Worms Underfoot

Compare body plans and ways of life

ZOO.4.3 "Compare and contrast the characteristics and lifestyles of flatworms, roundworms, and segmented worms."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline one body-plan trait for each worm group and circle one feeding detail for each group so you can compare how they live.

Three Kinds of Worm

1. Lift a damp log near a stream and you might find a flatworm gliding across wet wood. Flatworms have thin, flattened bodies with no repeating segments and no fluid-filled body cavity. A free-living planarian uses tiny hairs called cilia to glide and has a digestive tract with one opening, which takes in food and expels waste. Other flatworms live inside hosts: tapeworms absorb nutrients through their body surface and have no digestive tract. Both lifestyles depend on a wet place or a host, but these flatworms obtain food in very different ways.

2. Now imagine collecting a pinch of garden soil. Some of its slender, unsegmented roundworms are so small that you need a microscope to see them. Unlike flatworms, roundworms have a fluid-filled body cavity that is not fully lined by tissue called mesoderm. Their digestive tube has two openings, a mouth and an anus, so food travels in one direction. Many soil roundworms eat bacteria or fungi and help recycle nutrients. Others are parasites that live in plants or animals and take nutrients from their hosts. Their shape is cylindrical rather than flat, but like flatworms, they include both free-living and parasitic species.

3. Look deeper into the same soil for an earthworm. Like a roundworm, it has a mouth and an anus and a fluid-filled body cavity. Unlike a roundworm, that cavity is fully lined with mesoderm, and its body is divided into repeating segments. Muscles in these segments help the earthworm burrow, while it swallows soil and decaying plant material. Segmented worms also include leeches, many of which live in freshwater and feed on small animals; some take blood from larger animals. Thus, a segmented body does not require a soil-dwelling lifestyle. All three worm groups contain animals without backbones, but their body plans differ.

2 ANSWER WITH EVIDENCE

Use the passage

1. How do a planarian and a roundworm differ in body shape and digestive openings?

2. What body structures do roundworms and segmented worms share, and how do their body cavities differ?

3. Compare how a planarian moves with how an earthworm moves. Which body feature helps each one?

4. A tapeworm and a blood-feeding leech both obtain food from hosts. How do their body plans and ways of taking food differ?

3 YOUR TURN

Your own words

Write one field-guide paragraph comparing flatworms, roundworms, and segmented worms for someone exploring damp soil and freshwater. Include one trait all three share, two body-plan differences, an example of how each group gets food, and why body shape alone cannot show whether a worm is a parasite.

ANSWER KEY

Worms Underfoot

HIGH SCHOOL · ZOO.4.3

PART 1 · READ AND MARK

Underline one body-plan trait for each worm group and circle one feeding detail for each group so you can compare how they live. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How do a planarian and a roundworm differ in body shape and digestive openings?	**A planarian is flattened and has one digestive opening. A roundworm is cylindrical and has a mouth and an anus.**
2	What body structures do roundworms and segmented worms share, and how do their body cavities differ?	**Both have a mouth, an anus, and a fluid-filled body cavity. A segmented worm's cavity is fully lined with mesoderm; a roundworm's is not.**
3	Compare how a planarian moves with how an earthworm moves. Which body feature helps each one?	**A planarian glides using cilia. An earthworm burrows using muscles in its segments.**
4	A tapeworm and a blood-feeding leech both obtain food from hosts. How do their body plans and ways of taking food differ?	**A tapeworm is a flatworm without a digestive tract and absorbs nutrients through its body surface. A leech is segmented and, in the example given, takes blood from a larger animal.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

All three worm groups are animals without backbones. Flatworms are flattened and lack a fluid-filled body cavity, while roundworms are cylindrical and have one. Segmented worms also have a cavity, but their bodies have repeating segments. A planarian takes in food through one opening, and a soil roundworm eats bacteria or fungi. An earthworm swallows soil and decaying plant material. Body shape alone cannot show whether a worm is a parasite: some flatworms and roundworms live freely, while others live in hosts. Some segmented leeches take blood from larger animals.

Accept other accurate examples from the passage. For the field-guide paragraph, check that comparisons cover all three groups and distinguish body structure from parasitic lifestyle.