

English Standard and Advanced: Area of Study Part 2

Discovery

General Instructions

- Working Time – 1.5 hours
- Write using black or blue pen
- Begin Section 2 in a new answer booklet

Total Marks – 30

Section I

15 marks

- Attempt Question 1
- Allow about 45 minutes for this section

Section II

15 marks

- Attempt Question 2
- Allow about 45 minutes for this section

Section I

15 marks

Attempt Question 1

Allow about 45 minutes for this section

Answer the question in a writing booklet.

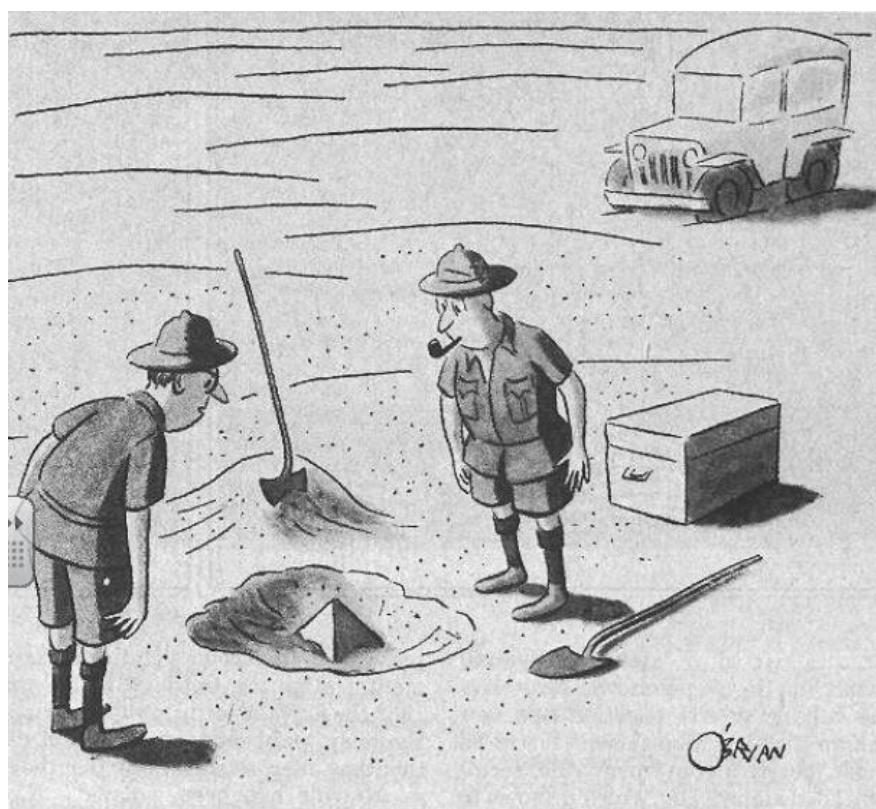
In your answer you will be assessed on how well you:

- demonstrate understanding of the way perceptions of discovery are shaped in and through texts
 - describe, explain and analyse the relationship between language, text and context
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Question 1 (15 marks)

Examine **Texts one, two, three and four** carefully and then answer the questions on page 9.

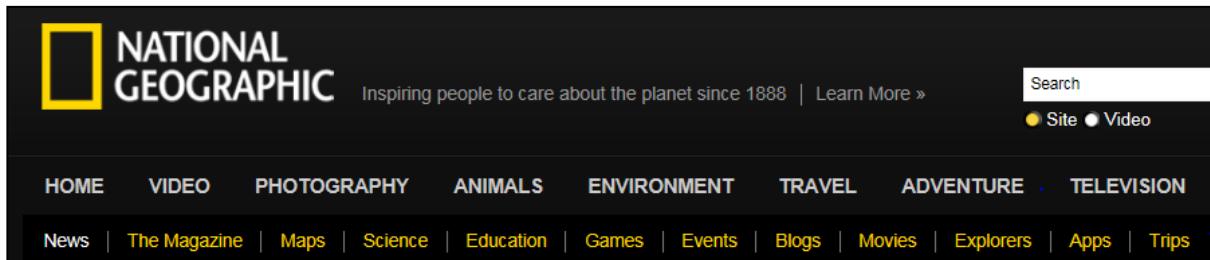
Text one – Cartoon



"This could be the discovery of the century. Depending, of course, on how far down it goes."

