# **Pearson Edexcel International GCSE**

# **English Language A**

Paper 1

Tuesday 5 June 2018 - Morning

**Source Booklet** 

Paper Reference

4EA0/01

Do not return this Source Booklet with the question paper.

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# **Climate Change: The Facts**

Adapted from an article published in *The Guardian* newspaper supplement – Science Course Part III: The Earth (in association with the Science Museum)

# The subject of global warming has become impossible to ignore. But what are its implications? And is mankind really to blame?

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Twenty years ago global warming was a fringe subject – it seemed absurd that we could be having an effect on the Earth's climate. Today global warming has become a political hot potato and the majority of scientists agree that it is a reality and here to stay.

### What is global warming?

Extra carbon dioxide [CO2] in the atmosphere enhances a natural process known as the greenhouse effect. Greenhouse gases, such as carbon dioxide, absorb heat and release it slowly. Without this process, Earth would be too cold for life to survive.

Over the past 200 years mankind has increased the proportion of greenhouse gases in the Earth's atmosphere, primarily by burning fossil fuels. The higher levels of greenhouse gases are causing our planet to warm – global warming.

# Is global warming really caused by humans?

Since 1958 scientists at the Mauna Loa Observatory in Hawaii have taken continuous measurements of atmospheric carbon dioxide. The levels go up and down with the seasons, but overall they demonstrate a relentless rise.

Bubbles of gas from ice cores and the chemical composition of fossil shells provide us with a record of atmospheric carbon dioxide going back millions of years. There have been warm periods in the past where carbon dioxide was at levels similar

to those seen today. However, the rate of change that we see today is exceptional: carbon dioxide levels have never risen so fast. By 2000 they were 17% higher than in 1959.

Accompanying this rapid increase in carbon dioxide we see a rise in average global temperatures. Warming in the past 100 years has caused about a 0.8C increase in global average temperature. Eleven of the 12 years in the period 1995–2006 rank among the top 12 warmest years since 1850.

There is little doubt that humanity is responsible for the rapid rise in carbon dioxide levels. The rise in temperatures that has accompanied our fossil fuel addiction seem too much of a coincidence to be just chance. Most people now agree that our actions are having an effect on Earth's climate.

#### How hot will it get?

Estimates from some of the world's best climate scientists – the Intergovernmental Panel on Climate Change (IPCC) – suggest that the average global temperature will have risen between 2.5C and 10.4C by 2100.

Whether it will be the lower or upper end of this estimate is unclear. Currently, oceans and trees are helping to mop up some of the heat by absorbing carbon dioxide, but eventually they will reach capacity and be unable to absorb more. At this point the atmosphere will take the full load, potentially pushing temperatures sky high.

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# Is it just carbon dioxide we need to worry about?

No. Carbon dioxide is just one of a number of greenhouse gases, which include water vapour, methane, nitrous oxide and ozone. Livestock farming (farting cows) and rice paddy farming (rotting vegetation) have contributed to higher levels of methane in the atmosphere.

What is more, methane has a nasty sting in its tail. Although it only hangs around in the atmosphere for about 10 years, it is far more potent as a greenhouse gas, trapping about 20 times as much heat as carbon dioxide.

### What are tipping points?

A steady rise in greenhouse gases won't necessarily cause a steady rise in global temperatures. Earth's climate is highly complicated and scientists fear that many delicate thresholds exist, which once passed could trigger a dramatic change. These thresholds have become known as "tipping points".

One potential trigger could be the release of methane from methane clathrate 95 compounds buried on the sea floor. Currently these deposits are frozen, but if the oceans warm sufficiently they could melt, burping vast quantities of methane into the atmosphere. Scientists fear that 100 this sudden release may cause a runaway greenhouse effect.

# How will global warming affect us?

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Although average global temperatures are predicted to rise, this doesn't necessarily mean that we'll be sitting in our deckchairs all year round. The extra energy from the added warmth in the Earth's atmosphere will need to find a release, and the result is likely to be more extreme weather.

