

UNIT 17
KINGDOM ANIMALIA
PART 1

NAME Key
BLOCK _____

Kingdom Animalia - Animal Diversity

1. What are the characteristics of animals?

Eukaryotic
multicellular
heterotrophic

2. What distinguishes members of Kingdom Animalia from other groups such as protists, plants, and fungi?

Eukaryotic, multicellular, heterotrophic

During this lab we will examine characteristics by which animals are classified and specific examples and phyla that exhibit these characteristics.

A. Watch the video link: [Types of Symmetry](#)

Describe the three types of symmetry











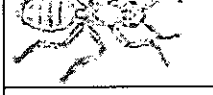

Asymmetry - lack of pattern

radial symmetry - symmetry around a central axis

bilateral symmetry - (99% of animals)
divides body vertically into right & left

B. bilateral R. radial A. asymmetric

Use your computer to determine the phylum that each organism belong to. Then look at the picture and determine the symmetry.

	Animal	Phylum	Symmetry
	Snail	Mollusca	B
	Fish	Chordata	B
	Earthworm	Annelida	B
	Anemone	Cnidaria	R
	Frog	Chordata	B
	Jellyfish	Cnidaria	R
	Starfish	Echinodermata	R
	Alligator	Chordata	B
	Ant	Arthropoda	B
	Elephant	Chordata	B
	Coral	Cnidaria	A
	Sponge	Porifera	A

List the phylum of animals in each category:

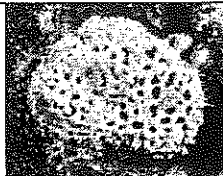
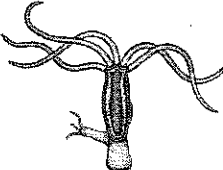
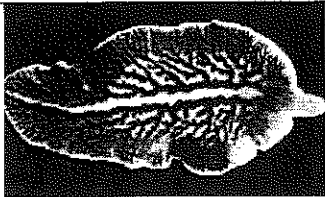
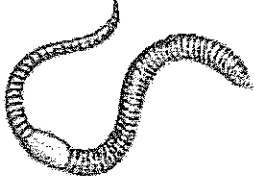
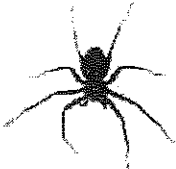

Asymmetrical	Radial Symmetry	Bilateral Symmetry
Porifera	Cnidaria Echinodermata	Annelida Arthropoda Mollusca Chordata

B. Watch the video link: [Germ layers](#)

What are the three embryonic germ layers, and what tissues/organs do they develop into?

ectoderm = skin + nerves
 endoderm = lining of digestive tract
 mesoderm = internal organs

Look up the number of germ layers in each of the following phyla of animals"

	Animal	Phylum	# of germ layers
	Sponge	Porifera	2
	Hydra	Cnidaria	2
	Fluke (type of flat worm)	Platyhelminths	3
	Earthworm	Annelida	3
	Spider	Arthropoda	3
	Pig	Chordata	3

Define:

Diploblastic - develop from 2 germ layers

Triploblastic - develop from 3 germ layers

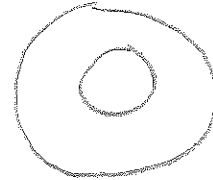
How does the structural complexity of each organism related to the number of germ layers?

↑ complexity ↑ germ layers

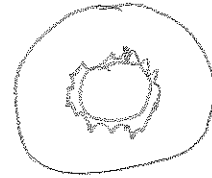
Part C-Watch the video clip: Body Cavities

What are the three types of coelomates. Draw and label a diagram of the cavity and give a example of each?

