

1. The concept of “geoengineering”, which describes man-made attempts to control
2. the climate has existed since the 19th century.
3. Recently, it has ( 29 ).
4. National governments have argued for years over the best way to deal with the
5. threat of global warming, but a growing number of nations are now considering
6. geoengineering as a possible solution.

\*Choose the correct answer to fill in the blank from these choices.

- |         |   |                                  |   |                             |
|---------|---|----------------------------------|---|-----------------------------|
| 7. (29) | 1 | proven technically impossible    | 2 | attracted greater attention |
| 8.      | 3 | suffered from lack of investment | 4 | been adopted worldwide      |

### Further Questions&Sample Answers

9. 1) Since when has the idea of geoengineering existed?
10. *It has existed since the 19<sup>th</sup> century.*

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22. *temperatures on Earth by about one degree Fahrenheit for a year.*
23. Many scientists oppose the sulfur-dioxide method.
24. Computer modeling reveals that while a “sulfur sunshade” would lower
25. temperatures, it would probably also affect other weather conditions.

\*Choose the correct answer to fill in the blank from these choices.

- |          |   |                       |   |                           |
|----------|---|-----------------------|---|---------------------------|
| 26. (30) | 1 | basically imitate     | 2 | be put into action during |
| 27.      | 3 | have little effect on | 4 | be difficult due to       |

### Further Questions&Sample Answers

28. 3) What’s one idea geoengineers have proposed as an idea to cool Earth?
29. *They’ve proposed deliberate introduction of sulfur dioxide into the upper layer of the atmosphere.*
30. 4) What happened when Mount Pinatubo erupted in 1991?
31. *The clouds of sulfuric acid blocked the sunlight and reduced temperatures on Earth by about one degree.*
- 32.



33.5) Why do many scientists oppose the sulfur-dioxide method?

34. *Because while a "sulfur sunshade" would lower temperatures, it would probably also affect other weather conditions.*

35. Evaporation of water would likely decrease in tropical regions, leading to less  
36. rainfall.

37. The fact that water levels dropped sharply in India's Ganges River following the  
38. Pinatubo eruption supports this prediction.

39. This ( 31 ) the sulfur-dioxide method. A country experiencing successive heat  
40. waves, for example, might insist on using it to benefit its people.

41. If this led to another country experiencing severe weather conditions, the  
42. resulting political tension could lead to conflict.

43. Therefore, despite geoengineering's potential benefits, nations should carefully  
44. consider its possible consequences.

\*Choose the correct answer to fill in the blank from these choices.

45. (31) 1 raises another problem with 2 confirms the necessity of  
3 has nothing to do with 4 highlights the goal of

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1.1) Since when has the idea of geoengineering existed?

2. *It has existed since the 19<sup>th</sup> century.*

3.2) What're a number of nations considering as a possible solution to global  
warming?

4. *A number of nations are now considering geoengineering as a possible solution to  
5. global warming.*

53.3) What's one idea geoengineers have proposed as an idea to cool Earth?

54. *They've proposed deliberate introduction of sulfur dioxide into the upper layer of  
the atmosphere.*

55.4) What happened when Mount Pinatubo erupted in 1991?

56. *The clouds of sulfuric acid blocked the sunlight and reduced temperatures on  
Earth by about one degree.*

57.5) Why do many scientists oppose the sulfur-dioxide method?

58. *Because while a "sulfur sunshade" would lower temperatures, it would probably  
also affect other weather conditions.*

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strictly PROHIBITED.

59.6) What's one likely side-effect of using a "sulfur sunshade"?

60. *Evaporation of water would likely decrease in tropical regions, leading to less rainfall.*

61.7) How might geoengineering lead to political tensions and conflict?

62. *A country experiencing successive heat waves might insist on using it causing another country to experience severe weather conditions.*

63.8) Do you think geoengineering sounds like a good idea? Why?

64. *I don't think it sounds like a good idea, because it might cause more problems than it helps.*



解答: (29) 2 (30) 1 (31) 1

日本語訳付

2[B] – Geoengineering eTOC English Teachers On Call Lesson14 Pre1 Chobun dokkai eTOC以外で使用禁止 AP1E 11-1

概念 (がいねん)

地球工学 (ちきゅうこうがく)

人工 (じんこう) の 試 (こころ) み

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12.1) Since when has the idea of geoengineering existed?

13. ちきゅうこうがく地球工学という かんが考えはいつから そんざい存在していますか。

14. *It has existed since the 19<sup>th</sup> century.*

15.2) What're a number of nations considering as a possible solution to global warming? ちきゅう おんだんか地球温暖化への かのう可能な かいげつさく解決策として くに多くの くに国は何を じゅくこう熟考していますか。

16. *A number of nations are now considering geoengineering as a possible solution to global warming.*

17. ちきゅうこうがくしゃGeoengineers ていあんhave さproposed さまざまvarious かんがideas さto さcool ちきゅうEarth.