Question 1 (continued)

Text two – Online article

The screenshot shows the official website of National Geographic. At the top left is the iconic yellow square logo followed by the text "NATIONAL GEOGRAPHIC". Below the logo, a tagline reads "Inspiring people to care about the planet since 1888 | Learn More ». At the top right is a search bar with the word "Search" and options for "Site" and "Video". A horizontal navigation bar below the header includes links for "HOME", "VIDEO", "PHOTOGRAPHY", "ANIMALS", "ENVIRONMENT", "TRAVEL", "ADVENTURE", and "TELEVISION". Underneath this is a secondary navigation bar with links for "News", "The Magazine", "Maps", "Science", "Education", "Games", "Events", "Blogs", "Movies", "Explorers", "Apps", and "Trips".

VOICES RISING STAR EXPEDITION *Prehistory in the Making* Scientists Return to Explore a Second Fossil Chamber

By [John Hawks](#)

Paleoanthropologist and science blogger John Hawks of the University of Wisconsin-Madison has just returned to South Africa with NG Explorer-in-Residence Lee Berger of the University of the Witwatersrand and others to continue work on the hominin¹ discoveries of the Rising Star caves. Follow him on Twitter [@JohnHawks](#).

It has been a long three months since [we camped out at the site of the Rising Star caves](#) outside Johannesburg, and the summer growth has erased the signs of our presence. There's no evidence of the Science Tent, and the paths we wore through the chunks of dolomite are now under grasses and red wildflowers.

Our new goal is to investigate a second hominin locality within the system and yesterday we climbed down into the cave once again.

Our small team included Alia Gurtov, Rick Hunter, Pedro Boshoff and team leader Lee Berger. Alia is one of the original six excavators from the fall expedition, and Rick and Pedro helped discover the site.

The Setup

Most everyone following paleoanthropology by now knows about the chamber that produced more than 1200 numbered specimens. That chamber, inaccessible except through a very narrow 12-meter chute, was the focus of our expedition in November. Since then, we have been working on those bones, the collection designated UW-101. Every specimen plotted by the advance team during our November expedition was tagged in the cave.

Every specimen, that is, except for four.

In the final days of the expedition, Rick and Steve Tucker had gone looking through the cave system for more fossils. They found a second area with bones, which we designated site 102.

When Marina Elliott and Becca Peixotto brought out four bone fragments that we could diagnose as hominin this became the second hominin-bearing locality in the system.

Return to Site 102

Yesterday we went to investigate this bone assemblage. Our main purpose was to get some facts that would help us best plan future excavation. We needed to determine the overall condition of bone in the site, and to see if any of the bones were at risk of disturbance or erosion within the cave.

We headed into the cave, descending by a different route than the one leading to site 101. It may seem strange that after so much time underground in this cave, our team still can be surprised at new passages, but going through the inside of this hillside is a little like playing three-dimensional chess. The cave system is a complex series of multi-layered passages between intersecting fault lines in the dolomite.

The five of us clambered down a series of tight drops, then shimmied carefully around a hole ten meters deep. I would soon be on the floor at the bottom of that hole, but happily after a controlled descent.

I do not have what you could call a spelunker's² physique. I did discover that the advantage in caving is not always to the small, as some of the drops benefited from long legs to reach downward. But halfway down our route was a squeeze — a narrow passage between two vertical walls, only around 22 cm wide, the floor sloping downward. For Rick and Alia, that was no problem at all. Either of them could have worn a backpack through it. Lee squeaked it. Pedro and I share the curse of a barrel chest. No chance of getting through.

And so, we headed off toward other parts of the cave to inspect some fossil-bearing breccias (natural concrete-like rock) for signs of australopithecines. Rick, Alia, and Lee went on down, another 20 meters or more vertical distance, to site 102.

Between Rocks and a Hard Place

When they got there, they found the bone assemblage and assessed its condition. They recovered a few additional pieces from the surface of the deposit, recording them and doing field identification of the bone fragments. It was meticulous work, and they took around two hours. I cannot report that the trip was uneventful.