1. acoelomate
without body cavity



2. pseudocoelomate
no true cavity



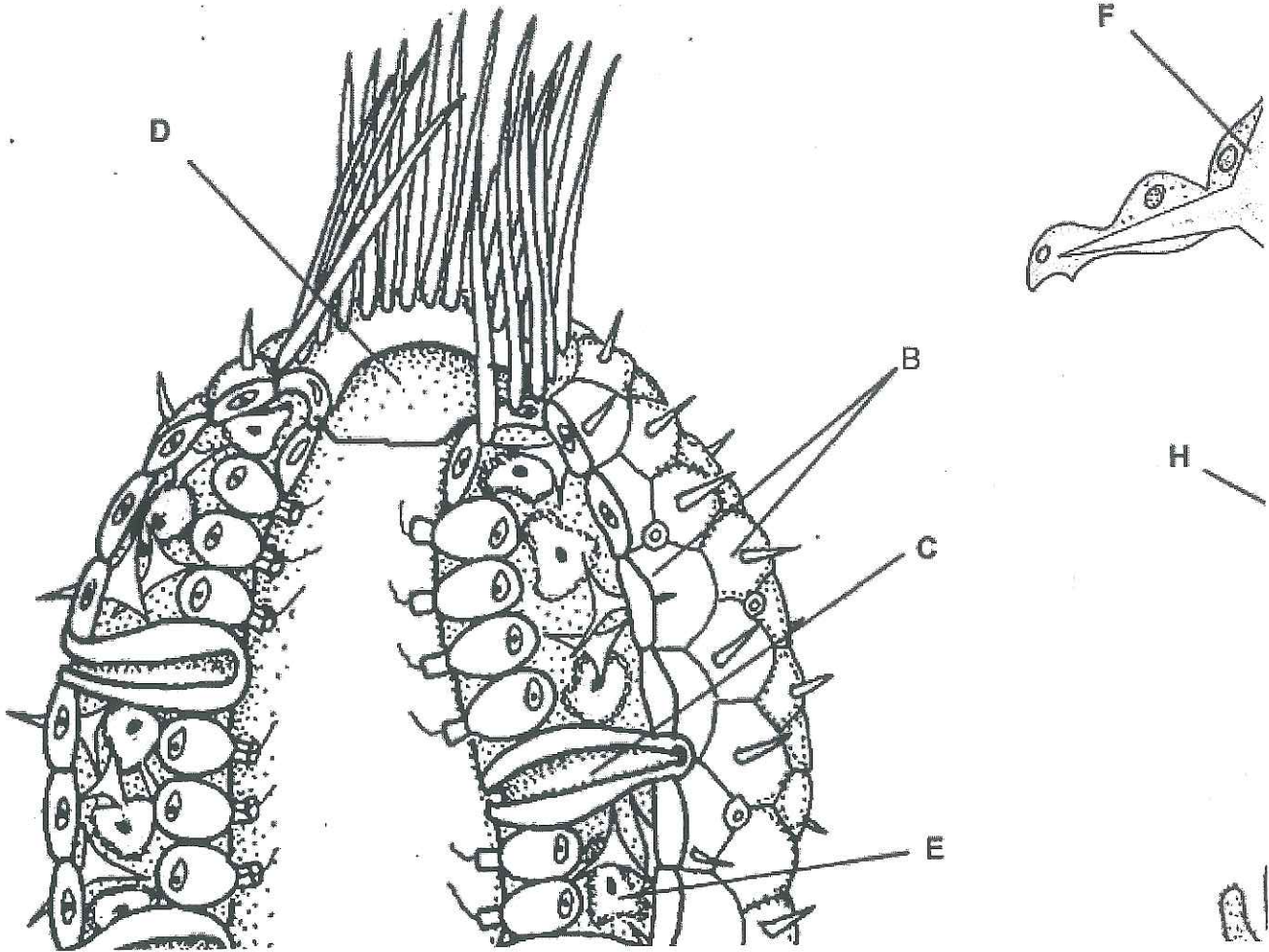
3. Coelomate

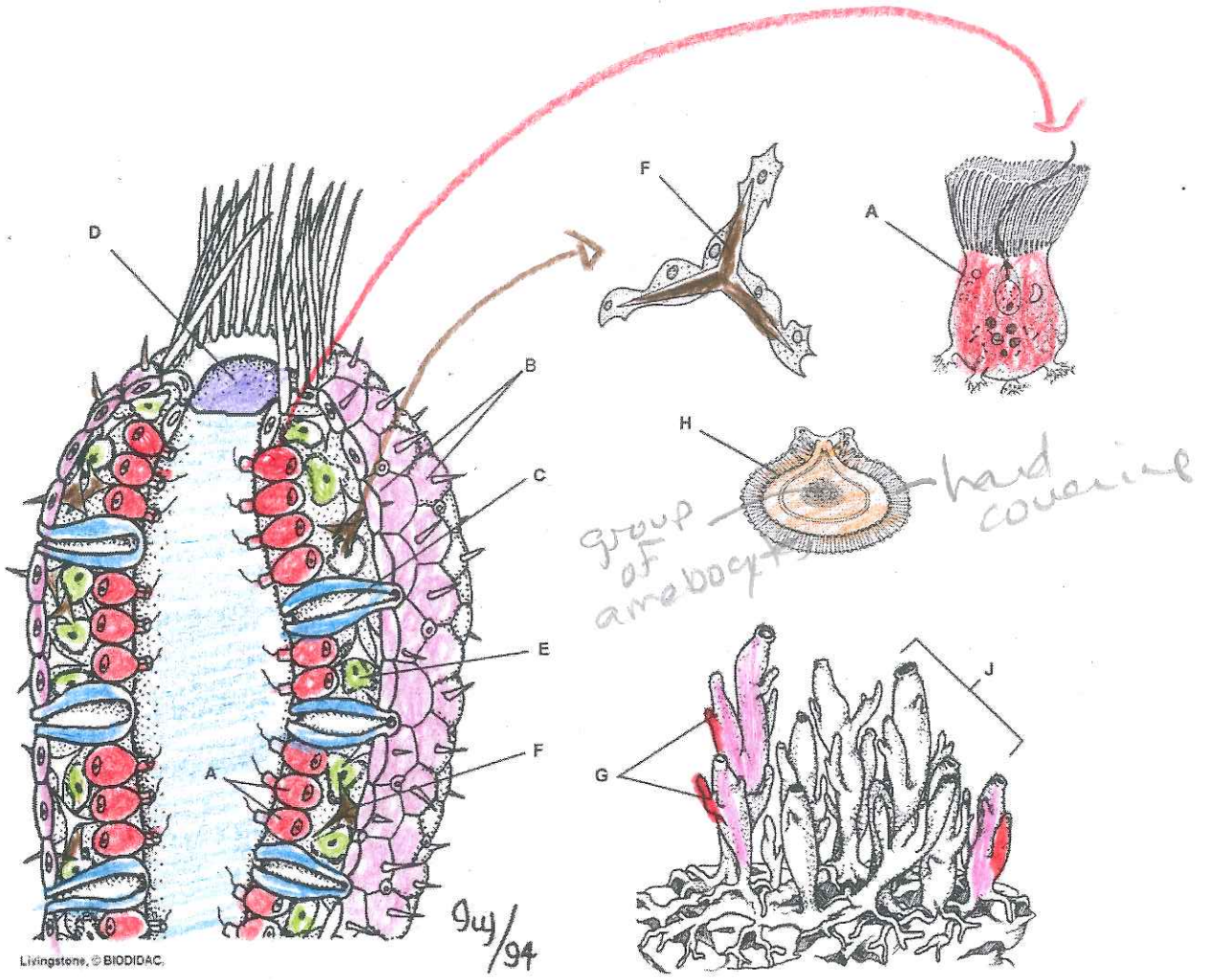


Coelom

Questions:

1. What did early biologists think sponges were? Plants
2. Sponges belong to the Kingdom Animalia and the Phylum Porifera
3. Sponges are [unicellular or multicellular] and [prokaryotic or eukaryotic]
4. What type of symmetry do sponges have asymmetry ~~asymmetry~~ asymmetry
5. What does it mean to be sessile? cannot move
6. How do sponges get their food? Filter Feeders
7. Water enters the sponge through the incurrent pore and leaves through the osculum
8. What helps to circulate water through sponge? Flagella on collar cells
9. What is the job of the amoebocyte? distribute food + oxygen
10. What two substances give the sponge support? Spongin + spicules
12. Tiny sponges growing from the main body of the sponge are called buds
13. What is a gemmule? Group of amoebocytes covered in hard coat (asexual rep)
14. What is a hermaphrodite? produce egg + sperm