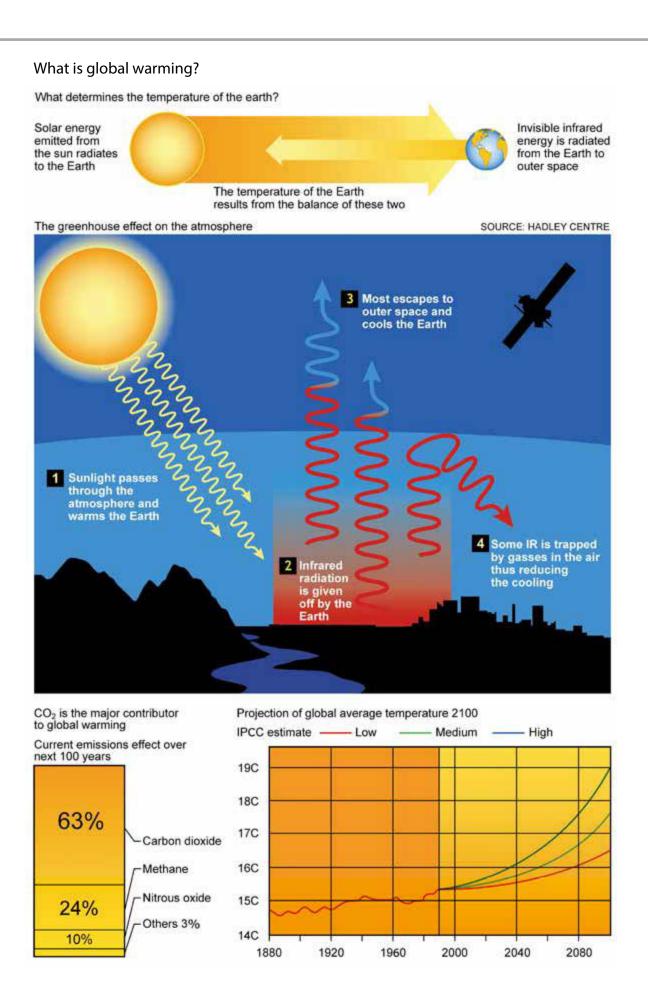
# If we stop emitting CO2 now will it get better straight away?

90 Unfortunately not. Research shows that we are already committed to an average global temperature rise of nearly 1C, lasting for at least the next 500 years.

**Kate Ravilious** 

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### **Instructions**

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided
  - there may be more space than you need.

#### Information

- The total mark for this paper is 60.
- The marks for **each** question are shown in brackets
  - use this as a guide as to how much time to spend on each question.
- The quality of written communication will be assessed in your responses to Questions 6 and 7
  - you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.
- Copies of the Edexcel Anthology for International GCSE and Certificate
   Qualifications in English Language and Literature may not be brought into the
   examination.
- Dictionaries may **not** be used in this examination.

### **Advice**

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

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### **SECTION A: Reading**

#### You should spend about 45 minutes on this section.

# Read the following passage carefully and then answer the questions which follow.

Nando is one of a number of survivors of an aeroplane crash high in the Andes mountains of South America. He is injured but is fighting to regain consciousness.

#### Plane crash!



In the first hours there was nothing, no fear or sadness, no sense of the passage of time, not even the glimmer of a thought or a memory, just a black and perfect silence. Then light appeared, a thin grey smear of daylight, and I rose to it out of the darkness like a diver swimming slowly to the surface. Consciousness seeped through my brain like a slow bleed and I woke, with great difficulty, into a twilight world halfway between dreaming and awareness. I could see only dark silhouettes and pools of light and shadow. I saw that some of the shadows were moving and finally I realized that one of them was hovering over me.

'Nando? Can you hear me? Are you OK?'

The shadow grew closer to me, and as I stared at it dumbly, it gathered itself into a human face. I saw a ragged tangle of dark hair and a pair of deep-brown eyes. There was kindness in the eyes – this was someone who knew me – but behind the kindness was something else, a wildness, a hardness, a sense of desperation held in check.

'Come on, Nando, wake up!'

Why am I so cold? Why does my head hurt so badly? I tried desperately to speak these thoughts, but my lips could not form the words, and the effort quickly drained my strength. I closed my eyes and let myself drift back into the shadows. But soon I heard other voices, and when I opened my eyes, more faces were floating above me.

'Is he awake? Can he hear you?'

'Don't give up, Nando. We are here with you. Wake up!'

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I tried again to speak, but all I could manage was a hoarse whisper. Then someone bent down close to me and spoke very slowly in my ear.

'We crashed,' he said. 'The aeroplane crashed. We fell into the mountains. Do you understand me, Nando?'

I did not. I understood, from the quiet urgency with which these words were spoken, that this was news of great importance. But I could not fathom their meaning, or seize the fact that they had anything to do with me. Reality seemed distant and muffled, as if I were trapped in a dream and could not force myself to wake. I hovered in this haze for hours, but at last my senses began to clear and I was able to survey my surroundings. I realised that I was lying on the floor of the aircraft. Torn flaps of insulation hung like filthy rags from holes in the battered walls. The floor around me was strewn with chunks of shattered plastic, twisted scraps of metal and other loose debris. It was daylight.

