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**NOVA Deadliest Volcanoes Video Worksheet**

Please provide very brief, to the point answers in point-form only. The exception is question 23, which will require a more in-depth written answer. Some of the questions are not discussed in the video directly, but will require you to relate to course content we have already covered.

1. What is magma? What causes magma to erupt out of a volcano?
2. What were the major losses associated with the 2010 Volcanic eruption in Iceland? What specific aspect of the volcanic eruption caused these losses?
3. What is the Ring of Fire?
4. How is Yellowstone different from most other volcanoes?
5. What process is responsible for the volcanic activity in Yellowstone National Park?
6. What do you think would be the magnitude of a Yellowstone eruption? Why?
7. What is the return period of the Yellowstone volcano major eruption?
8. How are volcanoes and earthquakes related?
9. Why is the Yellowstone volcano and Vesuvius being so closely monitored?
10. Are scientists able to accurately predict when a volcano will erupt? Explain your answer
11. Why do you think Naples is so densely populated, despite the obvious threat from the volcano Vesuvius?
12. What is a pyroclastic flow?
13. What is the “*throat”* of a volcano?
14. Why are cosmic rays so useful in studying volcanoes, and geology in general?
15. Why would a 3D image of a volcano be so valuable when studying volcanoes? What does it reveal?
16. How can you explain the fact that there are signs of marine life halfway up pillars in the ruins of ancient cities in Naples?
17. How was the bay surrounding the city of Naples formed? What is this geologic structure called?
18. If the super-volcano in Naples were to erupt:
    1. Describe the short-term losses immediately following the eruption (minutes to days)
    2. Describe the long-term losses (weeks to years)
19. How is a volcano similar to a bottle of soda?
20. How can measuring CO2 be used to predict volcanic explosions?
21. Why must several different technologies and strategies be used to monitor all of the volcanoes that pose a threat to humans?
22. What is a *lahar*? What is the only way to mitigate loss of life when a lahar strikes?
23. What technologies exist that allow scientists to monitor volcanic activity? You must discuss at least 4 examples from the film. (Hint: there were many examples discussed *throughout* the whole video)