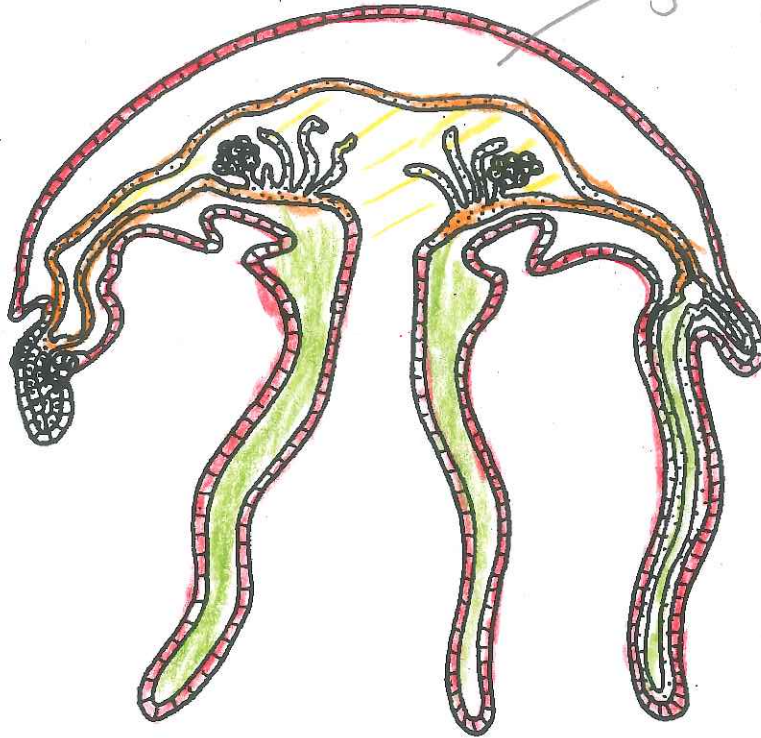




- a) collar cells
- b) epidermis (epithelial cells)
- c) incurrent pores
- d) osculum
- e) amoebocytes
- f) spicules
- g) bud
- h) gemmule
- i) adult

