Surname	Number	Number
First name(s)		2



### **GCE A LEVEL**

A480U20-1



TUESDAY, 14 JUNE 2022 – MORNING

### GEOLOGY – A level component 2 Geological Principles and Processes

1 hour 45 minutes

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	18	
2.	12	
3.	16	
4.	15	
5.	15	
6.	14	
Total	90	

#### ADDITIONAL MATERIALS

In addition to this examination paper you will need:

- a calculator
- a ruler.

#### INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.

You may use a pencil for graphs and diagrams only.

Write your name, centre number and candidate number in the spaces at the top of this page. Answer **all** questions.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

#### **INFORMATION FOR CANDIDATES**

The number of marks is given in brackets at the end of each question or part-question. The assessment of the quality of extended response (QER) will take place in questions **3** and **4**.







	r to <b>Figure 1a</b> .		
(i)	Identify the position of the rock cyc letter once into an appropriate blan	le processes listed in <b>Table 1</b> by inserting Ik box on <b>Figure 1a</b> .	g each [3]
	Rock cycle process	Letter	
	uplift	U	
	lithification	L	
	partial melting	Р	
	Table	1	
(ii)	Describe and explain the most likel deposited at locations <b>A</b> and <b>B</b> on	ly differences in maturity of the sediments <b>Figure 1a</b> .	s [4]
•••••			
·····			
•••••			
••••••			









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Turn over.



(d) Refer to Figure	<b>e 3c</b> . Describe and explain how	
<ul><li>changes</li><li>changes</li><li>major gla</li></ul>	in atmospheric oxygen content in the rate of chemical weathering aciations and meteorite impacts	
since 630 Ma r	nay have led to the 'Cambrian Explosion'.	[6 QER]





(b) Describe the geological history of the area represented on Figure 4. Write your answer in full sentences in age order. [6 QEF	Exa ₀ <b>₹]</b>
	· · ·
	•••



Examiner
Only



(C)

Examiner





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(A480U20-1)

Examiner only Describe the variation in the speed of the Pacific Plate. (b) (i) [2] .... ..... With reference to the age of the Pacific Plate, suggest a possible reason for the variation in the speed of the Pacific Plate. (ii) [2] 17





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Question number	Additional page, if required. Write the question number(s) in the left-hand margin.	Examiner only



Acknowledgements		
Figure 1b	http://all-geo.org/metageologist/2012/10/	
Figure 2b	Portela, L.I., Ramos, S. and Trigo-Teixeira, A., 2013. Effect of salinity on the settling velocity of fine sediments of a harbour basin. In: Conley, D.C., Masselink, G., Russell, P.E. and O'Hare, T.J. (eds.), Proceedings 12th International Coastal Symposium (Plymouth, England), Journal of Coastal Research, Special Issue No. 65, pp. 1188-1193, ISSN 0749-0208.	
Figure 3a	http://www.fossilmuseum.net/Fossil_Galleries/TrilobitesNevada/ Olenelluschiefensis/Olenelluschiefensis.htm	
Figure 3b	https://www.adelaidenow.com.au/news/south-australia/spriggina-chosen-as- south-australias-fossil-emblem/news-story/b15c8d115af55caef859e16568e37282	
Figure 3c	Environmental upheavals of the Ediacaran period and the Cambrian "explosion" of animal life. Grant Young. Geoscience Frontiers. Volume 6, Issue 4, July 2015, Pages 523-535.	
	Oxygen concentration information from: https://courses.lumenlearning.com/ boundless-biology/chapter/the-evolutionary-history-of-the-animal-kingdom/	
Figure 6b	https://www.terrapub.co.jp/e-library/kawahata/pdf/205.pdf	

