



# JOHN EDMONDSON HIGH SCHOOL

## Assessment Notification

Faculty: Science Course: Biology Year: 11

Assessment Task: Depth Study

Assessment Weighting: 30% Due: Term 2 Week 7 Date: Thursday 13<sup>th</sup> June (13/06/24)

Task Type: Hand in Task  In-Class Task  Practical Task

### Outcomes assessed (NESA)

BIO11/12-1 develops and evaluates questions and hypotheses for scientific investigation  
BIO11/12-3 conducts investigations to collect valid and reliable primary and secondary data and information  
BIO11/12-4 selects and processes appropriate qualitative and quantitative data and information using a range of appropriate media  
BIO11/12-5 analyses and evaluates primary and secondary data and information  
BIO11/12-6 solves scientific problems using primary and secondary data, critical thinking skills and scientific processes  
BIO11/12-7 communicates scientific understanding using suitable language and terminology for a specific audience or purpose  
**BIO11-9 explains the structure and function of multicellular organisms and describes how the coordinated activities of cells, tissues and organs contribute to macroscopic processes in organisms**

### Task Description/Overview

This task consists of **THREE** components:

Section 1 - 3D Model - 30 Marks  
Section 2 – Summary notes - 10 Marks  
Section 3 – In class examination - 30 Marks

Total - 70 Marks

#### **Section 1: 3D Model of a Mammalian Digestive System**

In this task, students are required to construct a model of the digestive system of one of the following animals:

- Koala
- Human

#### **Section 2: Summary Notes on Mammalian Digestion**

Students need to make summary notes/a “cheat sheet” on the follow syllabus dot points:

- trace the digestion of foods in a mammalian digestive system, including:
  - physical digestion
  - chemical digestion
  - absorption of nutrients, minerals and water
  - elimination of solid waste

The summary notes must be handwritten and on one double-sided A4 page. You will be marked on the quality of the notes, use of subheadings, colour and diagrams.

You will be able to bring your double-sided page/notes to your examination. You will need to submit your notes at the end of the examination.

### **Section 3: In-class examination:**

You will need to answer questions relating to the syllabus dot point:

- explains the structure and function of multicellular organisms and describes how the coordinated activities of cells, tissues and organs contribute to macroscopic processes in organisms BIO11-9

Note that you will only be examined on content covered in class as well as your depth study research on mammalian digestive systems.

### **Detailed Assessment Task Description**

1. Investigate the digestive tract of chosen animal.
2. Construct a 3D model of the digestive tract of the chosen animal. This model must be fixed to a board no larger than 60cm X 84cm (equivalent to 2 x A3) and should include all structures, organs and accessory organs involved in the digestion process. The model should also be labelled, annotated and have an appropriate key included.
3. Discuss the benefits and limitations of your model.
4. Include an extensive bibliography list (of at least 5 sources), according to JEHS website.
5. Complete summary notes on mammalian digestion for study.
6. Sit the examination in class on Thursday Week 7.

You will be **allocated 6 lessons** of class time between Week 5 and Week 7. You may use these lessons to construct your model or conduct research. You must provide the resources construct your model.

#### Submission Details:

**Submit your completed 3D model and a printed copy of your report on Thursday 13<sup>th</sup> June 2024 from 8:00am and no later than 8:20am in D04.**

**Submit your summary notes at the conclusion of the in-class examination.**

**Section 1: 3D Model Marking Criteria**

**Student Name:** \_\_\_\_\_

**Total** \_\_\_\_/30

	5	4	3	2	1	0
<b>Introduction of the chosen animal</b>				Names the chosen species of animal using scientific binomial nomenclature. AND Outlines the diet of the chosen animal.	ONE component missing.	TWO components missing.
<b>Model: Scientific Concept (Accuracy of anatomy)</b>	Accurate representation of all major organs involved in the digestive system, including the mouth, tongue, oesophagus, stomach, liver, gall bladder, pancreas, small intestine, appendix, large intestine, rectum and anus	Model shows all necessary organs and structures of the chosen animals' digestive system with some minor errors.	Model shows most organs and structures of the chosen animals' digestive system.	Model shows some organs and structures of the chosen animals' digestive system.	Model reflects a basic understanding of the anatomy of the chosen animal.	Model reflects a limited understanding of the anatomy of the chosen animal.
<b>Model: Detail and Scaling</b>	Model is very detailed (evidence of attention to important minute details, accurate shape, size and position of organ) and to scale (structures are in proportion to each other).	May lack some detail or have minor errors. Most structures are relatively proportionate.	May lack some detail or have a few errors. Some structures are somewhat proportionate.	Model may lack some detail or have several scaling errors.	Attempts to model a digestive system.	Limited detail in model.