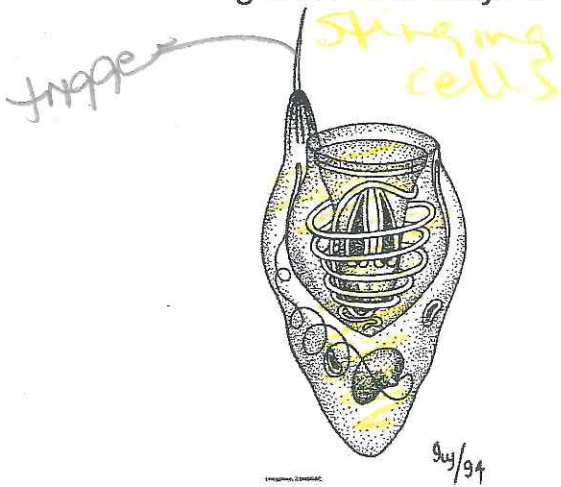
Figure 1 - Jellyfish

Jelly like mesoglea



tentacles
ectoderm
endoderm

Figure 2 - Cnidocytes



stinging cells

trigger

Figure 3 - Nematocyst



harpoon like structure

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Figure 4 – Life Cycle

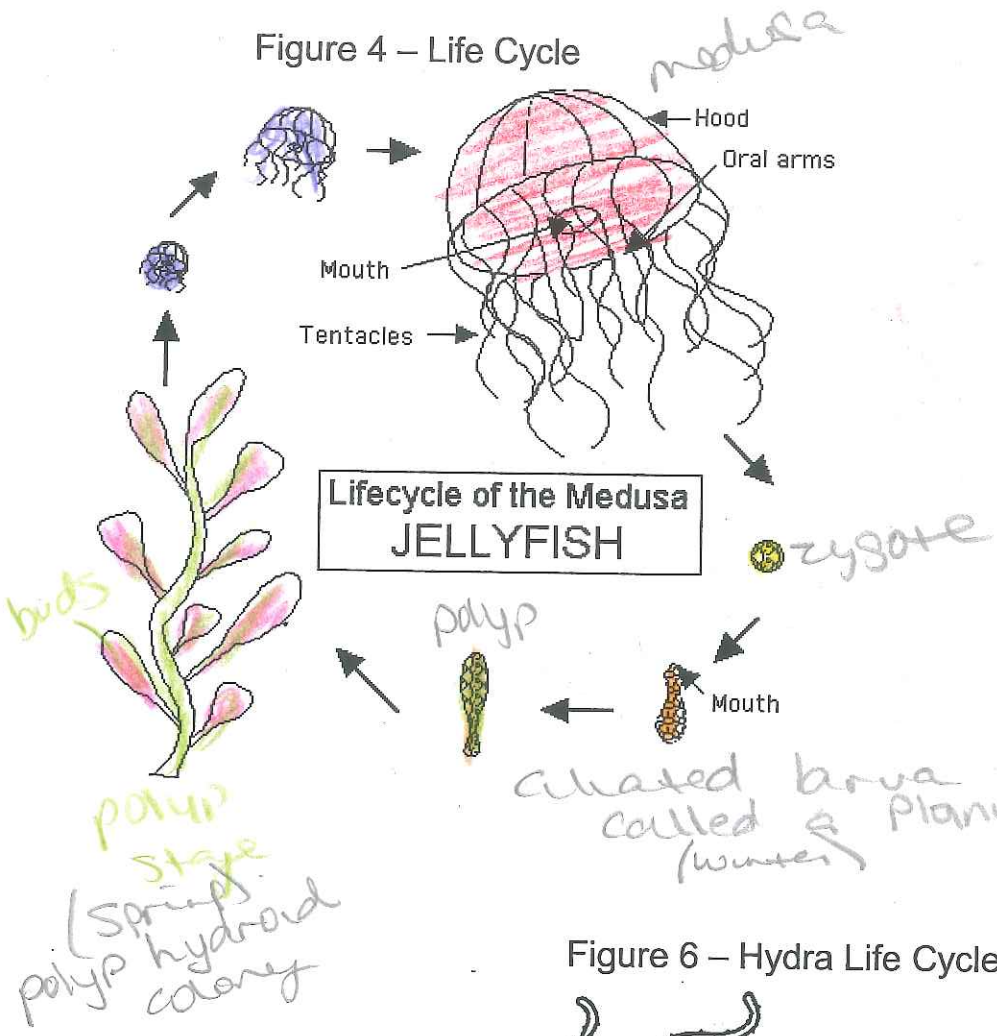


Figure 5 - Hydra

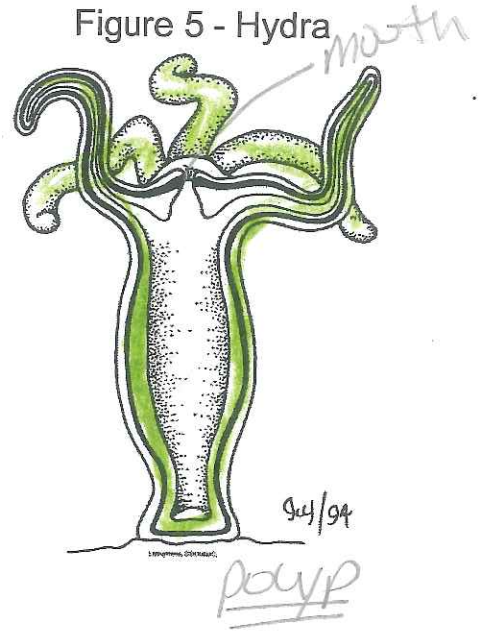


Figure 6 – Hydra Life Cycle

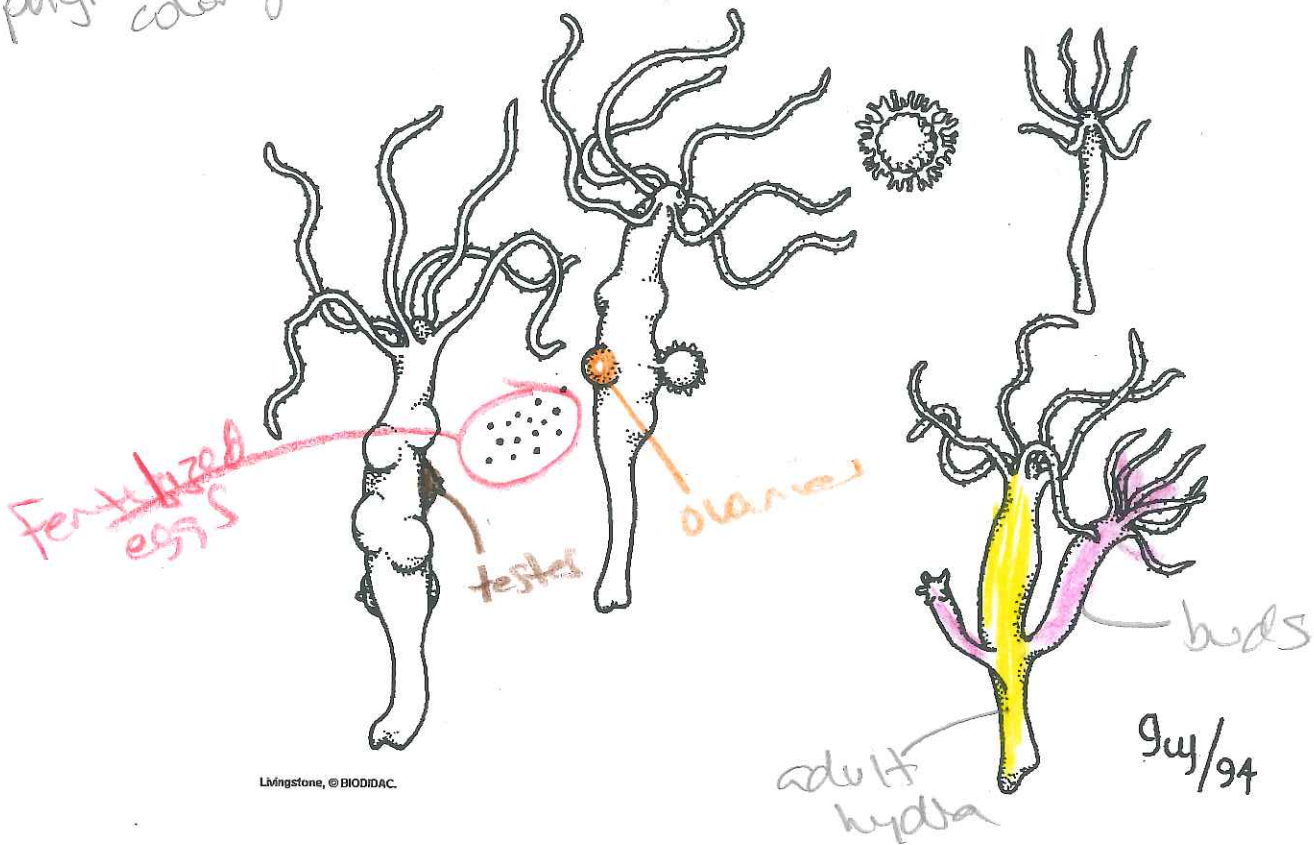