As Rick, Alia, and Lee climbed up from site 102, Rick and Alia once again breezed



Lee proves Newton's Other Law: What goes down sometimes has a much harder time coming back up.(Photo:John Hawks CC-BY-NC-ND

through. Not so for Lee — he stuck. I mean really stuck. What had been a relatively straightforward path going down became a very difficult path coming back up, chest wedged between the vertical walls. For forty-five minutes he exerted against the rock. I propped myself into a vertical shaft, two meters up, and looked down six slices in the dolomite, radiating outward

from me like the arms of a snowflake. White sheets of calcite rippled in one of the arms, thin crystals grew in another. Alia sat above me and we waited as Pedro and Rick helped Lee free himself. Ultimately, the breadth of a button made the difference, as he removed his coverall and went through T-shirt only. He emerged tired but exhilarated, having explored where only a handful had ever trod before.

After a rest, we climbed our way back up into the sunlight. The underground world had held us for four hours. It seemed more like one.

More to Come

There are obviously many unanswered questions about site 102. We do not know how it relates to site 101, if at all. They are far apart within the cave system and we do not know any geological reason why the fossils would be the same kind of hominin. Until we can examine the specimens more closely, we won't know what they are.

Still, we learned a lot about site 102, getting a clear idea of the logistics of excavation there in the future. As the expedition ended in November, we left site 101 knowing that there remain thousands of specimens still in the floor of that chamber. Now we know that the system has at least one other excavation area, and the potential for even more.



*Pedro, Lee, a shirtless Rick, and I share a moment of joy after the successful extraction of fossils (and of our fearless leader).
(Photo: John Hawks CC-BY-NC-ND)*

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1. A hominin is a creature that paleoanthropologists have agreed is human or a human ancestor. These include all of the *Homo* species, all of the *Australopithecines* and other ancient forms.
 2. A spelunker is a person who explores caves and typically has a slight frame.

Question 1 (continued)

Text three – Prose extract

She looked away up into the sky: the palest kind of blue, a big quiet light. High up, two birds were flying together, drawing a straight line through the air like aircraft in formation. Just over the brow of the hill was a fork in the road and a flaking wooden sign.

One fork pointed downhill towards CASCADE RIVULET, the other uphill, to HANGING ROCK. Someone had tied a stone on the end of a bit of string and hung it from the sign. She laughed aloud, suddenly, a noise like a bark. The dog twisted its head to look up at her in surprise and she stopped laughing. She glanced around, as if someone might have heard her, laughing on an empty road, and looked at the rock again. It was not really all that funny.

Below her, she could see Cascade Rivulet glinting metallically between the trees. The road ahead of her turned a sudden-sharp corner down the slope, so steep it had washed away into long corrugations, and then all at once there was the river, and the bridge.

She recognised it straight away from its picture in the paper, a humble little thing, the bend giving it an apologetic look. It was hard to see why the town was *split*¹ on it. She walked down to it, feeling stones rolling away from under her shoes down the slope. A white ute² was parked at the far end of the bridge but there was no sign of anyone, only a flat paddock in which some cows stood all lined up the same way like ornaments along a mantelpiece.

She stopped in the middle of the bridge and looked down at the river. Sun shone through the transparent amber water and lit up rounded rocks just under the surface, and fans of white sand. Where a band of sun cast a slice of black shadow, the water was dark and secretive.

She wanted to go down there, under the bridge, and saw that the fence at one end had collapsed, the wooden posts leaning crookedly where the bank had been scoured out by flood. She would not have actually forced her way through anyone's fence. She knew how farmers felt about them, and about city folk who had no respect for them. But someone had been there before her. She could see where the post had been eased further sideways in the soft ground, and a rip down the dirt of the bank, where someone's heels had slid.

Underneath, the bridge was a quaint, clumsy thing, a clutter of primitive timbers wedged against each other into crude simple joints. Where each horizontal met a vertical, each had had a piece removed so they were locked tightly together. It was like two people holding hands. From a distance the old wood looked nothing more interesting than grey, but close up, each timber had its own colour and its own personality. One was pink-grey with fine streaks of red like dried blood in the grain. Another was green-grey with circular blooms of brown-grey lichen, the next was the bleached blue-grey with a kinked grain like an old-fashioned marcel wave.³

She stood with her shoes sinking slowly in the damp sand, looking up into the underbelly of the bridge, feeling the muscles twitching in her thighs after the fast walk. It was all coarse and clumsy, but as well as the subtle textures of the grain, the shapes fitted together in a satisfying way, and there was what they called at the Museum an *interplay* between the light and the shadow that drew the eye back to look again and again.

