

1 *For Teachers: When you use Dual method, please have the students do the shadowing. Then have them*  
 2 *read by them self. And correct their pronunciation,*

2 イートックのレッスン以外で使用禁止 Ban to use this without eTOC lesson.

3  Part2Lesson9 Pre1 3.2-2018.3chobundokkai スマホの方は横にご覧下さい

#### 4 **FORECASTING THE BIG BLOW**

5 Unlike many extreme weather events, such as hurricanes and severe snowstorms,  
 6 geological phenomena such as earthquakes and volcanic eruptions are difficult to  
 7 predict. In recent years, however, a number of tools have been developed to help  
 8 scientists make correct judgments of the risk of these events. Modern methods of  
 9 analysis that use real-time satellite data to continuously revise computer models  
 10 have greatly improved scientists' understanding of geological activity.

11 Additionally, scientists now use satellite data to measure slight changes in the  
 12 landscape around volcanoes. Earth's crust can rise a millimeter at a time as it is  
 13 pushed up by the pressure of the hot liquid rock, or magma, below.

#### 14 **Further Questions & Sample Answers**

15 *For Teachers: Please use the direct method like CALLAN for this part. 1. Ask student to answer the*  
 16 *question on their own first. 2. Then read the "sample answer". 3. Tell student to close their eyes. 4. Let*  
 17 *them repeat after you again. Because student can't see the answer. 5. Have the student try to memorize the*  
 18 *student answer. 6. Once they have memorized the answer, ask the question one last time.*

19 **1) What are more difficult to predict than hurricanes and severe weather storms?**

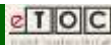
20 *1) Earthquakes and volcanic eruptions are more difficult to predict than*  
 21 *hurricanes and storms.*

21 **2) How much does the earth's crust rise as it is pushed up by the pressure of hot**  
 22 **liquid, or magma, below?**

22 *2) The Earth's crust can rise a millimeter at a time as it is pushed up by the*  
 23 *pressure of the rock.*

24 Though this cannot be perceived by visual observation on the ground, satellite  
 25 cameras far above can determine whether a volcano's surface is rising-an  
 26 indicator of a possible eruption. Scientists are particularly concerned about  
 27 caldera volcanoes. These are large formations created by ancient volcanoes that  
 28 collapsed inward after erupting. Calderas sit above pools of magma that can  
 29 erupt with little warning. Because the rich soil around such volcanoes tends to  
 30 attract dense human settlement, eruptions can be especially deadly. Calderas  
 31 are not cone-shaped like typical volcanoes, so the possibility of an eruption  
 32 often simply does not occur to people.

#### 27 **Further Questions & Sample Answers**



28 **3) What can determine whether a volcano's surface is rising?**

29 *3) Satellite cameras far above the ground can determine whether a volcano's*  
 30 *surface is rising.*

30 **4) How are caldera volcanoes created?**

31 *4) Caldera volcanoes are created when ancient volcanoes collapse inward after*  
 32 *erupting.*

32 Moreover, their fairly flat shape poses an additional risk: unlike with cone-  
 33 shaped volcanoes, which generally erupt from the top of the cone, there is no way  
 to tell from where on the surface of a caldera volcano the magma will escape, and

it may even come out of multiple spots. Campi Flegrei, west of the Italian city of Naples, is a caldera volcano that scientists are examining closely, as more than 700,000 people live within its “danger zone.” In recent years, patterns of land rise there have been similar to those that occurred before caldera eruptions in other parts of the world, indicating that the crust may be near the breaking point.

### Further Questions & Sample Answers

**5) Why does the fairly flat shape of a caldera pose an additional risk?**

*5) Because there is now ay to tell from where on the surface of a caldera volcano the magma will escape.*

**6) Why do scientists believe that Camp Flegrei may be near the breaking point?**

*6) Because patterns of land rise there have been similar to those that occurred in other caldera eruptions.*

The Italian government has raised alert levels but has hesitated to take further steps such as evacuating residents. Experts cannot say with certainty whether Campi Flegrei will erupt soon, or likewise give any timeline for a future eruption. Residents of the area, having experienced numerous false alarms, do not want to evacuate when an eruption is far from certain. Furthermore, property values have fallen when past warnings were issued, allowing real estate investors to buy land at bargain rates. This has made some residents suspicious of the motive behind emergency warnings.

### Further Questions & Sample Answers

**7) Why has the Italian government hesitated to take further steps such as evacuating residents?**

*7) Experts can't say exactly when Camp Flegrei will erupt and also they can't give a timeline for an eruption.*

**8) What happens to the value of properties when warnings were issued?**

*8) When warnings were issued, real estate investors buy land at bargain prices.*

**\*Choose the correct answer from these choices.**

- (29) 1. In other words  
2. Despite this  
3. For example  
4. Otherwise

- (30) 1. are making more money at summer jobs  
2. have started working at a younger age  
3. are more concerned about education  
4. make a serious error

- (31) 1. worsening academic performance  
2. growth in the economy  
3. a decrease in employment opportunities  
4. shifts in moral values



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