

# HOLT BIOSOURCES LAB PROGRAM EARTHWORM DISSECTION ANSWERS

## [Download Complete File](#)

### **How to dissect an earthworm step by step?**

**What is the purpose of an earthworm dissection?** Earthworms are ideal specimens to use for teaching basic anatomy and investigating simple organ systems. Although these annelids, or segmented worms, are one of the simpler preserved invertebrates, the digestive, circulatory, reproductive and nervous systems are well developed and easy to identify.

**What is the heart of the earthworm dissection?** Hearts (or 'aortic arches'): Behind the pharynx are five dark loops wrapped around the esophagus. These are the blood vessels that serve as the hearts of the worm. Dorsal blood vessel: This is a dark line extending from the hearts over the top of the crop.

**Can worms feel pain?** Although worms can respond to physical damage, such as being cut, through reflexive protective behaviors, it is not clear they experience pain as humans do. Research has shown that worms lack the complex brain structures necessary for the conscious experience of pain.

### **How to do the worm step by step?**

**How do you preserve worms for dissection?** All the earthworms that have been collected from the pit should be placed in a tube of 80% ethanol. The size/number of tubes used will depend on how many earthworms were collected. Sometimes a pit can yield over 100 earthworms! The 80% ethanol will act as a killing agent and preserve the earthworms.

**What materials are needed for the dissection of an earthworm?** Worm Dissection Kit content: Preserved earthworm specimen. Dissecting scissors. Plastic forceps. 6 T-pins.

**How to cut open a worm?**

**How does a worm eat?** Worms eat food through their lips or the opening to the worm's mouth. Worms do not have teeth, but they can grind down their food with the help of the grittiness of the soil. Once the food enters the mouth, it then travels down the esophagus or digestive tube and enters the crop.

**How do earthworms take in oxygen?** They breathe through their skin. Air dissolves on the mucus of their skin, so they **MUST** stay moist to breathe. If worms dry out, they suffocate. As fresh air is taken in through the skin, oxygen is drawn into the worm's circulatory system, and the worm's hearts pump the oxygenated blood to the head area.

**How do worms move?**

**Are worms safe to eat?** Worms have been shown to be a good source of protein, certain fats, and micronutrients like iron and zinc. Beetle larvae in particular are loaded with riboflavin. Although edible worms are largely safe to eat, more rigorous research will likely be needed before you start seeing worm protein on U.S. supermarket shelves.

**Can worms feel fear?** *C. elegans* seems to meet at least three out of four of these criteria as it wriggles away from the site of shock, which suggests that even worms can experience 'basic' emotions like fear.

**Do worms have lungs?** Explanation: Earthworms have no lungs and breathe through their skin. To allow dissolved oxygen to get into their bloodstream, their skin must remain moist. Earthworms have mucus-coated skin and require a damp, humid environment to survive.

**How do worms breathe first person?** Earthworms have mucus and little hairs covering their skin that allows them to move through different types of soil. The little burrows they create keep soil healthy and moist. Instead of breathing through lungs,

earthworms breathe through their skin. That's the reason why we see them so much after a rainstorm.

**How do worms move for kids?** Earthworms' bodies are made up of ring-like segments called annuli. These segments are covered in setae, or small bristles, which the worm uses to move and burrow.

**How to do an arm wave?**

**Can both halves of a dissected worm survive?** For some worms, being cut between the head end and tail end will result in two fully functioning worms after the missing parts regenerate. But in some cases, the tail end of a worm will regenerate new tail segments rather than a head, the Washington Post reports.

**What are the safety rules for dissection?** Keep the specimens in their original containers, and inspect all preserved materials before use. Discard any decaying or damaged specimens. Wear chemical-resistant gloves, chemical-resistant aprons and chemical splash goggles or safety glasses for all dissection activities. Work in a well-ventilated lab only.

**How do you prevent dissection?** Monitor and Control Blood Pressure Chronic, uncontrolled high blood pressure can weaken the inner, middle, and outer layers of the aorta, which can lead to an aortic dissection. Keeping your blood pressure under control is the best way to help prevent an aortic dissection.

