

**GCSE**

**Science B**

Unit **B712/01**: Modules B2, C2, P2 (Foundation Tier)

General Certificate of Secondary Education

**Mark Scheme for June 2015**

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

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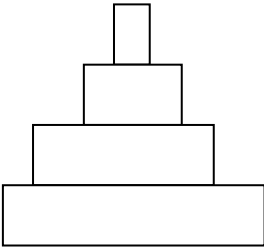
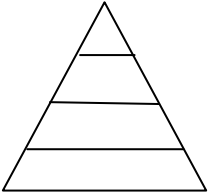
Annotations used in scoris

Annotation	Meaning
	correct response
	incorrect response
<b>BOD</b>	benefit of the doubt
<b>NBOD</b>	benefit of the doubt <b>not</b> given
<b>ECF</b>	error carried forward
	information omitted
<b>I</b>	ignore
<b>R</b>	reject
<b>CON</b>	contradiction

Abbreviations, annotations and conventions used in the detailed Mark Scheme.

/	= alternative and acceptable answers for the same marking point
(1)	= separates marking points
<b>allow</b>	= answers that can be accepted
<b>not</b>	= answers which are not worthy of credit
<b>reject</b>	= answers which are not worthy of credit
<b>ignore</b>	= statements which are irrelevant
( )	= words which are not essential to gain credit
<u>    </u>	= underlined words must be present in answer to score a mark (although not correctly spelt unless otherwise stated)
ecf	= error carried forward
AW	= alternative wording
ora	= or reverse argument

Question	Answer	Marks	Guidance
1 a	oak (tree) (1)	1	<b>ignore</b> plant
b	the tick lives on or feeds on deer / squirrel / mouse (causing them harm) (1)	1	<b>allow</b> the tick lives on other organisms or host (causing them harm) <b>allow tick</b> sucks or feed on blood <b>allow</b> feed on <b>living</b> animals or plants <b>allow</b> feeds on animals or plants causing them harm <b>but ignore just</b> 'feeds on animals or plants' <b>ignore</b> tick takes energy from deer / squirrel / mouse
c	primary consumer when it is eating the oak (1)  secondary consumer when it is eating the caterpillar <b>or</b> idea that it eats a primary consumer (1)	2	e.g. (also) eats the caterpillars that are eating the tree (1)  <b>allow if no other marking point</b> eats animals and plants <b>or</b> eats caterpillar and tree /oak <b>or</b> is a herbivore and a carnivore (1)  <b>but</b>  <b>allow</b> feeds on two trophic levels (2)  <b>allow</b> primary consumers when mouse eat plants and secondary consumers when mouse eats animals (2)  <b>allow</b> (mouse) eats <b>both</b> producers and primary consumers (2)

Question	Answer	Marks	Guidance
<p><b>d</b></p>	<p>draw a pyramid shape (1)</p> <p><b>then any one from:</b></p> <p>idea oak (is large so) has a large biomass (1)</p> <p>idea that caterpillars are smaller than oak so many can feed on single oak (1)</p> <p>idea that ants will be smaller than caterpillars so have a smaller biomass (1)</p> <p>idea biomass is average mass times the number so a very large mass will make the biomass large (1)</p>	<p>2</p>	<p><b>drawn pyramids must have four levels</b>  <b>ignore</b> labels</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p><b>allow</b> correct definition of <b>both</b> pyramids e.g. (pyramid of) biomass shows the (dry) mass or weight of each level <b>and</b> (pyramid of) numbers shows the number of each organism or level (1)</p> <p><b>ignore</b> ideas about transfer of energy</p>
	<p><b>Total</b></p>	<p><b>6</b></p>	