	5	4	3	2	1	0
<b>Key and Labelling</b>	Labels and keys are correct and easy to read. Labels and keys show an extensive understanding of the model by showing the path of nutrient breakdown and absorption. Model shows location of 3 or more enzymes and important microstructures.	Labels and keys are correct and easy to read. Labels and keys show thorough understanding of the model.	Labels and keys are mostly correct but may be difficult to read. Labels and keys add a sound understanding of the model.	Labels and keys used show a basic understanding of the model.	Labels and keys are difficult to read, or one is missing.	Labels and keys missing.
<b>Annotated Function of Organs</b>			Comprehensive description of function of at least 6 major organs present in the chosen animals' digestive system.	Sound description of all structures and organs present in the chosen animals' digestive system.	Identifies some functions of organs present in the chosen animals' digestive system.	No annotations
<b>Creativity</b>	Model is eye catching, highly creative, sophisticated, and original in design. Model is three-dimensional. Materials & shapes are appropriate to the represented concept.	Model is creative, sophisticated, and original in design. Model is three-dimensional. Materials and shapes are appropriate to the represented concept.	Model is creative and original in design, has some sophistication. Model is two-dimensional. Materials & shapes are mostly appropriate to the represented concept.	Model is missing some finishing touches; structure may be compromised.	Model does not appear finished, or structure is compromised. OR Model is two-dimensional.	Model not finished.

	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>Referencing</b>	Correct JEHS referencing has been used to acknowledge 5 or more sources. Sources include a variety of resources, including a website, journal article and textbook.	Correct JEHS referencing has been used to acknowledge less than 5 sources. Sources include a variety of resources, including a website, journal article and textbook. OR minor error/s in 5 correct references from a variety of sources.	Correct JEHS referencing has been used to acknowledge less than 5 sources. OR Incorrect referencing style (e.g. Harvard) has been used to acknowledge 5 sources. Sources include a variety of resources, including a website, journal article and textbook.	Incorrect referencing style (e.g. Harvard) has been used to acknowledge less than 5 sources.	No referencing style has been used to acknowledge less than 5 sources.	No references

**Teacher Feedback:**

**Section 2: Summary Notes Marking Criteria**

**Student Name:** \_\_\_\_\_

**Total** \_\_\_\_/10

	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>0</b>
<p style="text-align: center;"><b>Quality of Notes</b></p> <p><i>trace the digestion of foods in a mammalian digestive system, including:</i></p> <ul style="list-style-type: none"> <li>– <i>physical digestion</i></li> <li>– <i>chemical digestion</i></li> <li>– <i>absorption of nutrients, minerals, and water</i></li> <li>– <i>elimination of solid waste</i></li> </ul>	<ul style="list-style-type: none"> <li>• Thorough coverage of all major organs involved in digestion and additional relevant information.</li> <li>• Notes are clear and concise.</li> <li>• Incorporation of relevant subtopics such as enzymes (at least 3 named), nutrients, and the role of gut microbiota.</li> <li>• Explanation of both physical and chemical digestion processes.</li> <li>• Correct and consistent use of scientific terminology.</li> </ul>	<ul style="list-style-type: none"> <li>• Thorough coverage of all major organs involved in digestion with some detailed information.</li> <li>• Notes are clear, enhancing understanding.</li> <li>• Comprehensive coverage of all subtopics with in-depth analysis.</li> <li>• Explanation of some physical and chemical digestion processes.</li> <li>• Correct use of scientific terminology.</li> </ul>	<ul style="list-style-type: none"> <li>• Sound coverage of all major organs involved in digestion.</li> <li>• Notes are reasonably clear.</li> <li>• Incorporation of some subtopics such as enzymes, nutrients, and the role of gut microbiota.</li> <li>• Explanation of some physical and chemical digestion processes.</li> <li>• Use of scientific terminology that may include occasional errors.</li> </ul>	<ul style="list-style-type: none"> <li>• Basic coverage of major organs involved in digestion, missing some key components.</li> <li>• Explanation of physical or chemical digestion processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Limited coverage of major organs involved in digestion.</li> </ul>	<ul style="list-style-type: none"> <li>• Notes not submitted.</li> </ul>

	5	4	3	2	1	0
<b>Presentation of Notes</b>	<ul style="list-style-type: none"> <li>• Handwritten notes are very neat, fit onto one double-sided A4 page, and are well-organised.</li> <li>• Logical subheadings used, enhancing readability and organisation.</li> <li>• Colour used to enhance focus and organisation, aiding in comprehension.</li> <li>• Hand-drawn diagram included, correctly labelled, and detailed, enhancing understanding.</li> <li>• Notes are clear and logical with no spelling or grammatical errors.</li> </ul>	<ul style="list-style-type: none"> <li>• Handwritten notes are neat, fit onto one double-sided A4 page, and are well-organised.</li> <li>• Logical subheadings used.</li> <li>• Colour used to enhance organisation.</li> <li>• Hand-drawn diagram included, well-labelled, and sufficiently detailed.</li> <li>• Notes are clear and logical, contains minimal spelling and grammatical errors.</li> </ul>	<ul style="list-style-type: none"> <li>• Handwritten notes are neat and fit onto one double-sided A4 page.</li> <li>• Subheadings used.</li> <li>• Colour used.</li> <li>• Hand-drawn diagram included.</li> <li>• Notes are generally clear and may have some spelling and grammar errors.</li> </ul>	<ul style="list-style-type: none"> <li>• Handwritten notes are somewhat neat and fit on one or two sides of an A4 page.</li> <li>• Some subheadings used.</li> <li>• Some use of colour.</li> <li>• Diagram included.</li> <li>• Notes are moderately clear and may have some spelling and grammar errors.</li> </ul>	<ul style="list-style-type: none"> <li>• Notes are printed, messy or exceed one double-sided A4 page.</li> </ul>	<ul style="list-style-type: none"> <li>• Notes not submitted.</li> </ul>

**Teacher Feedback:**