

Biology - Key stage 4
Ecology

Biomass

Dr Clapp



Independent practice

1. Complete these sentences:
A trophic level shows ...
The arrows in a food web represent ...
1. Sketch a food chain with 4 trophic levels and label as much information as you can.
Key words: trophic level, producer, primary, secondary, tertiary, consumer, apex predator, energy transfer, decay, herbivore, carnivore



Independent practice - answers

1. Complete these sentences:

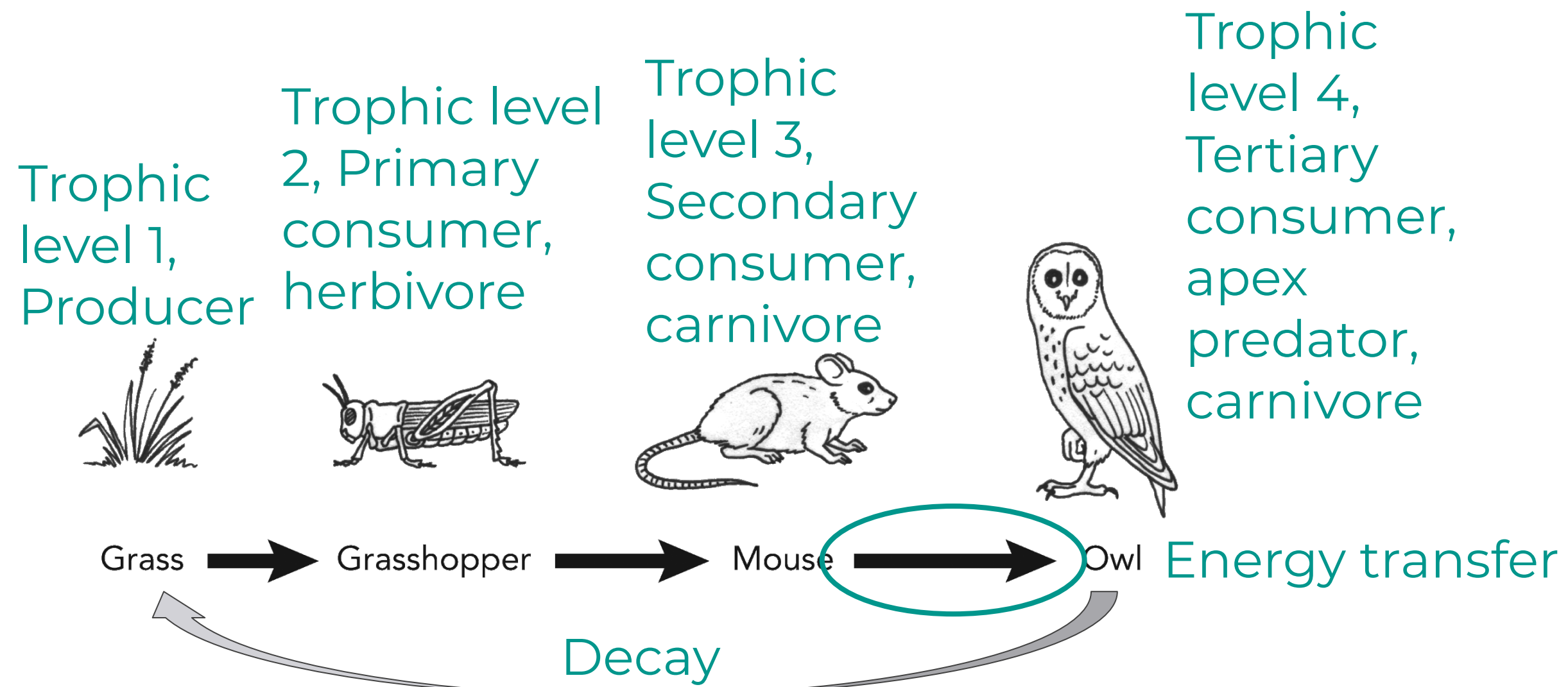
A trophic level shows **the position of an organism in a food chain**

The arrows in a food web represent **the transfer of energy between organisms in a food chain**



Independent practice - answers

2. Sketch a food chain with 4 trophic levels and label as much information as you can.



Source: Clean PNG - Kamurardin - Food chain



Independent practice

Draw scale pyramids of biomass for the following food chains:

a.

Organism	Biomass (g)
Grass	100
Rabbits	40
Hawks	4

b.