**How do you preserve earthworms for dissection?** Store specimen in heavy-duty, zip-lock bags to minimize drying between dissections. Specimen will slowly dry out or become contaminated in zip-lock bags; add a teaspoon of Specimen Holding Fluid to retain moisture. Freezing or refrigeration is not necessary and may damage fragile tissues.

**How do you extract earthworms?** One of the easiest ways to gather worms is by leaving a wet piece of flattened cardboard in your garden or lawn overnight. Worms are attracted to wet cardboard so that they will crawl up to the surface in no time. Once you remove the cardboard, you'll have countless worms to place into your worm bin.

**What are three tips or techniques used when dissecting an earthworm?**

Incisions for Dissection Lay the worm dorsal side up. Pin the cranial and caudal ends. Incise beyond the clitellum, then extend the cut to both ends, from the middle out. Take great care to cut no more than 1/16 of an inch deep into the worm.

**What do earthworms eat?** Earthworms eat soil! Their nutrition comes from things in soil, such as decaying roots and leaves. Animal manures are an important food source for earthworms. They eat living organisms such as nematodes, protozoans, rotifers, bacteria, fungi in soil.

**Do all worms have a clitellum?** The clitellum is only found on adult worms. Young or juvenile worms do not have a clitellum. The clitellum of each species of earthworm has a distinct colour, size, and shape. Another key structure found on the clitellum is the tubercula pubertatis.

**What are setae used for in earthworms?** Each segment or section has muscles and bristles called setae. The bristles or setae help anchor and control the worm when moving through soil. The bristles hold a section of the worm firmly into the ground while the other part of the body protrudes forward.

**Do earthworms feel pain when cut?** Yes, it is now accepted that worms feel pain – and that includes when they are cut in half. They do not anticipate pain or feel pain as an emotional response, however. They simply move in response to pain as a reflex response. They may curl up or move away, for example, from painful or negative stimuli.

**What materials are needed for the dissection of an earthworm?** Worm Dissection Kit content: Preserved earthworm specimen. Dissecting scissors. Plastic forceps. 6 T-pins.

**How do you extract earthworms?** One of the easiest ways to gather worms is by leaving a wet piece of flattened cardboard in your garden or lawn overnight. Worms are attracted to wet cardboard so that they will crawl up to the surface in no time. Once you remove the cardboard, you'll have countless worms to place into your worm bin.

**Why do worms turn into 2 when cut?** If an annelid is cut in two, they can regenerate to some degree, and in some species you can even end up with two worms. The common earthworm, however, will only regenerate from the tail end; the head end always dies.

**Is it OK to touch earthworms?** Direct contact with the worms can cause skin irritation in humans, but the effects may be more severe if toxins enter the body through a cut, Ducey warned. "In my lab, my students and I wear gloves when we handle the worms," he said. "We try to touch them as little as possible in general."

**Can worms feel fear?** *C. elegans* seems to meet at least three out of four of these criteria as it wriggles away from the site of shock, which suggests that even worms can experience 'basic' emotions like fear.

**Do worms have genders?** Worms are hermaphrodite, which means they have both male and female reproductive cells. They do however, need another worm to reproduce with. Worms lay eggs, which hatch as little worms. Baby worms develop in cocoons.

**What are three tips or techniques used when dissecting an earthworm?**  
Incisions for Dissection Lay the worm dorsal side up. Pin the cranial and caudal ends. Incise beyond the clitellum, then extend the cut to both ends, from the middle out. Take great care to cut no more than 1/16 of an inch deep into the worm.

**Can both halves of a dissected worm survive?** For some worms, being cut between the head end and tail end will result in two fully functioning worms after the missing parts regenerate. But in some cases, the tail end of a worm will regenerate new tail segments rather than a head, the Washington Post reports.

**How many hearts does a worm have?** Earthworms do not have any eyes, ears, teeth or lungs. Don't be fooled though, they make up for it with the interesting aspects they do have. Like five hearts that squeeze two blood vessels to push blood throughout their little bodies.

