



Tuesday 13 January 2015 – Morning

LEVEL 2 AWARD THINKING AND REASONING SKILLS

B902/01 Unit 2 Thinking and Reasoning Skills Case Study

Candidates answer on the Question Paper.

OCR supplied materials:

- Resource Booklet (B902/01/RB)

Other materials required:

None

Duration: 1 hour



Candidate forename		Candidate surname	
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Centre number						Candidate number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Write your answer to each question in the space provided. If additional space is required, you should use the lined page at the end of this booklet. The question number(s) must be clearly shown.
- Do **not** write in the bar codes.

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **60**.
- Quality of Written Communication will be assessed in questions 14 and 15b.
- This document consists of **12** pages. Any blank pages are indicated.

SECTION A – Thinking through the documents.

You are advised to spend no more than 40 minutes on this Section. It is worth 40 marks.

Answer ALL the questions in this Section.

1 In Document 5a, John Macintyre provides the following argument:

Bringing animals back to life is a bad idea. Creatures go extinct when they are no longer able to survive in changing environments, so bringing them back is just inviting them into an unsuitable, dangerous environment that they won't survive in for long anyway.

Mark up John's argument in the box above to show the different argument components:

- (a)** Underline the conclusion. **[1]**
- (b)** Put brackets around the intermediate conclusion. **[1]**
- (c)** Circle the conclusion indicator word. **[1]**

2 In Document 5b, Edward Peters gives the following counter-argument:

Some people argue that reviving a species that no longer exists is like 'playing God'.

Give **two** reasons that would support this counter-argument.

Reason 1.....
.....

Reason 2
..... **[2]**

3 In Document 3, Craig uses evidence about the cloning of Dolly the sheep to support his claim that elephants could become extinct:

In my biology lesson I learnt they wasted 276 sheep eggs before they produced Dolly the sheep. If they did this with elephant eggs to try to revive the woolly mammoth then elephants would soon become extinct themselves.

Explain **two** weaknesses in the link between the evidence and Craig's claim.

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..... [4]

4 In Document 3, David presents an analogy as part of an argument:

Resurrecting a woolly mammoth is well worth doing because it's the biomedical equivalent of putting a man on the moon. After the moon landings lots of children wanted to be an astronaut, and this will inspire a whole generation of children to become biomedical scientists.

(a) Which of the following best describes the analogy? Tick the correct response. [1]

A	Becoming an astronaut and flying to the moon is being compared to being a biomedical scientist and bringing the woolly mammoth back to life	
B	Inspiring children by putting a man on the moon is being compared to inspiring children by bringing back a woolly mammoth	
C	Inspiring children to be scientists is being compared to going into space	
D	Woolly mammoths are being compared to the moon	

(b) Identify and explain **one** relevant difference between the two things being compared in David's analogy.

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(c) Identify and explain **one** relevant similarity between the two things being compared in David's analogy.

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..... [2]

- 5 Document 5a contains four sources, labelled A to D below. Questions 5 and 6 are based on this document.

Source A John Macintyre, manager of a Museum of Natural History

Bringing animals back to life is a bad idea. Creatures go extinct when they are no longer able to survive in changing environments, so bringing them back is just inviting them into an unsuitable, dangerous environment that they won't survive in for long anyway. To quote my favourite line from Jurassic Park, 'just because we can doesn't mean we should'.

Source B Harry Johnson, an environmentalist

The cloning technology being developed for de-extinction could better be used to help preserve endangered species that don't breed easily in captivity. For example, zoos have had to resort to some very weird methods to get giant pandas to mate so that they don't go extinct. Cloning them now would prevent them from going extinct in the first place. There are 20,000 species in danger of extinction that need our help. The problem with bringing back a species that has already gone extinct is that we don't have a suitable environment to put them back into safely. So, we should put our cloning efforts and expertise into endangered, not extinct, animals.

Source C Helen Carter-Lee, an American evolutionary biologist

There is an urgent need to save threatened species and habitats, but there is no urgent need to bring back extinct ones. Why invest millions of dollars in bringing a handful of species back from the dead, when there are many thousands still waiting to be discovered, described, and protected?

Source D Stephen Green, an animal rights activist

It is cruel to experiment in this way. Remember, the surrogate for a mammoth would be an elephant. Elephants are smaller than mammoths and are pregnant for nearly two years. Most of the pregnancies will fail, which might be traumatic for the elephant, but that might be kinder than if the mammoth baby is too big for an elephant to give birth to. Elephants are intelligent, emotional creatures that were not designed to be woolly mammoth factories. If we let this go ahead, before we know it we'll be seeing tabby cats giving birth to sabretooth tigers and spider monkeys giving birth to Neanderthal humans!

People will stop trying to prevent species from going extinct if we can just bring them back anyway, so de-extinction will undermine conservation efforts.

The list below contains statements which can be supported by one or more of the sources in Document 5a.

- Statement 1: We should be focusing our efforts on dealing with current species in danger of extinction
- Statement 2: There will be problems if we bring back extinct species
- Statement 3: De-extinction will make people more lazy about endangered species
- Statement 4: De-extinction will cause suffering to animals
- Statement 5: It will cost a lot of money
- Statement 6: The environment is no longer suitable for species that have gone extinct

Complete the sentences below to indicate which statement is supported by which sources.