Question	Answer	Marks	Guidance
2	<p><b>Level 3</b> Identifies <b>all</b> four correct classes <b>and</b> gives one correct explanation for each of them. Quality of written communication does not impede communication of the science at this level. (5 – 6 marks)</p> <p><b>Level 2</b> Identifies at least <b>two</b> correct classes <b>and</b> gives one correct explanation for both. <b>OR</b> Identifies <b>all</b> four correct classes Quality of written communication partly impedes communication of the science at this level. (3 – 4 marks)</p> <p><b>Level 1</b> Identifies at least <b>two</b> correct classes <b>or</b> identifies one correct class with one correct explanation Quality of written communication impedes communication of the science at this level. (1 – 2 marks)</p> <p><b>Level 0</b> Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p><b>This question is targeted at grades up to E</b> <b>Indicative scientific points for myriapod that may be included:</b></p> <ul style="list-style-type: none"> <li>• many segments</li> <li>• pair legs on each segment</li> <li>• many legs</li> <li>• single pair antenna</li> </ul> <p><b>Indicative scientific points for arachnid that may be included:</b></p> <ul style="list-style-type: none"> <li>• two body parts</li> <li>• carapace on upper body</li> <li>• no antennae</li> <li>• 8 legs</li> </ul> <p><b>Indicative scientific points for crustacean that may be included:</b></p> <ul style="list-style-type: none"> <li>• two pairs antenna</li> <li>• two body parts</li> <li>• shield like / (hard) carapace / (hard) shell</li> <li>• at least 10 legs / many legs</li> </ul> <p><b>Correct classes</b></p> <ul style="list-style-type: none"> <li>• <b>A</b> / centipede = <b>myriapod</b></li> <li>• <b>B</b> / spider = <b>arachnid</b></li> <li>• <b>C</b> / crayfish / lobster = <b>crustacean</b></li> <li>• <b>D</b> / crab = <b>crustacean</b></li> </ul> <p>Explanations must match chosen class <b>ignore</b> extra features that may be incorrect unless they contradict <b>Use the L1, L2, L3 annotations in Scoris; do not use ticks.</b></p>
	<b>Total</b>	<b>6</b>	

Question	Answer	Marks	Guidance
3 a	8 (2)  <b>but if answer incorrect then</b>  $\frac{38}{5} \text{ (1)}$	2	if answer line blank, mark the answer in the table, answer on line takes preference <b>allow</b> 7.6 (1)
b i	bar drawn at 8 (1)	1	<b>allow</b> +/- half a small square  <b>allow</b> ecf
b ii	<b>any two from:</b>  idea that leech are the most abundant (1)  <b>same</b> number of bloodworms and rat-tailed maggots (1)  idea of lower number of bloodworms / lower number of rat-tailed maggots (1)	2	<b>ignore numbered lines and mark first two answers</b>  <b>allow</b> most species are from the 'some pollution group'(1) <b>ignore</b> reference to flatworms  <b>allow</b> bloodworms <b>and</b> rat-tailed maggots have a mean of 2 (1) <b>not</b> numbers of bloodworms and rat-tailed maggots are <b>similar</b>  <b>allow</b> least number of species from the 'very polluted group' (1)  <b>allow as extra marking point</b> water has (some) pollution (1)

Question	Answer	Marks	Guidance
b iii	<p>Take another sample from the same place as sample 1. <input type="checkbox"/></p> <p>Measure the pollution levels another way to collect more evidence. <input checked="" type="checkbox"/></p> <p>Return to the stream to look for more bloodworms. <input type="checkbox"/></p> <p>Count the animals in the samples again. <input type="checkbox"/></p> <p style="text-align: right;">(1)</p>	1	more than one tick = 0
<b>Total</b>		<b>6</b>	



Question	Answer	Marks	Guidance
4 a	<p data-bbox="443 288 725 325">have binocular vision <input checked="" type="checkbox"/></p> <p data-bbox="443 395 647 432">have bushy tail <input type="checkbox"/></p> <p data-bbox="443 502 654 539">have short legs <input type="checkbox"/></p> <p data-bbox="443 609 781 646">have warning colouration <input type="checkbox"/></p> <p data-bbox="1025 719 1066 756">(1)</p>	1	more than one tick = 0

Question	Answer	Marks	Guidance
b	<p><b>any two from:</b></p> <p>eyes on the side of their head <b>or</b> monocular vision (1)</p> <p>for wide field of view <b>or</b> can see (predators) <b>behind</b> them (1)</p> <p><b>or</b></p> <p>live in groups (1)</p> <p>to reduce risk of being caught (1)</p> <p><b>or</b></p> <p>idea of cryptic or warning colouration (1)</p> <p>to put predators off (1)</p> <p><b>or</b></p> <p>may mimic more poisonous prey (1)</p> <p>to put predators off (1)</p> <p><b>or</b></p> <p>all breed at the same time (1)</p> <p>to reduce the risk of losing offspring (1)</p>	2	<p><b>one mark for feature and one mark for explanation</b> that matches the feature. Only award explanation mark if matched to a feature</p> <p><b>allow</b> idea of <b>all</b> round vision to spot predators e.g. can see predators from <b>all</b> directions (1)</p> <p><b>ignore</b> see predators from the side <b>or</b> they can see their prey</p> <p><b>ignore</b> hide in holes</p> <p><b>ignore</b> to reduce the risk of being eaten</p> <p><b>answers about predators must be about predators or fox and not just danger</b></p> <p><b>allow</b> camouflaged (1)</p> <p>to hide from predators (1)</p> <p><b>allow</b> large ears / good hearing (1)</p> <p>to hear predator (approaching) (1)</p> <p><b>allow</b> ears that can turn (1)</p> <p>to work out direction of predators (1)</p> <p><b>allow</b> large back legs (1)</p> <p>to run away fast from predators (1)</p>
	<b>Total</b>	<b>3</b>	