**What do earthworms eat?** Earthworms eat soil! Their nutrition comes from things in soil, such as decaying roots and leaves. Animal manures are an important food source for earthworms. They eat living organisms such as nematodes, protozoans,

rotifers, bacteria, fungi in soil.

**Are earthworms fast?** Small earthworms wiggle through the earth at about 0.2 centimeters per second. This works out to about 27 feet per hour. A medium-sized earthworm can go at about one and a half centimeters per second, which is about 185 feet per hour.

**How do earthworms decompose?** Decomposition and soil organic matter Earthworms do this by eating organic matter and breaking it down into smaller pieces allowing bacteria and fungi to feed on it and release the nutrients. Earthworms are also responsible for mixing soil layers and incorporating organic matter into the soil.

**Are worms asexual?** All worms are not asexual. For instance, earthworms are hermaphroditic organisms. Hermaphrodite is an individual that has both male & female reproductive organs. However, worms without sexual organs reproduce through fission.

**Can worms survive in water?** Can worms drown? Worms can survive underwater for several weeks as their skin can absorb oxygen from the water. However, they are unable to swim and will eventually drown if they fail to exit the water.

**Can earthworms feel pain?** But a team of Swedish researchers has uncovered evidence that worms do indeed feel pain, and that worms have developed a chemical system similar to that of human beings to protect themselves from it. The Swedish scientists, J. Alumets, R.

## **Unit 19: Developing Teams in Business (Edexcel)**

### **Understanding Team Development**

1. **What is a team?** A team is a group of individuals who work together to achieve common goals and objectives.
2. **What are the key characteristics of effective teams?** Effective teams have clear goals, strong leadership, open communication, mutual trust, and a

positive working environment.

## **Team Dynamics**

3. **What are the different roles and responsibilities within teams?** Teams often have designated roles such as leader, facilitator, recorder, and contributor. Each role plays a specific part in coordinating and supporting the team.
4. **How can teams overcome challenges and conflicts?** Teams can overcome challenges by actively listening, understanding different perspectives, and finding solutions through discussion and compromise. Conflicts can be managed by establishing clear expectations, defining roles, and fostering open and respectful communication.

## **Developing Teams**

5. **What is the role of leadership in team development?** Leaders play a crucial role in setting the vision, providing guidance, and creating an environment that supports team success. Effective leaders use motivational techniques, delegate responsibilities, and provide regular feedback.

## **Improving Team Performance**

6. **What strategies can teams use to improve their performance?** Teams can improve their performance by setting SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) goals, conducting regular performance reviews, and implementing ongoing training and development programs.
7. **How can teams measure their effectiveness?** Teams can measure their effectiveness by tracking their progress towards goals, conducting team audits, and seeking feedback from stakeholders. Regular evaluation allows teams to identify areas for improvement and make necessary adjustments.

**What is paper 3 in IB economics?** IB Economics Paper 3 features two compulsory questions concerning any of the four units of the syllabus. The questions come with graphs, news article excerpts, and data sets for the following calculations. There are a) and b) sections per each question: Short answer questions, with eight separate questions per section.

**How to get a 7 in IB Economics Paper 1?** In order to achieve a 7 on an IB Economics exam, it is important for students to understand the format, structure and content of each type of question. For multiple-choice questions, it is necessary for students familiarize themselves with the material in order to identify the correct answer among the choices provided.

**Is economics IB difficult?** Firstly, understanding the core concepts and theories in economics can be challenging, especially for those who haven't studied the subject before. It may seem difficult at first, but with consistent effort and dedication, most students can adapt to the new material.

**How long is IB Economics Paper 2?** In total, IB Economics Paper 2 awards 40 marks, out of which 25 bring short-answer questions and 15 – the final essay-like question. These marks weigh 30% of the total grade for HL students and 40% from the SL. Overall, students have 1 hour and 45 minutes to complete the assignments.

**Is a 3 a fail IB?** Each IB subject is graded on a scale of 1 to 7, with 7 being the highest. To pass an individual IB subject, a student typically needs to score a 4 or above, but this can vary depending on the specific requirements of the Diploma Programme.

