a synapse. In the nervous system communication can be done in both directions on a neuron, however there is no Ganglia which would allow there to be grouping of nerve cell bodies.

(Washington Education, n. d.) 9 Describe reproduction and development

Hydra usually reproduce by a reproduction method called budding which is seen as asexual reproduction or sexual reproduction.

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This is when a whole new organism can be produced from a generative part of the organisms body, this usually happens in a pinching manner and the new individual is made in a pinching manner. Asexual reproduction usually occurs in hotter months and sexual reproduction usually occurs in colder months. However some species of hydra can also be hermaphroditic and have reproductive organs of both sexes. Some species of hydra also have sperm and egg in gonads in their outer layer and female's eggs can be fertilized by sperm released by nearby can be fertilized by the opposite sex if nearby. (Encyclopaedia Britannica, 2018) 10. What is this organism's habitat? The hydra's habitat is usually in freshwater bodies such as rivers, ponds and streams. They aren't usually found in open water but can be found in any underwater vegetation, rocks, and other debris.

(Biology Discussion, 2016) 11. What type of special adaptations does it have for this habitat? The Hydra's lengthiness and its lengthy tentacles allow it to capture prey that flow by in the water. Its digestive system allows it to put the food through the mouth and also come out of the mouth once it is digested. Finally, on the pedal foot of the hydra it is able to attach itself on different type of surfaces.

This can be very useful when catching food and helping to secure themselves and the food that flows by them. (Word Press, 2011)