

Mark schemes

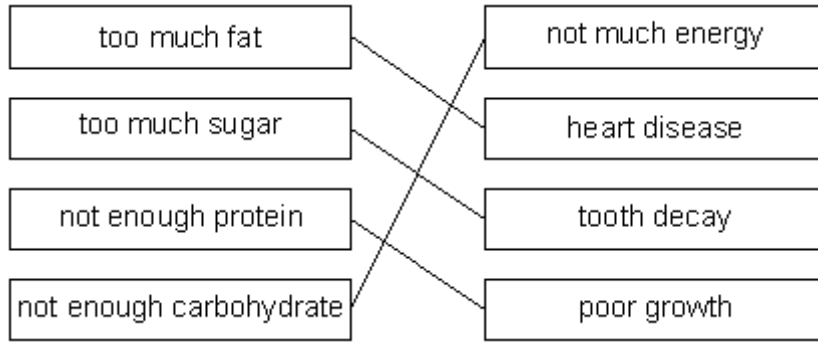
Q1.

- (a) (i) D 1 (L3)
- (ii) E 1 (L3)
- (iii) any **one** from
- blood
accept 'plasma'
 - blood vessels
accept a named blood vessel
accept 'arteries'; 'veins'
*a mark should be awarded for 'red **or** white blood cells'*
as knowledge of the function of blood cells is not expected
at this level the mark is awarded for the reference to blood 1 (L4)
- (b) to provide energy ✓
if more than one box is ticked, award no mark 1 (L3)
- (c) (i) Clare
accept 'lemonade and jam or doughnut' 1 (L3)
- (ii) Nadia
*accept 'cheeseburger and chips' **or** 'burger and chips'* 1 (L3)
- (iii) any **one** from
- it causes heart disease
accept 'it is bad for your heart'
 - it could give you a heart attack
accept 'it might give you a stroke'
 - it clogs your arteries **or** blood vessels
accept 'it makes you fat'
accept 'it is bad for the liver' 1 (L3)

[7]

Q2.

- (a)



*if more than four lines are drawn deduct one mark for each incorrectly drawn line
minimum mark zero*

4 (L3)

- (b) they contain too much fat

*accept 'they contain fat' or 'they make you fat **or** overweight'
accept 'it is an unbalanced diet' **or** 'it could give you a heart attack' **or** it causes heart disease'*

1 (L3)

[5]

Q3.

- (a) • fat

accept 'cream'

1 (L3)

- (b) (i) • calcium

1 (L4)

- (ii) any **one** from

- in the blood
- in blood vessels
*accept 'plasma'
accept a named blood vessel
accept 'arteries' **or** 'veins' **or** 'capillaries'
or 'circulatory system'
accept 'blood cells' **or** 'red cells'
accept 'the heart pumps blood'
'pumped by the heart' is insufficient*

1 (L4)

- (c) (i) • mammals ✓

if more than one box is ticked, award no mark

1 (L4)

- (ii) • The milk contains antibodies. ✓

if more than one box is ticked, award no mark

1 (L4)

[5]

Q4.

- (a) any **one** from

- the test-tube is pointing away from him
*accept 'the test-tube is pointing away from the edge of the bench' do **not** accept 'the test-tube is at an angle'*
- he used a cork and a pin to hold the burning crispbread
*accept 'he used a pin' **or** 'he is not holding the crispbread' **or** 'the cork is on the stand'*
- the test-tube is held in a clamp
*accept 'he used a clamp' **or** 'the test-tube is held tightly'*
- it is away from the edge of the bench
- the apparatus is arranged over the base of the stand for stability
*accept 'the tube is over the base'
do **not** accept 'he is wearing goggles'*

1 (L5)

(b) any **two** from

- use the same amount of water
- use the same mass **or** weight of crisp
*accept 'use the same mass of food'
do **not** accept 'use the same amount of food'*
- the crisp must be the same distance from the test tube as the crispbread was
- start with water at the same temperature
- shield both experiments from the draught
*do **not** accept 'use the same apparatus'
or 'heat for the same amount of time'*

2 (L4)

(c) The change in the temperature of the water will be greater. ✓
if more than one box is ticked, award no mark

1 (L6)

(d) (i) fibre is not digested
*accept 'it is not absorbed'
or 'it does not get broken down'
do **not** accept 'it is insoluble'*

1 (L6)

(ii) any **two** from

- it contains less fat
*accept 'it is less fattening'
or 'it contains less energy'*
- it contains more fibre
- it contains more protein
*do **not** accept 'more carbohydrate'*

2 (L6)

- (e) oranges ✓
if more than one box is ticked, award no mark
- 1 (L5)

[8]

Q5.