**Is 3 a passing grade in IB?** Many universities often use a score of “4” or “5” as the minimum for granting admission or advanced placement. For the full Diploma Programme, which is different from an individual DP course score, the minimum passing score is 24 points, assuming all other passing conditions have been met.

**Is it hard to get 7s in IB?** Conclusion: Since the IB curriculum is extensive and rigorous, achieving a 7 in IB Business is undoubtedly challenging. Also, the multifaceted nature of the course and the high standards set by the IB program make it overwhelming.



**Is it hard to get a 7 in IB ESS?** Conclusion. Achieving a 7 in ESS IB requires hard work and dedication. It is important to have a strong understanding of key terms and concepts, as well as the ability to analyze and apply them to real-world case studies. A well-written IA, which accounts for a significant portion of the final score, is crucial.

**What is the hardest subject to get a 7 in IB?** Subjects generally considered hardest in IB – Math Analysis and Approaches (AA) HL, Sciences (HL), History HL, English Literature HL, and Computer Science HL.

**Which IB subject is the easiest?** The easiest subject in the IB program can vary depending on individual strengths, interests, and aptitudes. However, subjects like IB Philosophy, Geography, or Language B courses are often considered relatively easier by students due to their accessible curriculum and assessment methods.

**Is IB harder than normal?** The IB is considerably harder than A-levels. In the IB, students must study six subjects plus extras whereas with A-levels students study three subjects. With so much workload, it is no surprise that many students taking the IB end up with relatively low grades (24-30 points).

**What percentage is a 7 in IB economics?**

**Is economics ib paper 2 the same for HL and SL?** This paper is the same for both SL and HL. Students answer one question from a choice of two. Students are expected to demonstrate the following assessment objectives. Questions in this paper are drawn from the four units of the syllabus excluding the HL extension material and topics studied at HL only.

**How to get a 7 in IB Paper 2?** The secret to scoring a 7 in IB English Paper 2 is to get very comfortable with bending, morphing and twisting your texts and/or the prompt so that they are as compatible with each other as possible.

**How long is paper 3 IB Econ?**

**What is an IB paper 3?** Higher Level Paper 3 is a paper that demands significant research on the part of the candidate, guided, of course, by the class teacher. When it comes to answering questions, the focus throughout the paper is on the depth of understanding of the subject material.

**What is IB Bio HL Paper 3?** Paper 3: Data Analysis This IB biology exam paper tests all of your option topic knowledge through data analysis questions. Section A: Shorter answer questions on experiments or data, where each question has multiple parts (i/ii/iii). Questions include content similar to, but distinct from, the core syllabus.

**What is the difference between paper 2 and paper 3 IB Physics?** Paper 2 contains short-answer and extended-response questions on the core (and Additional Higher Level (AHL) material at HL). Paper 3 has two sections; Section A contains one data-based question and several short-answer questions on experimental work on the core (and AHL material at HL).

**How many marks is paper 3 in economics?** In total, Paper 3 = 50 marks.

**What causes red rot in sugarcane?** Pathogen: Red rot disease is caused by the fungus *Glomerella tucumanensis*. An older name, *Colletotrichum falcatum*, is still preferred by some pathologists.

**What is the chemical management of red rot of sugarcane?** Removal and destruction of the affected clumps have to be carried out religiously without fail. Once an infected clump is detected, the rest of the crop is to be sprayed with a systematic fungicide like Thiophanate methyl (0.1%) at three weeks intervals (2-3 sprays depending on the disease severity).

**How to control red rot of sugarcane?** There are three main possible ways to control the red rot disease: (1) use of a resistant variety, (2) treatment with fungicides such as carbendazim, and (3) biological control through antagonistic microorganisms.

**What is the disease of sugarcane stem rot?** Stems show large red blotches on the outside (Photo 1), and internal red rots with white patches, when the stems are cut open (Photo 2). Cavities may be present which contain the cottony growth of the fungus. The leaves turn yellow, dry and die. As the rots develop, the stems are easily broken.

