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## Level 1 Biology, 2015

### 90929 Demonstrate understanding of biological ideas relating to a mammal(s) as a consumer(s)

2.00 p.m. Friday 20 November 2015  
Credits: Three

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of biological ideas relating to a mammal(s) as a consumer(s).	Demonstrate in-depth understanding of biological ideas relating to a mammal(s) as a consumer(s).	Demonstrate comprehensive understanding of biological ideas relating to a mammal(s) as a consumer(s).

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

**You should attempt ALL the questions in this booklet.**

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–12 in the correct order and that none of these pages is blank.

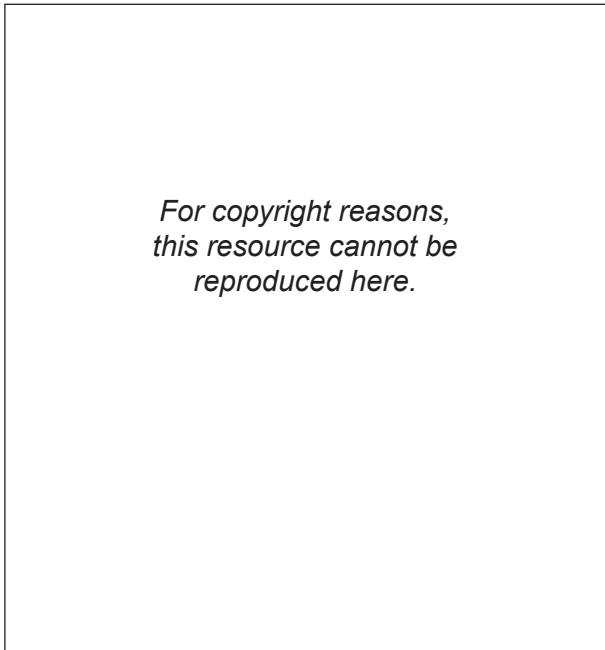
**YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.**

TOTAL

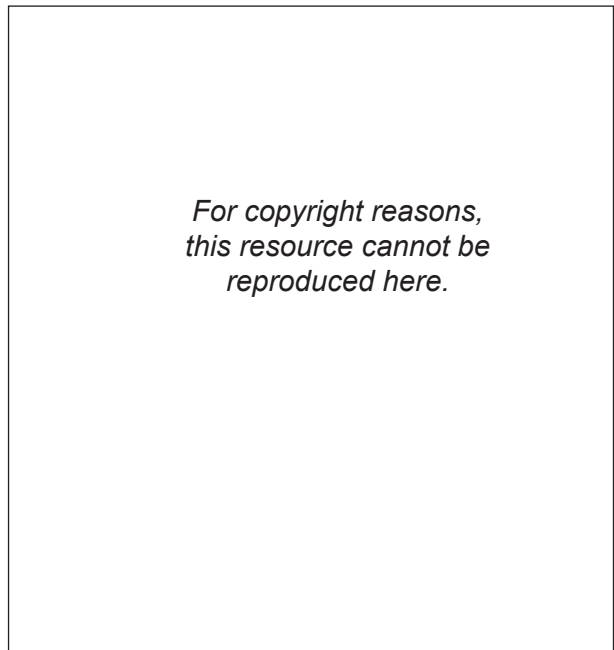
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**QUESTION ONE: TEETH FOR LIFE**

The pictures below show the skull of a carnivore and the skull of a herbivore. They have different structures to assist with the digestion of the different types of foods eaten.

**Cat skull**

<http://illuminationstudios.com/wp-content/uploads/2011/10/catskull.jpg>

**Sheep skull**

<http://www.cpr-savers.com/assets/images/prodimages/T30018.jpg>

- (a) Define the term digestion.

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- (b) Explain how the teeth and jaws of cats and sheep are adapted to deal with their different types of food.

In your answer you should:

- name the type of digestion that uses the teeth
- explain how each animal's teeth are adapted to suit each animal's typical diet
- compare the teeth and jaw of the cat with the teeth and jaw of the sheep, and explain how and why they are different.

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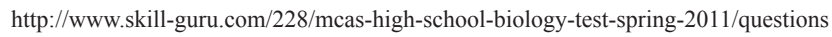
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- a definition of chemical digestion
- a description of where each enzyme is produced, and where it carries out its function
- a discussion of how each enzyme's activity is affected by the pH changes that occur as food moves through the digestive system.



**QUESTION TWO: DIGESTIVE SYSTEMS**ASSESSOR'S  
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a-sheep-gettyimages.jpg?v=1&c=IWSAsset&k=2&d=PbAEhI  
rzoCHBv40PPIGN5LT4ISBLbqOzsOGL5AT2frA%3D](http://cache2.asset-cache.net/gc/dv1637031-studio-cut-out-of-a-sheep-gettyimages.jpg?v=1&c=IWSAsset&k=2&d=PbAEhIrrzoCHBv40PPIGN5LT4ISBLbqOzsOGL5AT2frA%3D)

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<https://classconnection.s3.amazonaws.com/235/flashcards/2166235/jpg/picture11367354350876.jpg>

Compare and contrast the digestive system of the cat with the digestive system of the sheep.

In your answer you should:

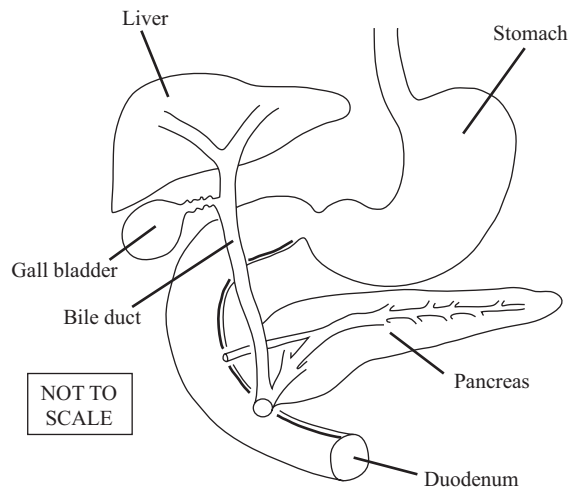
- describe the similarities AND differences in the features of the cat's and sheep's digestive systems
- explain how the different digestive systems are suited to the dietary requirements of a carnivore and a herbivore.



Once chyme (a thick semifluid of partly digested material) leaves the stomach, it enters the first part of the small intestine (duodenum), where further digestion can occur.

- In your answer you should:

- ## Digestive tract from the stomach to the duodenum



### Table of digestive enzymes and their substrates

Substrate	Enzyme	Product(s)
	Lipase	
		Amino acids
Starch		



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**Question Three continues  
on the following page.**

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In your answer you should:

- explain how the structures in the small intestine help increase absorption and transport of named substances to other cells within the body
- discuss how the final products of digestion are transported to other regions in the body, and what these products are used for in the cells.

**Extra paper if required.**  
**Write the question number(s) if applicable.**

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