Unit 24 · Animalia: body plans, sponges to annelids

WORKSHEET

Full marks 35

Name _____ Class _____ Roll no. _____ Date _____ Marks _____ / 35

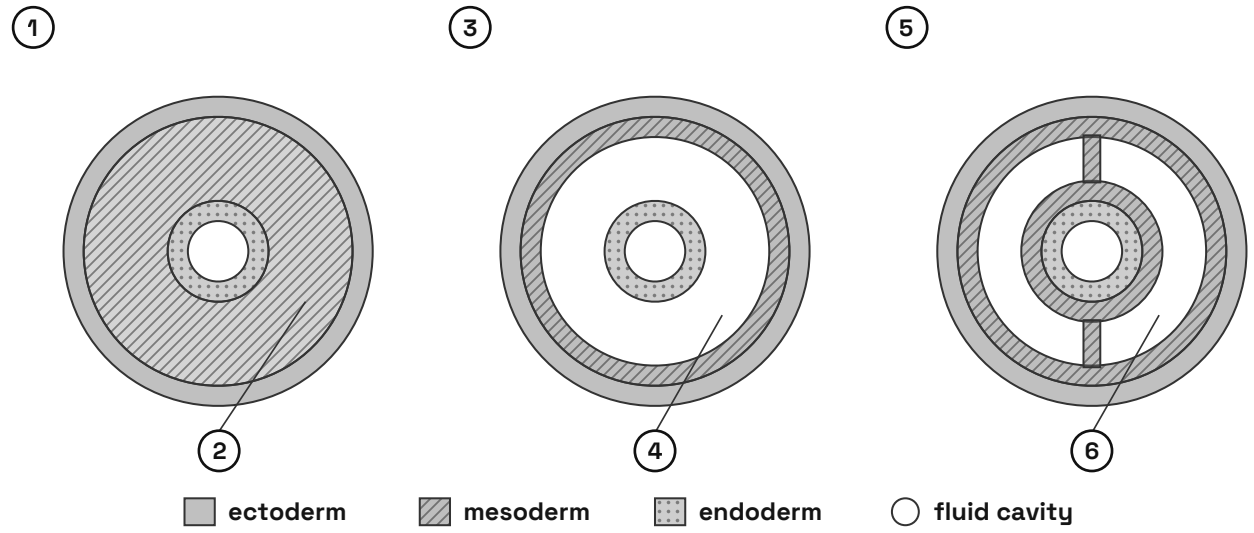
1 Key words [4]

Match each term in column A with its meaning in column B. Two items in column B are not needed. Each match carries 0.5 mark.

Column A		Column B
1. diploblastic	☐	**a.** excretory cells of flatworms with a flickering tuft of cilia
2. deuterostome	☐	**b.** eggs hatch inside the mother; the young live on the yolk
3. pseudocoelom	☐	**c.** a true coelom formed by the splitting of mesoderm
4. schizocoel	☐	**d.** segments of one age, repeated outside and inside
5. metameric segmentation	☐	**e.** a body cavity from the blastocoel, lined by mesoderm on one side only
6. ovoviviparous	☐	**f.** the male organs ripen first in a hermaphrodite
7. uricotelic	☐	**g.** an animal whose blastopore becomes the anus
8. flame cells	☐	**h.** living on or near the bottom of water
		i. developed from two germ layers, with mesoglea between them
		j. giving out nitrogen mainly as uric acid

2 Label the diagram [3]

The diagram shows cross-sections of three worm-like bodies, with the germ layers in the key. For each body, write the name of its body plan with one group of animals that has it, and what lies between its body wall and its gut. Each carries 0.5 mark.



1. _____ **2.** _____

3. _____ **4.** _____

5. _____ **6.** _____

3 Multiple choice [5]

Choose the correct option for each of the following questions.

i. *Hyalonema* is commonly called: [1]

a. bath sponge **b.** urn sponge
c. vase sponge **d.** glass rope sponge

ii. What are the excretory organs of Platyhelminthes? [1]

a. renette cells **b.** flame cells
c. nephridia **d.** coxal glands

iii. In the embryo of an animal, the blastopore becomes the anus. The animal could be: [1]

a. an earthworm **b.** a cockroach
c. a starfish **d.** a snail

iv. Which class of coelenterates has **no** medusa stage? [1]

a. Hydrozoa **b.** Scyphozoa
c. Anthozoa **d.** all of them have one

v. A worm has a clitellum, a few setae, no parapodia and no distinct head. It belongs to: [1]

a. Polychaeta **b.** Oligochaeta
c. Hirudinea **d.** Archiannelida

4 Very short answers [3]

Write very short answers to the following questions.

a. Name the three classes of Porifera. [1]

b. What is the larva of coelenterates called? [1]

c. Why is the blood of an earthworm red though it has no red blood cells? [1]

5 Short answers [9]

Write short answers to the following questions.

a. Differentiate between the blind sac plan and the tube-within-tube plan, with one example of each. [2]

b. In the biology laboratory, a student observes *Ascaris* of both sexes. How can the student tell the male from the female? [2]

c. A worm is long, flat and ribbon-like. Its head has hooks and suckers, and its parts are youngest just behind the head and oldest at the tail. Name its class and its kind of segmentation, and say why that segmentation is not true segmentation. [2]

d. Write any three differences between Polychaeta and Oligochaeta, with one example of each. **[3]**

6 Long answers **[8]**

Write long answers to the following questions.

a. Compare and contrast *Hydra* and *Sycon*. **[4]**

b. In which phylum does metagenesis occur? Also mention any six unique features of this phylum. **[4]**

7 Think [3]

A *Hydra* cannot eat its next meal while it is still getting rid of the last, but an earthworm can eat all the time. Explain this from their body plans, and say what else the earthworm's plan allows its gut to do.

8 Activity: Sort the museum (Activity 8.5) (not marked)

Look at the specimens in your biology laboratory and fill in the table.

Specimen	Body plan	Symmetry	Segmentation

Which features turn out to go together?