Organism	Biomass (g)
Algae	120
Fish	60
Seal	25
Shark	10

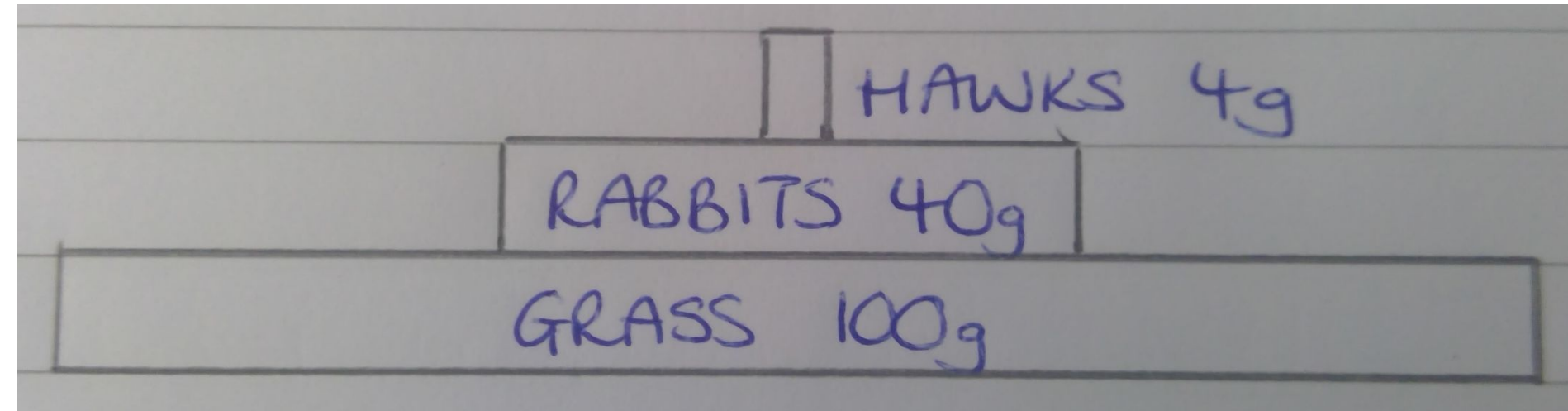


Independent practice - answers

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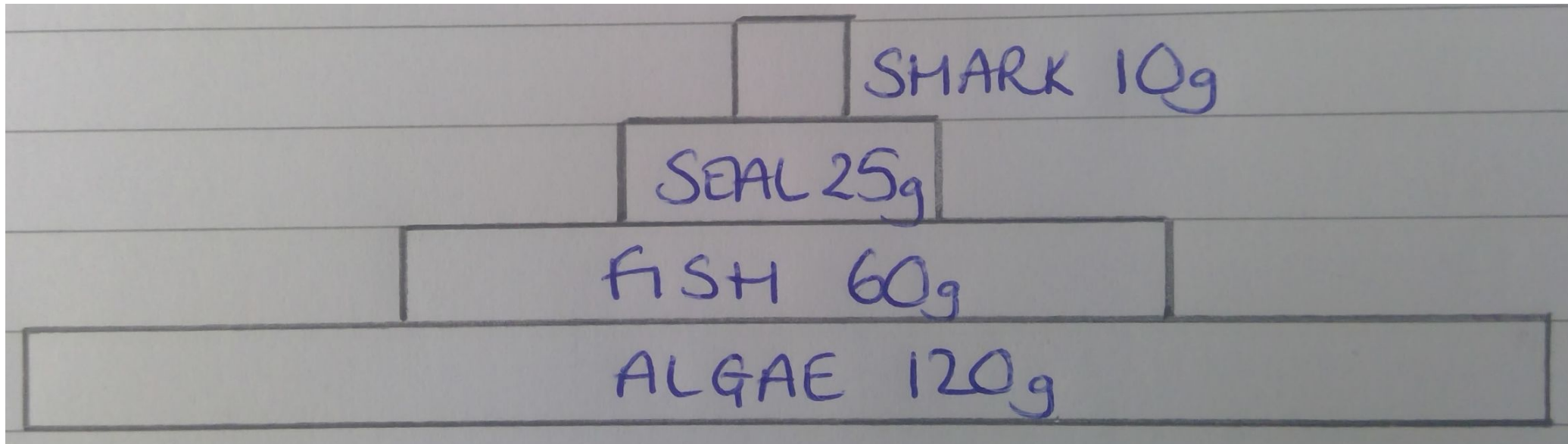


Independent practice - answers

Draw scale pyramids of biomass for the following food chains:

b.

Organism	Biomass (g)
Algae	120
Fish	60
Seal	25
Shark	10



Independent practice

Calculate the percentage biomass passed on between each trophic level.