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The air was very cold, and even in my dazed state, the ferocity of the cold astonished me. Never had I imagined anything like the bitter sub-zero gusts that blew through the fuselage<sup>1</sup>. This was a savage, bone-crushing cold that scalded my skin like acid. I felt the pain in every cell of my body, and as I shivered in its grip, each moment seemed to last an eternity.

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But the cold was not my only concern. There was also a throbbing pain in my head, a pounding so raw and ferocious it seemed that a wild animal had been trapped inside my skull and was clawing desperately to get out. Carefully I reached up to touch the crown of my head. Three bloody wounds formed a jagged triangle about four inches above my right ear. My heart knocked against my chest. My breath came in shallow gasps. Just as I was about to panic, I saw those brown eyes above me, and at last I recognised the face of my friend Roberto Canessa.

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'What happened?' I asked him. 'Where are we?'

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Roberto frowned as he bent down to examine the wounds on my head. He had always been a serious character, strong-willed and intense, and as I looked into his eyes I saw all the toughness and confidence he was known for. But there was something new in his face, something shadowy and troubling that I hadn't seen before. It was the haunted look of a man struggling to believe something unbelievable, of someone reeling from a staggering surprise.

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'You have been unconscious for three days,' he said, with no emotion in his voice. 'We had given up on you.'

'Do you understand me, Nando?' said Roberto. 'We crashed into the mountains. The aeroplane crashed. We are stranded here.'

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I shook my head feebly in confusion, or denial, but I could not deny for long what was happening around me. I noticed, for the first time, that the front of my shirt was coated with a damp brown crust and when I touched it with the tip of my finger I realised that this sad mess was my own drying blood.

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'Do you understand, Nando?' Roberto asked again. 'Do you remember, we were in the plane ... going to Chile ...?' I closed my eyes and nodded. I was out of the shadows now; my confusion could no longer shield me from the truth. I understood, and as Roberto gently washed the blood from my face, I began to remember.

<sup>1</sup> fuselage – the main body of an aircraft.



1	What colour is the daylight in the opening lines of the passage?			
	(Total for Question 1 = 1 mark)			
2	Look again at lines 14 to 21.			
	Give <b>three</b> phrases that the writer uses to show the difficulty Nando had in speaking.			
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	(Total for Question 2 = 3 marks)			

n your own words, explain what we learn abo	out Roberto Canessa.
	(Total for Question 3 = 4 marks)



	In your answer you should write about:	
	<ul> <li>the ways in which Nando's growing awareness is described</li> <li>the difficulties that Nando has to deal with once he is awake</li> <li>particular words, phrases and techniques.</li> </ul>	
	You may include <b>brief</b> quotations from the passage to support your answer.	
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How does the writer try to create interest in the events described in this passage?





(Total for Question 4 = 12 marks)

**TOTAL FOR SECTION A = 20 MARKS** 

# **SECTION B: Reading and Writing**

# You should spend about 45 minutes on this section.

# You must answer both questions, 5 and 6.

Remind yourself of the passage Climate Change: The Facts from the Edexcel Anthology.

A copy of this has been provided for you as an insert.

5	How does the writer of this passage present her views about climate change?
	You should refer closely to the passage to support your answer. You may include <b>brief</b> quotations.




(10)





6	Your class or group is going to discuss the proposal: 'In our modern world, science is clearly the most important subject that is taught to young people.'		
	Write the text of your speech, giving your views.		
		(10)	



(Total for Question 6 = 10 marks for writing)
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TOTAL FOR SECTION R - 20 MARKS

TOTAL FOR SECTION B = 20 MARKS



# **SECTION C: Writing**

# You should spend about 45 minutes on this section.

7 'Remarkable people make a difference to others.'

Choose someone who you think is remarkable and explain why.

You may choose to write about:

- what your chosen person has achieved
- why you admire this person
- any other points you wish to make.



(20)






(1	otal for Question 7 = 20 marks for writing)	
	TOTAL FOR SECTION C = 20 MARKS	
Sources taken/adapted from:	TOTAL FOR PAPER = 60 MARKS	
Miracle in the Andes: 72 Days on the Mountain and My Long Trek Home by Nando Parrado and Vince Rause, 3 Rivers Press, New York, 2006, ISBN: 978-1-4000-9769-2		
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