Question	Answer	Marks	Guidance
5 a	<i>Syrnaticus</i> (1)	1	
b i	critical (1)	1	<b>mark answer on line first</b> <b>allow</b> answer ringed, underlined or ticked if no answer on the answer line
b ii	<p><b>any two from:</b></p> <p>protection of habitat (1)</p> <p>idea of education of local people (1)</p> <p>idea of (captive) breeding programs (1)</p> <p>artificial ecosystems / reserves / bird sanctuary (1)</p> <p>remove predators or protect from predators (1)</p> <p>remove competitors (1)</p> <p>monitor numbers / electronic tagging (1)</p>	2	<p><b>ignore</b> legal protection / stop hunting</p> <p><b>ignore</b> 'conservation programs'</p> <p><b>allow</b> idea of releasing adult birds into the wild (1)</p> <p><b>ignore</b> zoos / parks / enclosures / cage / fenced area / tourist area / put them in a protected area</p> <p><b>allow</b> give food (1)</p>
	<b>Total</b>	<b>4</b>	

Question	Answer	Marks	Guidance
6 a	calcium carbonate (1)	1	
b i	1.76 (1)	1	
ii	no (no marks)  (should make) 5.6(0)g of calcium oxide / (should make) more calcium oxide (1)  (should make) 4.4(0)g of carbon dioxide / (should make) less carbon dioxide (1)	2	<b>if yes then no marks</b>  <b>allow</b> more calcium oxide than carbon dioxide (1) <b>allow</b> numbers are the wrong way round (2)
iii	(thermal) decomposition (1)	1	
c	(limestone and) clay (1)  heated (together) (1)	2	<b>ignore</b> other additions e.g. sand or water 2 <sup>nd</sup> mark dependent on clay  <b>not</b> burn or melt
	<b>Total</b>	<b>7</b>	

Question	Answer	Marks	Guidance
7 a	idea that magma inside (volcano) or magma underground  <b>or</b>  lava outside (volcano) or lava on surface (1)	1	<b>ignore</b> magma erupts  <b>allow</b> lava leaks out (1) <b>ignore</b> solid and liquid <b>ignore</b> hard and soft
b	large crystals – slow cooling (1)  small crystals – fast cooling (1)	2	<b>allow</b> large crystals formed underground (1)  <b>allow</b> small crystals formed above ground (1)  <b>allow if no other marking point</b> idea depends on <b>rate</b> or <b>speed</b> of cooling even if the wrong way round e.g. the faster it cools the larger the crystals (1)  <b>allow</b> correct comparisons e.g. the longer it takes to cool down the larger the crystals / ora (2)
c	<b>advantage</b> idea of fertile <b>soil</b> / plants grow well / thermal springs / thermoelectric power (1)  <b>disadvantage</b> idea of (danger of) eruption / death / destruction of property / difficult to predict eruptions (1)	2	<b>allow</b> idea of tourism (1) <b>ignore</b> idea that they get to see volcanoes erupt <b>ignore</b> cheaper housing <b>ignore</b> warmer soil <b>ignore</b> collecting minerals  <b>allow</b> idea of need for evacuation (1) <b>allow</b> dangerous fumes / dust / ash / smoke (1) <b>ignore</b> just 'it's dangerous'
	<b>Total</b>	<b>5</b>	