Organism	Biomass (g)
Algae	1200
Fish	100
Seal	9
Shark	1



Independent practice - answers

Calculate the percentage biomass passed on between each trophic level.

$$(100 \div 1200) \times 100 = 8\%$$

$$(9 \div 100) \times 100 = 9\%$$

$$(1 \div 9) \times 100 = 11\%$$

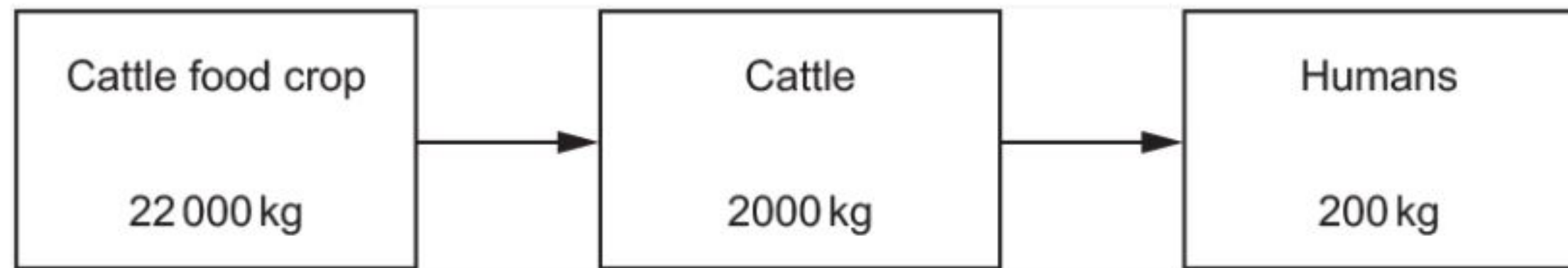
Organism	Biomass (g)
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Independent practice

Question from ExamBuilder: OCR Gateway Biology A, J247/04, paper 4, June 2018

1. The diagram shows the flow of biomass through an agricultural food chain.



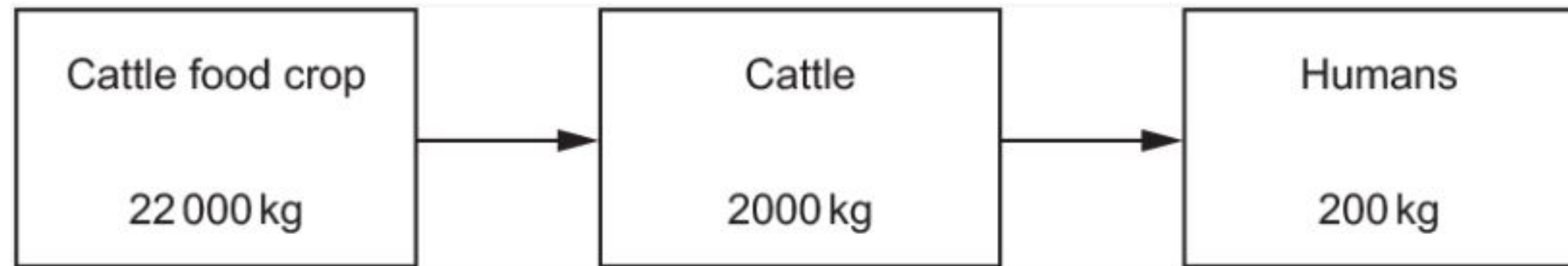
- i. Calculate the percentage efficiency of transfer of biomass between the cattle food crop and humans. (2)
- ii. Write down **two** ways that biomass is lost from the food chain. (2)



Independent practice - answers

Question from ExamBuilder: OCR Gateway Biology A, J247/04, paper 4, June 2018

1. The diagram shows the flow of biomass through an agricultural food chain.



- i. Calculate the percentage efficiency of transfer of biomass between the cattle food crop and humans. (2)

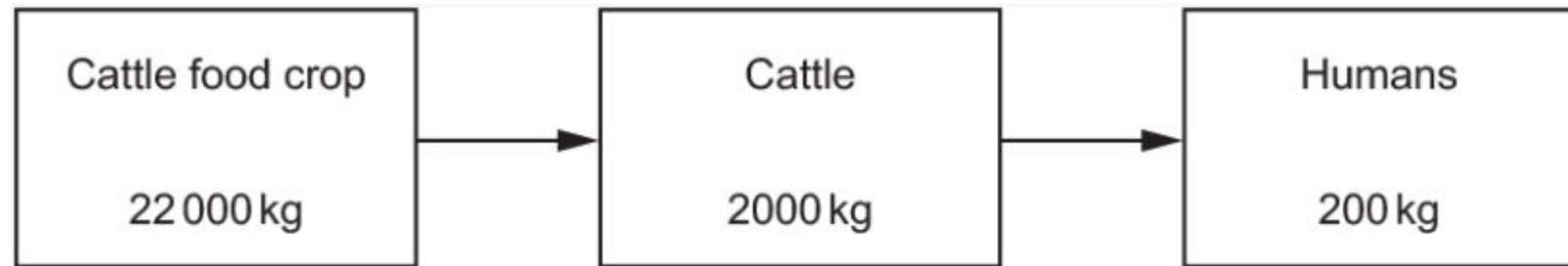
$$(200 \div 22,000) \times 100 = 0.9\%$$



Independent practice - answers

Question from ExamBuilder: OCR Gateway Biology A, J247/04, paper 4, June 2018

1. The diagram shows the flow of biomass through an agricultural food chain.



- ii. Write down **two** ways that biomass is lost from the food chain. (2)

Faeces, urine, carbon dioxide, water, respiration