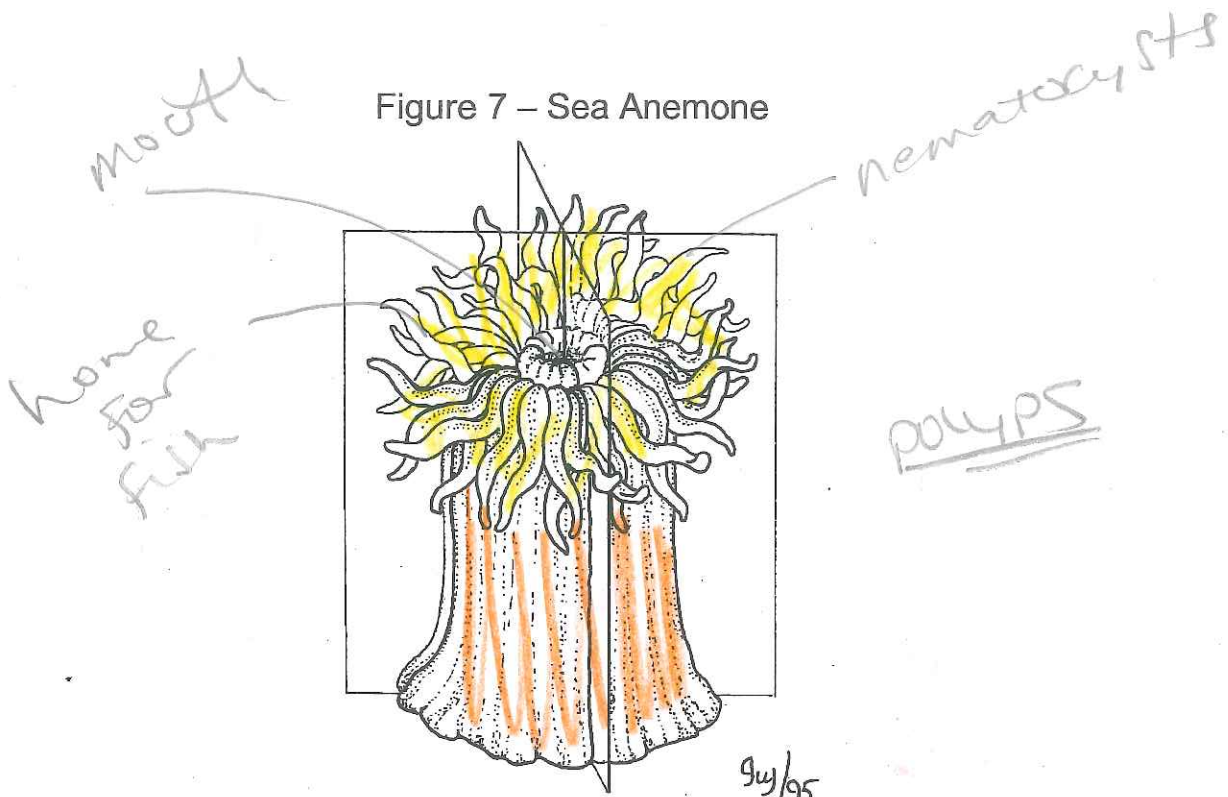


Figure 7 – Sea Anemone



I. Livingstone © BIODIDAC

Questions:

1. How many germ layers do cnidarians have and name them?

ectoderm + endoderm

2. What are the two body forms of cnidarians and make a sketch of each below.



3. What specialized cells do cnidarians use for protection?

Cnidocytes

4. Explain how a nematocyst works.

it is a harpoon like structure that paralyzes prey

5. How many body openings do cnidarians have?

one

6. What does the mouth of the cnidarian open into?

gastrovascular cavity

7. What is the effect of the poison produced by cnidarians on their prey?

paralyzes prey

8. How do hydras reproduce asexually?

budding

9. What is the larva of a cnidarian called? How does it move?

planula

10. Explain how the adult hydra attaches to feed?

tentacles

11. What type of symmetry do cnidarians have?

radial

13. How do hydras feed?

paralyze prey and tentacles push into mouth