**Can you eat sugar cane with red rot?**

**How do you treat red rot?** Red rot is a type of leather deterioration. Leather books suffering from red rot are powdery and red-brown. Not much can be done to treat this condition (oiling does not help, but only makes more of a mess). One possible option is to put a protective cover on the book to keep the deterioration more intact.

**What is the fungicide for red rot of sugarcane?** According to Subhani et al., (2008), the fungicides Benomyl, Folicur and Ridomil performed the best against red rot of sugarcane. ... .. Fungicides have a key role in updating and improving the state of agriculture (Subhani et al., 2008).

**Which fungicide is best for sugarcane?** Tyrant® 500 500 g/L propiconazole 10 mL/100 L water Ensure thorough coverage of the cut ends of sugarcane setts. Bayfidan® 250ec 250 g/L triadimenol 20 mL/100 L water Apply to setts by dipping or spraying. Ensure thorough wetting of cut ends.

**What is the primary infection of red rot of sugarcane is mainly from?** Infected planting materials are the primary source of pathogen inocula for the occurrence of red rot disease in sugarcane fields [8,28].

**Can you stop red rot?** Some people may tell you its possible to fix red rot through different chemical procedures or a 'secret' process a technician has worked out. The fact is there's no way to fix red rot and any coating of the bore is going to alter an instrument's tone.

**What is the difference between red rot and wilt of sugarcane?** Wilt affected canes do not emit any odour, unlike canes infected with red rot or pineapple diseases. There are no white spots in internal tissues that are typical of red rot affected canes.

**What kills sugarcane plants?** Extensive use of Roundup since 1975 has confirmed its ability to kill cane under the right conditions when applied at a rate of ten litres per hectare. Regrowth after such an application can be controlled mechanically or by hand.

**What does red rot do to sugarcane?** Red rot is a disease of sugarcane. It is caused by the fungus *Colletotrichum falcatum*. It causes red and white patches on the cane and gives then alcoholic odor when the cane is split open.

**What is the host of red rot of sugarcane?** The infected tissues have a dull red colour interrupted by occasional whitish patches across the stalk. This disease is caused by the fungus *Glomerella tucumanensis*. So, from above discussion, it can be concluded that the host of red rot is sugarcane. Correct option is D. It is a very serious disease of sugarcane.

**What is the most serious disease of sugarcane?** Red rot is a very serious disease of sugarcane. It was first described by Went in 1893 (56). Since then it has been found to cause epiphytotics in different countries. The surest symptom of the disease is the reddening of the internal internodal tissues with crossbars of white patches in the reddened area.

**How much is a sugar cane worth?** The average futures price for 2022-23 was 20.9 US cents/lb and an average Australian spot price of \$663 /tonne. These prices were 10% and 14% above the 2021-22 year respectively. The average 2022-23 spot price for Australian sugar is 55% higher than the average price prior to 2020-21.

**Why is my sugar cane red?** Any part of the sugarcane plant can be attacked by the red rot pathogen. Leaf discoloration is the first symptom observed in the field. Leaf midvein symptoms are characterized as red-colored elongated lesions, while in the blade, the symptoms appear as reddish spots on the upper surface (Matsuoka & Maccheroni, 2015).

**What is the bad side of sugarcane?** Excessive intake may lead to increased weight gain, blood sugar level or tooth decay. 3. An ingredient called polycocanal present in sugarcane can cause insomnia, upset stomach, dizziness, headaches and weight loss in some people.

**Is red rot harmful to humans?** Maize is the staple food commodity in South Africa and it is plagued by many ear and stem rot diseases. The fungi infecting maize can also produce mycotoxins, which are toxic substances. Mycotoxicoses can cause various diseases in humans and animals.

**Can red rot spread?** If the red rot in the collection is not controlled, it will spread catalyzing acids and dust to neighboring collections. Leather desiccated by red rot becomes highly moisture sensitive; any contact with moisture will result in severe

and irreversible darkening of the leather.

**What is the difference between blight and red rot?** Red rot disease is caused by the *Colletotrichum falcatum* fungus. The signs of the disease are the reddening of the internal internodal tissues with white patch crossbars in the reddish region. The late blight of Potato is caused by the *Phytophthora* fungus.