- (a) Statement number is supported by sources A, B and D. [1]
- (b) Statement number is supported by source D only. [1]
- (c) Statement number is supported by sources B and C. [1]
- (d) Statement number is supported by source C only. [1]
- (e) Statement number is supported by sources A and B. [1]
- (f) Statement number is supported by sources A and D. [1]

6 Consider the argument presented by Stephen Green in the first paragraph of source D in Document 5a.

- (a) Which of the following correctly names the flaw in Stephen Green’s argument? Tick the correct response. [1]

Ad hominem	<input type="checkbox"/>
False dilemma	<input type="checkbox"/>
Slippery Slope	<input type="checkbox"/>
Tu quoque	<input type="checkbox"/>

- (b) Explain your answer.

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 [1]

(c) Explain why the credibility of Stephen Green’s argument might be weakened by bias.

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..... [2]

7 In Document 5b, Graeme Kelly, a zoo owner, makes the following claims:

Reviving long lost species will really help to restore the Earth’s deteriorating biodiversity. We would all benefit from being able to see and study as many species as possible.

Explain why the credibility of Graeme Kelly’s claim might be weakened by vested interest.

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..... [2]

8 In Document 2, Sir Ian Wilmut suggests that cloning is not the best way to bring the woolly mammoth back, but instead suggests that:

the best way to create a woolly mammoth is to re-programme good quality cells extracted from frozen mammoths using modern stem cell techniques, which have already been used to give birth to mice.

Making use of credibility criteria, explain **two** ways in which the credibility of Sir Ian Wilmut’s claim can be strengthened.

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9 In Document 6b, Jennifer comments on the prospect of bringing back Neanderthals:

Has the world gone mad? And for the Neanderthal to be spoken of as if they would be dumb makes me sick! Yes they were not as advanced as us but now in society they would more than likely flourish! Science has gotten out of hand! Human beings have gotten out of hand! If it wasn't for deforestation, pollution, greed, etc. many of these creatures would still be walking the earth now!

Which **one** of the following best describes what she says? Tick the correct response.

Argument	<input type="checkbox"/>
Explanation	<input type="checkbox"/>
List of information	<input type="checkbox"/>
Rant	<input type="checkbox"/>

[1]

10 Jonathan also comments in Document 6b as follows:

Neanderthals actually had a larger brain cavity than us, so they should have the same rights as us, and if they are raised the same way as a human, I think they'd have the same capabilities.

(a) Identify **two** assumptions that Jonathan is making in his argument.

Assumption 1:

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Assumption 2:

..... [2]

(b) In Document 6b, Simon considers the de-extinction of Neanderthals.

I would be worried about the ability of this primitive man to fit into a 'modern' society. And would he be discriminated against? Also, would they be at odds with humans, once they're brought back? Where would they live?

Give **two** other possible consequences of the successful de-extinction of Neanderthals.

Consequence 1:

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Consequence 2:

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..... [2]

11 In Document 5b, Alexei Petrov presents the following view:

Woolly mammoths and other herbivores would have benefits for the ecosystem, because they used to break up the soil and fertilise it with their manure. After they had gone extinct, the grassland deteriorated.

Which **one** of the following best describes his first sentence? Tick the correct response.

Argument	<input type="checkbox"/>
Explanation	<input type="checkbox"/>
List of information	<input type="checkbox"/>
Rant	<input type="checkbox"/>

[1]

12 In Document 5b, Graeme Kelly presents the following argument:

We are facing big problems as a result of global warming, and so we need all the help we can get. Global warming was not a problem back when these creatures were around, so we should bring them back to solve the problem.

Explain the weakness in his reasoning.

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..... [2]

13 One criterion that could be used to decide whether or not to bring back the woolly mammoth is public safety.

Give **two** other criteria which should be considered.

Criterion 1

Criterion 2 [2]

SECTION B – Thinking to a conclusion based on reasons and evidence.

Allow approximately 20 minutes for this Section. It is worth 20 marks.

Answer ALL the questions in this Section.

14 Present and develop an argument **either** for **or** against de-extinction. In your argument you must:

- Clearly identify your main conclusion
- Provide reasons for your main conclusion
- Support at least **one** reason with relevant evidence or examples.

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- 15 In Document 6b, Daniel suggests a possible course of action if the de-extinction of Neanderthals were to be successful:

If we could reserve an uninhabited island somewhere and place a family of Neanderthals there it would be amazing to watch them live out their lives and see what they build!

- (a) Give **two** developed reasons to support the conclusion that Daniel’s suggestion would be a good idea.

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- (b) Write a reply to Daniel’s suggestion. Your reply should present and develop an argument against putting a family of Neanderthals on a deserted island as an experiment.

- Clearly identify your main conclusion
- Provide **two** reasons for your main conclusion

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ADDITIONAL ANSWER SPACE

If additional space is required, you should use the following lined page(s). The question number(s) must be clearly shown in the margins.

A large area of lined paper for writing answers. It consists of a vertical solid line on the left side, creating a margin, and horizontal dotted lines extending across the page to the right. The lines are evenly spaced and cover most of the page area.

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