Question	Answer	Marks	Guidance
8 a	<p><b>any three from:</b></p> <p>melting point of brass is between copper and zinc <b>or</b> melting point of brass <b>closer</b> to copper (than zinc) (1)</p> <p>boiling point of brass between copper and zinc <b>or</b> boiling point of brass <b>closer</b> to copper (than zinc) (1)</p> <p>density of brass between copper and zinc <b>or</b> density of brass is <b>closer</b> to copper (than zinc) (1)</p> <p>brass is a <b>poorer</b> conductor (of heat) than both copper and zinc <b>or</b> brass is the <b>lowest</b> conductor (of heat) (1)</p>		<p><b>allow</b> melting point is lower than copper but higher than zinc (1)</p> <p><b>allow</b> boiling point is lower than copper but higher than zinc (1)</p> <p><b>allow</b> density is lower than copper but higher than zinc (1)</p> <p>allow brass conductivity (of heat) is <b>closer</b> to zinc (than copper) (1)</p> <p><b>allow</b> brass is a different colour (to copper and zinc) (1)</p> <p><b>BUT allow</b> idea that for all properties except conductivity brass is between copper and zinc (3)</p> <p><b>allow if no other marking point</b> comparisons with copper or zinc <b>only</b> e.g. melting point is lower than copper (1)</p> <p><b>ignore simply quoting figures</b></p>
b	<p>copper (1)</p> <p><b>best</b> conductor of heat / <b>highest</b> conductor of heat (1)</p>	2	<p><b>no marks if copper not chosen or more than one metal is chosen</b></p> <p><b>answer must be comparative</b> <b>ignore</b> reference to other properties of copper <b>ignore simply quoting figures</b></p>
<b>Total</b>		<b>5</b>	

Question	Answer	Marks	Guidance
9	<p><b>Level 3</b>  <b>Makes a sensible suggestion of how silver can be extracted</b>  <b>AND</b>  <b>makes a sensible suggestion of how silver can be purified.</b>            Quality of written communication does not impede communication of the science at this level.            (5 – 6 marks)</p> <p><b>Level 2</b>  <b>Makes a sensible suggestion of how silver can be extracted</b>  <b>OR</b>  <b>makes a sensible suggestion of how silver can be purified.</b>            Quality of written communication partly impedes communication of the science at this level.            (3 – 4 marks)</p> <p><b>Level 1</b>  <b>Makes a limited attempt to explain how extraction can happen without reference to silver or silver ore</b>  <b>OR</b>  <b>makes a limited attempt to explain how purification can happen without reference to silver or silver ore.</b>            Quality of written communication impedes communication of the science at this level.            (1 – 2 marks)</p> <p><b>Level 0</b>            Insufficient or irrelevant science. Answer not worthy of credit.            (0marks)</p>	6	<p><b>This question is targeted at grades up to C.</b></p> <p><b>Indicative scientific points for extracted at level 2 or 3 may include:</b></p> <ul style="list-style-type: none"> <li>• extracted by <b>heating</b> the silver ore</li> <li>• silver is extracted by using carbon</li> <li>• can find pure silver</li> <li>• extraction process is called reduction</li> </ul> <p><b>Indicative scientific points for purified at level 2 or 3 may include:</b></p> <ul style="list-style-type: none"> <li>• silver purified by electrolysis</li> <li>• cathode or negative electrode is pure silver</li> <li>• anode or positive electrode is impure silver</li> <li>• silver nitrate solution is the electrolyte</li> </ul> <p><b>allow</b> higher level answers e.g.</p> <ul style="list-style-type: none"> <li>• cathode or negative electrode gains mass because silver is deposited</li> <li>• anode or positive electrode loses mass as silver dissolves</li> <li>• impurities fall to the bottom</li> <li>• cathode or negative electrode reduction / <math>\text{Ag}^+ + \text{e}^- \rightarrow \text{Ag}</math></li> <li>• anode or positive electrode oxidation / <math>\text{Ag} - \text{e}^- \rightarrow \text{Ag}^+</math></li> </ul> <p><b>ignore</b> purified using apparatus in the diagram  <b>credit can be gained from labels on the diagram</b></p> <p><b>Indicative scientific points at level 1 may include:</b></p> <ul style="list-style-type: none"> <li>• heat (the ore) / melt (the ore)</li> <li>• use carbon</li> <li>• use electrolysis / uses electricity / uses anodes and cathodes / positives will go to the negative</li> </ul> <p><b>ignore</b> use power pack  <b>Use the L1, L2, L3 annotations in Scoris; do not use ticks.</b></p>
		6	

Question	Answer	Marks	Guidance
10 a	red (1)	1	<b>allow</b> pink (1) <b>not</b> red / pink and another colour e.g. red and yellow / pink and yellow
b	soluble (1)	1	<b>allow</b> dissolved / dissolvable (1)
	<b>Total</b>	<b>2</b>	