She got a notebook and pencil out of her pocket and stood drawing squares and long rectangles that interlinked and interlocked, glancing between her page and the pencil.

When she had filled a page she turned over and started again. She spent a long time getting the angles right where one rectangle came in and locked into another. It looked so simple as to be not worth a second glance, but drawing it showed how complicated it really was. When she had covered the third page she felt she had the shapes right, and started to shade the squares and rectangles with her pencil. *Light, dark, light, dark.* It was in no way a realistic drawing of the way the bridge looked, but it was what it might look like if you reduced it to its essence: simple squares and rectangles, simple lights and darks, arranged in a way that was not as simple as it seemed.

From Kate Grenville, *The Idea of Perfection* (1999)

1. split: the local community is divided between those who believe the old bridge is part of the area's cultural heritage, and those who think it should be demolished and a new utilitarian bridge erected in its place.
2. ute: pick-up truck
3. marcel wave: hair style

Text four – Poem

PASSED ON

Before, this box contained my mother.
For months she'd sent me out for index cards¹, scribbled with a squirrel concentration
while I'd nag at her, seeing strength drain, ink-blue, from her finger-ends providing for a string of hard winters I was trying not to understand.

Only after, opening it, I saw how she'd rendered herself down from flesh to paper, alphabetical; there for me in every way she could anticipate

- *Acupuncture: conditions suited to*
- *Books to read by age twenty-one*
- *Choux pastry²: how to make, when to use.*

The cards looked after me. I'd shuffle them to almost hear her speak. Then, the world was box-shaped (or was I playing safe?)
for every doubt or choice, a card that fitted

- *Exams: the best revision strategy*
- *Flowers: cut, how to make them last*
- *Greece: the men, what you need to know.*

But then they seemed to shrink. I'd turn them over, find them blank, the edges furred, mute, whole areas wrong, or missing. Had she known? The language pointed to what wasn't said. I'd add notes of my own, strange beside her urgent dogmatism, loosening grip

- *infinitives never*
- *telling love lust*
- *single issue politics*
- *when*
- *don't hopeless careful trust.*

On the beach, I built a hollow cairn, tipped in the cards. Then I let her go.
The smoke rose thin and clear, slowly blurred. I've kept the box for diaries, like this.

Carole Satyomurti

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1. cards used in alphabetical filing systems in offices, library / personal catalogues
 2. a very light, egg-enriched, difficult-to-make pastry, used for cream puffs

Question 1 (continued)

In your answer you will be assessed on how well you:

- ◆ demonstrate understanding of the way perceptions of discovery are shaped in and through texts
 - ◆ describe, explain and analyse the relationship between language, text and context
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Question 1 (continued)

Text one – Cartoon

- (a) What opinion on discovery is expressed by the cartoon? 1

Text two –Online article

- (b) Explain how one aspect of discovery is conveyed in John Hawks' recount. 2

Text three – Prose extract

- (c) In what ways does the passage demonstrates the physical, emotional and creative engagement involved in discovery. 3

Text four – Poem

- (d) Analyse how the poem unfolds the persona's discovery of life without her mother. 4

Texts one, two, three and four – Cartoon, Online article, Prose extract, Poem

- (e) Select TWO of these texts and evaluate how and why they most effectively demonstrate the gradual quality of some discoveries. 5

Section II

15 marks

Attempt Question 2

Allow about 40 minutes for this section

Answer the question in a SEPARATE writing booklet.

In your answer you will be assessed on how well you:

- ◆ express understanding of discovery in the context of your studies
 - ◆ organise, develop and express ideas using language appropriate to audience, purpose and context
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Question 2 (15 marks)

Begin a new writing booklet

Compose a piece of imaginative writing which explores the process of discovery.

Use **one** of the texts' fragments below as a focal point in your writing. Write (a), (b) or (c) at the top of your page.

- (a) *There are obviously many unanswered questions.....*
- (b) *.....she turned over and started again.....*
- (c) *Only after, opening it, I saw....*

End of Paper