- (a) • (37 °C is) body temperature
*accept 'so the saliva **or** enzymes would work'*
*accept 'it is a good **or** optimum temperature for digestion'*
'to make it a fair test' is insufficient
'so they are all the same' is insufficient
- 1 (L5)
- (b) (i) • the starch is broken down **or** digested
'there is a reaction between starch and saliva' is insufficient
- 1 (L6)
- (ii) any **one** from
- starch could not pass through the bag
accept 'starch could not get through the holes'
'the bag is semi-permeable' is insufficient
 - starch is too big
'the bag holds it in' is insufficient
- 1 (L6)
- (c) • for a control ✓
if more than one box is ticked, award no mark
- 1 (L6)
- (d) (i) • P
if more than one letter is given, award no mark
- 1 (L6)
- (ii) • R
if more than one letter is given, award no mark
- 1 (L6)
- (e) • enzymes
*accept 'amylase' **or** 'carbohydrase'*
- 1 (L6)
- (f) any **one** from
- sweeter **or** sugary
*accept 'sugar' **or** 'sweet'*
 - it tastes of sugar (L6)
- 1

[8]

Q6.

- (a) (i) • *name:* nucleus
- 1 (L6)

- *function: it controls the cell*
accept 'nuclei'; 'it contains genetic information';
'contains chromosomes'
'it is the brain of the cell' is insufficient 1 (L6)
- (ii) tissue ✓
if more than one box is ticked, award no mark 1 (L6)
- (b) (i) any **one** from
 - to push food **or** waste along
accept 'for peristalsis'
 - to break up large pieces of food
accept 'mechanical digestion'
 - to churn food
accept 'to mix in enzymes'
'to digest food' is insufficient 1 (L6)
- (ii) • they speed up digestion
accept 'they digest them'
accept 'they break them down'
accept 'they turn it into amino acids' 1 (L6)
- (iii) • fibre ✓
if more than one box is ticked, award no mark 1 (L5)

[6]

Q7.

- (a) (i) an enzyme
accept 'enzymes' or 'pepsin' or 'protease'
accept 'acid' or 'hydrochloric acid' 1 (L7)
- (ii) any **one** from
 - it is the temperature at which enzymes work best
 - it is the temperature of the body
*do **not** accept 'this is the body heat' or 'to make a fair test'* 1 (L7)
- (b) (i) any **one** from
 - for growth
accept 'for new cells'
 - for repair
 - for making other protein **or** enzymes

accept 'to supply amino acids'
do not accept 'for energy'

1 (L6)

- (ii) **one mark is for the products of digestion getting through the barrier between intestine and blood, and the other mark is for the method of transport**

they pass through the intestine wall

accept 'they are absorbed or pass into the blood'
or 'they pass through the gut wall'

1 (L7)

they are carried by the blood **or** plasma **or** blood stream

accept 'they go through the blood vessels'
or arteries or veins'

1 (L7)

[5]

Q8.

- (a) (i) enzyme(s)

accept '(hydrochloric) acid'
do not accept other named acids

accept 'biological catalyst'
'catalyst' is insufficient

accept any named enzyme (e.g. amylase or protease)
'saliva' is insufficient

1 (L7)

- (ii) it is broken down (into smaller molecules)

accept 'forms amino acids'
'it is absorbed' is insufficient

accept 'breaks up'
do not accept 'it breaks down into glucose'

1 (L6)

- (b) (i) any **one** from

- as a control

accept 'control'
'so that it is a fair test' is insufficient
accept 'as a comparison'

- to show that enzyme digested the jelly

accept 'to show what would happen without the enzyme or pineapple'

- to show that water does not digest the jelly

1 (L7)

- (ii) any **one** from

- it took less time to digest the jelly (than B)

accept 'it breaks it down or up more quickly'
an explanation of why it is faster is insufficient

- chopped up jelly digested more quickly

'it is easier to swallow' is insufficient
'it is easier to digest' is insufficient
*accept 'it **only** takes an hour to digest'*
'it digests in an hour' is insufficient

1 (L6)

- (c) (i) • 5 g cube of (chopped up) jelly **and** same amount **or** 15 cm³ of juice
accept 'use same amount of jelly and juice'
*do **not** accept 'water'*

1 (L7)

- boil the juice first
accept 'use (fresh) boiled juice'
*do **not** accept 'boiling juice'*

1 (L6)

- (ii) the jelly was not digested
accept 'how much jelly had broken down'
accept 'nothing happened'
'nothing' is insufficient as it implies
nothing is left in the test tube
accept '5 g of jelly (cubes)'
accept 'a small amount of jelly has dissolved'
'the jelly has not dissolved' is insufficient

1 (L6)