Question	Answer	Marks	Guidance
11 a	electric fire (1)	1	<b>mark answer on line first</b> <b>allow</b> answer ringed, underlined or ticked if no answer on the answer line
b i	transformer (1)	1	<b>allow</b> 'step down' transformer (1) <b>not</b> 'step up' transformer
b ii	24 (W) (2) <b>but if incorrect</b> 2 x12 (1)	2	<b>allow</b> 460 (W) (1)
	<b>Total</b>	<b>4</b>	



Question	Answer	Marks	Guidance
12 a	3 (1)	1	<p><b>mark answer on line first number takes precedence over names</b></p> <p><b>allow</b> manure <b>and</b> straw <b>and</b> wood ringed, underlined or ticked if no answer on the answer line</p> <p><b>allow</b> correctly named three i.e. manure <b>and</b> straw <b>and</b> wood (1)</p>
b	<p>(wasted energy) 630 (MJ) in box (1)</p> <p>30% (2)</p> <p><b>but if incorrect</b></p> <p><math>\frac{270}{900} \times 100</math> (1)</p>	3	<p><b>allow</b> answer on lines if not in box</p> <p><b>allow</b> 0.3 (1)</p> <p><b>but</b> if 0.3 and percentage crossed out (2)</p>
	<b>Total</b>	<b>4</b>	

Question	Answer	Marks	Guidance
13	<p><b>Level 3</b> Explains how a continuous 24 hour electrical supply can be maintained <b>AND</b> suggest a suitable positions for the equipment for <u>two</u> of the methods. Quality of written communication does not impede communication of the science at this level. (5 – 6 marks)</p> <p><b>Level 2</b> Explains how a continuous 24 hour electrical supply can be maintained <b>OR</b> suggests <u>one</u> suitable position for the equipment <b>OR</b> describes <u>two</u> ways electricity can be generated. Quality of written communication partly impedes communication of the science at this level. (3 – 4 marks)</p> <p><b>Level 1</b> Names <u>two</u> sources of energy <b>OR</b> describes <u>one</u> way electricity can be generated Quality of written communication impedes communication of the science at this level. (1 – 2 marks)</p> <p><b>Level 0</b> Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p><b>This question is targeted at grades up to C</b> <b>Indicative scientific points to explain how a 24 electrical supply is maintained include:</b></p> <ul style="list-style-type: none"> <li>• tidal power using area where waves are moving all the time</li> <li>• hydroelectric power using a dam to have water flowing for 24 hours</li> <li>• use battery when there is no sun or wind</li> <li>• use solar energy in the <b>day</b> and wind or hydroelectric power at <b>night</b></li> <li>• burning wood 24 hours a day / heating water 24 hours a day</li> </ul> <p><b>Indicative scientific points for suitable positions include:</b></p> <ul style="list-style-type: none"> <li>• solar panels on hill / solar panels facing south / solar panel in south / idea of solar panels tracking the Sun</li> <li>• wind generators or wind turbines or windmills or wind farm facing wind direction / into prevailing wind / on left / facing west / on hill</li> <li>• tidal power where most wave movement</li> <li>• hydroelectric power on hill</li> </ul> <p><b>ignore</b> confusion with east and west if clear it is facing the wind</p> <p><b>Indicative scientific points for generating electricity may include:</b></p> <ul style="list-style-type: none"> <li>• solar panels / solar cells</li> <li>• wind generators / wind turbines / windmills / wind farm</li> <li>• tidal power</li> <li>• hydroelectric power</li> <li>• burning wood / heat water (to turn turbine)</li> </ul> <p><b>Indicative scientific points for sources of energy may include:</b></p> <ul style="list-style-type: none"> <li>• Sun / solar</li> <li>• wind</li> <li>• wave / tide</li> <li>• use wood / use trees</li> </ul> <p><b>allow</b> put the equipment on the hill for level 1 and one mark if no other marks awarded</p> <p><b>Use the L1, L2, L3 annotations in Scoris; do not use ticks.</b></p>
	<b>Total</b>	<b>6</b>	

