Unit 25 · Earthworm

WORKSHEET

Full marks 35

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

1 Key words [4]

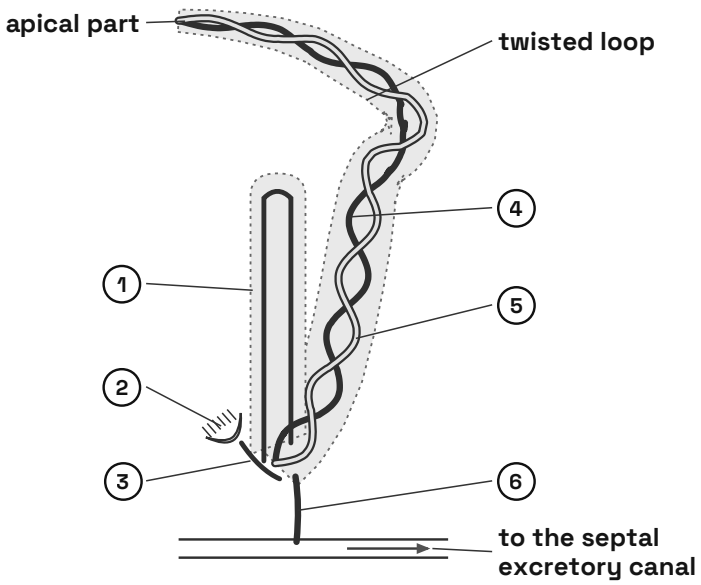
Fill in the blanks with words from the box. Two words in the box are not needed. Each blank carries 0.5 mark.

chloragogen	clitellum	cutaneous	perichaetine	peristomium	porphyrin
prostomium	protandrous	spermathecae	typhlosole		

Breathing through the moist skin is called _____ respiration. The earthworm's brown color comes from the pigment _____. The fleshy lobe over the mouth, its boring organ, is the _____. The glandular band on segments 14, 15 and 16 is the _____. Setae in a complete ring round each segment are called _____. The fold hanging from the roof of the intestine, where most food is absorbed, is the _____. The "yellow cells" that store glycogen and turn ammonia into urea are the _____ cells. The male organs of the earthworm ripen before its female organs, so it is _____.

2 Label the diagram [3]

The diagram shows a septal nephridium of *Pheretima*. Write the names of the parts 1 to 6. 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. In which segment of *Pheretima* is the single female genital aperture? [1]

a. 13 **b.** 14
c. 17 **d.** 18

ii. Where is the brain of the earthworm? [1]

a. below the pharynx in segment 4 **b.** above the pharynx in segment 3
c. in the prostomium **d.** on the clitellum

iii. When the circular muscles of a segment of an earthworm contract, the segment becomes: [1]

a. longer and thinner **b.** shorter and fatter
c. longer and fatter **d.** shorter and thinner

iv. Which nephridia of the earthworm take wastes from the coelomic fluid? [1]

a. pharyngeal **b.** integumentary
c. septal **d.** all three

v. During cocoon formation, the eggs enter the cocoon band: [1]

a. at segments 6 to 9, before the sperm **b.** at segment 14, before the sperm
c. at segment 18, with the worm's own sperm **d.** after the cocoon has closed

4 Very short answers [3]

Write very short answers to the following questions.

a. Write the scientific name of the common Indian earthworm, and its class. [1]

b. Which part of the earthworm is called the forest of nephridia? [1]

c. Why does coelomic fluid ooze out through the dorsal pores? [1]

5 Short answers [9]

Write short answers to the following questions.

a. What is a hydrostatic skeleton? How does it help the earthworm to crawl? [2]

b. Saumyata said that the earthworm is a hermaphrodite animal, which fertilizes itself and has no need to mate. Is she right? Give your opinion. **[2]**

c. Name the three kinds of nephridia of *Pheretima* by where they are, and say where each pours its wastes. **[2]**

d. What is the typhlosolar region of the intestine of the earthworm? How is it different from the post-typhlosolar region? **[3]**

6 Long answers **[8]**

Write long answers to the following questions.

a. How do you differentiate septal nephridia from pharyngeal nephridia? **[4]**

b. How do copulation and cocoon formation take place in the earthworm? Describe the process. **[4]**

7 Think [3]

An earthworm's septal and pharyngeal nephridia pour their wastes into the gut, not out through the skin. Suggest why this is useful, and why an earthworm dies if it is left on a dry pavement in the sun.

8 Activity: Where are they? (Activities 8.7 and 8.10) (not marked)

Fill in the segment or segments where each is found in *Pheretima posthuma*.

Part	Segment(s)
clitellum	
spermathecal pores (grooves)	
female genital aperture	
male genital apertures	
gizzard	
intestinal ceca	
testes	
ovaries	

Why are the spermathecal pores and the male apertures far enough apart for two worms to mate head to tail?