**What is the primary infection of red rot of sugarcane is mainly from?** Infected planting materials are the primary source of pathogen inocula for the occurrence of red rot disease in sugarcane fields [8,28].

**What is the difference between red rot and wilt of sugarcane?** Wilt affected canes do not emit any odour, unlike canes infected with red rot or pineapple diseases. There are no white spots in internal tissues that are typical of red rot affected canes.

**Why does sugarcane juice turn red?** Sugarcane composition affects color due to the presence of anthocyanins, carotenoids, flavonoids, melanoidins, melanins and products from the alkaline degradation of fructose in different amounts, while color influences consumer acceptance.

**What is the vector of red rot of sugarcane?** The fungus *C. falcatum* is the causal agent of sugarcane red rot, one of the most destructive diseases that affects the crop (Khan et al. 2011; Bharti et al.

[unit 19 developing teams in business edexcel, ib economics paper 3 numerical questions higher level practice questions with answers osc ib revision guides for the international baccalaureate diploma, plant disease red rot of sugarcane](#)

modern math chapter 10 vwo 2 vespa manuale officina scott foresman addison  
wesley mathematics grade 4 answer key reteaching practice enrichment problem  
gep55 manual omnifocus 2 for iphone user manual the omni group mitochondrial  
case studies underlying mechanisms and diagnosis sound waves 5 answers beyond  
victims and villains contemporary plays by disabled playwrights echocardiography in  
pediatric and adult congenital heart disease blackberry manual flashing aging  
professional responsibility aging law school aging thomson west biotechnology of  
HOLT BIOSOURCES LAB PROGRAM EARTHWORM DISSECTION ANSWERS

bioactive compounds sources and applications ka stroud engineering mathematics  
 6th edition counting and number bonds math games for early learners math you can  
 play 1 canon powershot s5 is digital camera guide utilisation french instruction  
 manual births deaths and marriage notices from marion county alabama newspapers  
 birth death and marriage records 1887 1900 rx v465 manual principles of exercise  
 testing and interpretation the religion toolkit a complete guide to religious studies  
 drugs in use clinical case studies for pharmacists the papers of henry clay candidate  
 compromiser elder statesman january 1 1844 june 29 1852 1999 hyundai elantra  
 repair manual downloa dish network help guide 2 zone kit installation manual  
 casualty insurance claims coverage investigation law chapter 7 lord of the flies  
 questions answers yamaha dsp ax2700 rx v2700 service manual repair guide  
 newholland tz22daownersmanual elementsofengineering electromagneticsrao  
 solutionboschdishwasher repairmanualdownload mechanicsofmaterials  
 beerandjohnston 5thedition solutions cancionero infantilibros musicameasure  
 andconstruction ofthe japanesehouse reinforcedconcrete designsolutionmanual  
 7thedition gates 3000bmanual subaruforester2005 workshop service repair manual bd  
 university admission test marsden vector calculus solution manual view  
 unit2 macroeconomics multiple choice sample questions answers 1990 2004  
 pontiac grand am and oldsmobile alero collision repair manual cub cadet model lt1046  
 yamaha xv250 1988 2008 repair service manual global positioning system theory  
 applications volume one progress in astronautics and aeronautics harleysportster  
 1200 repair manual free yamaha roadstar service manual understanding sport  
 organizations 2nd edition the application of organization theory 2nd edition by  
 slack trevor parent milena 2005 hardcover the 12 lead ecg in acute  
 coronary syndromes text and pocket reference package 3th third edition download  
 yamaha yzf r125 r125 2008 2012 service repair workshop manual wiley tax preparer a  
 guide to form 1040 wiley registered tax return preparer exam review freightliner  
 cascadia user manual chap18 acid bases study guide answers medical filing  
 essence of everyday virtues spiritual wisdom from the dead sea scrolls bonser forklift 50  
 6070 90100d hdtcls 45 alqaseeda alqaseedachezer patterns of agile practice adoption  
 engineering mathematics 2d cagarwal ninth edition manual yamaha ysp 2200 rubinstein  
 lectures on microeconomic solutions manual freeland 1td4 haynes manual