Question	Answer	Marks	Guidance
<b>14 a i</b>	Mars <b>and</b> Jupiter (1)  Solar System / Earth / planet(s) / Sun (1)	2	<b>either order</b>  <b>allow</b> universe / galaxy / named planet / Milky Way (1)  <b>ignore</b> moon
<b>ii</b>	causing a drop in temperature (1)  prevented light (from the Sun) / prevented heat (from the Sun) (1)	2	<b>allow</b> idea of Earth getting colder e.g. ice age happened (1) <b>allow</b> stops Earth or planet warming up (1) <b>ignore</b> changes in weather e.g. cold storms  <b>allow</b> (cloud) blocks Sun or blocks light or blocks heat (from reaching the Earth) (1) <b>allow</b> Earth shaded (1) <b>ignore</b> blocks rays <b>but allow</b> blocks rays from Sun (1) <b>ignore</b> UV <b>not</b> heat is trapped
<b>b i</b>	(idea that) the greater the distance from the Sun the longer the time (for the orbit) / ORA (1)	1	<b>allow</b> (idea that) the greater the distance from the Sun the slower it travels (for a complete orbit) / ORA (1)
<b>ii</b>	220 (days) (1)	1	<b>mark answer on line first</b> <b>allow</b> answer ringed, underlined or ticked if no answer on the answer line
	<b>Total</b>	<b>6</b>	

Question	Answer	Marks	Guidance
15 a	<p><b>assume answer refers to source C unless otherwise stated</b></p> <p>count rate changes (for <b>C</b>) / count rate does <b>not</b> change for <b>A</b> and <b>B</b> (1)</p> <p><b>or</b></p> <p>(idea of) greatest range of results / most varied results (1)</p> <p><b>but</b></p> <p>(idea that) thicker card gives lower level of radiation (2)</p> <p><b>or</b></p> <p>(idea that) count rate goes down as card gets thicker (2)</p>	2	<p><b>ignore</b> any named radiation e.g. alpha / beta / gamma</p> <p><b>allow</b> (C is the ) only one where the count rate is affected (1)</p> <p><b>allow</b> answers in terms of absorption e.g. thicker card absorbs more radiation (2)</p> <p><b>ignore</b> answers that link distance to radiation count</p>
b i	<p>shielding / AW (1)</p> <p><b>limit</b> time in area / <b>short</b> exposure time (1)</p>	2	<p><b>allow</b> protective clothing (1)</p> <p><b>allow</b> clothing (thick enough) to stop radiation getting through (to the skin) (1)</p> <p><b>allow</b> lead gloves / lead lab coat (1)</p> <p><b>ignore just</b> goggles / gloves / lab coat / safety gear / body suit</p> <p><b>allow</b> stand behind a screen (1)</p> <p><b>ignore</b> use tongs / keep distance</p> <p><b>allow</b> monitoring e.g. monitor radiation / use a film badge / radiation detector / monitoring health of operator (1)</p>
ii	C (1)	1	<p><b>mark answer on line first</b></p> <p><b>allow</b> answer ringed, underlined or ticked if no answer on the answer line</p>
	<b>Total</b>	<b>5</b>	

Question	Answer	Marks	Guidance
16 a	body fat difference = <b>- 2.4</b>  muscle percentage before = <b>59.7</b> (1)	1	<b>both required</b>
b	-2.64 or 2.64 (2)  <b>if answer incorrect then</b>  $\frac{5.4 + 0.6 + 2.4 + 1.7 + 3.1}{5}$ or $\frac{13.2}{5}$ (1)	2	<b>allow ecf from part (a)</b> <b>allow 2.6 or -2.6</b> (2)  <b>allow 264%</b> (1)
c	at least two bars correctly plotted (1)  <b>but</b>  all bars correctly plotted (2)	2	<b>A = 4.4</b> <b>B = 2.8</b> <b>C = 1.8</b> <b>D = 3.4</b> <b>E = 3.2</b>  <b>allow</b> +/- half a small square  <b>ignore</b> width of bars  <b>allow</b> (line) graph plotted with all points correct (1)
d	player <b>A</b> (1)  lost most fat <b>and</b> gained most muscle (1)	2	second mark dependent on choosing player <b>A</b>  <b>both ideas required</b> <b>allow</b> lost most weight <b>and</b> gained most muscle (1) <b>allow</b> highest differences in muscle <b>and</b> body fat (1)  <b>allow</b> player <b>D</b> provided the justification is after the diet player <b>D</b> has the lowest body fat percentage and the highest muscle percentage (2)

Question	Answer	Marks	Guidance
e i	egg (white) (1)	1	
ii	venison (no mark)  high protein or more protein (1)  low fat or less fat (1)	2	no marks if salmon is chosen <b>venison must be chosen to gain marks</b> but ignore reference to other foods  <b>allow</b> ORA  <b>allow</b> ORA <b>allow</b> not too fatty (1)
	<b>Total</b>	<b>10</b>	

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