18. One is the じゅっこうdeliberate どうにゆうintroduction of にさんかいおうsulfur dioxide じょうそうinto the じょうそうupper layer たいきof the たいきatmosphere. This would ( 30 ) げんしょうa natural phenomenon.

19. When Mount Pinatubo ふんかerupted ふんかin the Philippines in 1991, it sent millions of にさんかいおうtons of たいきちゆうsulfur dioxide たいきちゆうinto the たいきちゆうatmosphere.

21. tons of sulfur dioxide into the atmosphere.

22. This <sup>作(つく)った 雲(くも)</sup> created clouds of <sup>硫酸(りゅうさん)</sup> sulfuric acid that <sup>遮断(しゃだん)した 日光(にっこう)</sup> blocked sunlight, thereby <sup>それによって</sup> reducing temperatures on Earth by about <sup>1度(ど)</sup> one degree <sup>華氏(かし)</sup> Fahrenheit for a year.
23. <sup>科学者(かがくしゃ) 反対(はんたい) する</sup> Many scientists <sup>示(しめ)す</sup> oppose the sulfur-dioxide method.
24. Computer modeling reveals that while a “sulfur <sup>温度(おんど)</sup> sunshade” would lower <sup>恐(おそ)らく</sup> temperatures, it would probably also <sup>影響(えいきょう)する</sup> affect other weather <sup>状態(じょうたい)</sup> conditions.

\*Choose the correct answer to fill in the blank from these choices.

27. (30) 1 <sup>基本的(きほんてき)に 模範(もはん)する</sup> basically imitate 2 be put into action during
28. 3 have little <sup>効果(こうか)</sup> effect on 4 be difficult due to <sup>難(むずか)しい</sup>

### Further Questions&Sample Answers

29. 3) What’s one idea geengineers have proposed as an idea to cool Earth?
30. <sup>地球(ちきゅう)の 温度(おんど)を 冷ます ため 地球(ちきゅう)工学者(こうがくしゃ)が 提案(ていあん)している 考え(かんが)の 一つ(ひと)は 何(なに)ですか。</sup>
31. They’ve proposed deliberate introduction of sulfur dioxide into the upper layer of

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40. The fact that water levels dropped sharply in India’s Ganges River <sup>予測(よそく)</sup> following the Pinatubo eruption supports this prediction.
41. This ( 31 ) the sulfur-dioxide method.
42. A country experiencing successive <sup>相次(あいつ)ぐ 熱波(ねっぱ) 例(たと)えば 強(し)いる</sup> heat waves, for example, might insist on <sup>利益(りえき)を受(う)ける</sup> using it to benefit its people. If this led to another country experiencing <sup>厳(きび)しい</sup> severe weather conditions,
43. the resulting political <sup>不安(ふあん)</sup> tension could lead to <sup>衝突(しょうとつ)</sup> conflict .
44. Therefore, despite geengineering’s <sup>それ故(ゆえ)に にもかかわらず 潜在的(せんざいてき)な 利益(りえき)</sup> potential benefits, nations should <sup>注意深(ちゅういぶか)く 考(かんが)えられる 結果(けっか)</sup> carefully consider its possible consequences.

\*Choose the correct answer to fill in the blank from these choices.

49. (31) 1 <sup>引(ひ)き起(お)こす</sup> raises another problem with 2 <sup>必要性(ひつようせい)</sup> confirms the necessity of <sup>強調(きょうちよう)する</sup>
50. 3 has nothing to do with 4 highlights the goal of



## Further Questions&Sample Answers

51. **6)** What's one likely side-effect of using a "sulfur sunshade"?

52. 硫黄の日よけを使うことによる副作用のようなものの一つは何ですか。

53. *Evaporation of water would likely decrease in tropical regions, leading to less rainfall.*

54. **7)** How might geoengineering lead to political tensions and conflict?

55. 地球工学はどのように政治の不安と衝突につながりますか。

56. *A country experiencing successive heat waves might insist on using it causing another country to experience severe weather conditions.*

57. **8)** Do you think geoengineering sounds like a good idea? Why?

58. 地球工学は良い考えだと思いますか。またそれはなぜですか。

59. *I don't think it sounds like a good idea, because it might cause more problems than it helps.*

## Review Questions

60. **1)** Since when has the idea of geoengineering existed?

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68. **5)** Why do many scientists oppose the sulfur-dioxide method?

69. *Because while a "sulfur sunshade" would lower temperatures, it would probably also affect other weather conditions.*

70. **6)** What's one likely side-effect of using a "sulfur sunshade"?

*Evaporation of water would likely decrease in tropical regions, leading to less rainfall.*

71. **7)** How might geoengineering lead to political tensions and conflict?

72. *A country experiencing successive heat waves might insist on using it causing another country to experience severe weather conditions.*

73. **8)** Do you think geoengineering sounds like a good idea? Why?

74. *I don't think it sounds like a good idea, because it might cause more problems than it helps.*

解答: (29) 2 (30) 1 (31) 1