

The Viking Sword NOTETAKING GUIDE

By Nova/National Geographic

1. What is the name of the special sword used by the Vikings? _____
2. **T** F It's not all about a sharp edge on a sword.
3. What kind of steel was the Ulfberht sword made of? _____
4. What weapons did most Viking warriors use? _____
5. What combination of properties gave the Ulfbert sword advantage? _____, _____, and _____.
6. Where are many Viking swords found? _____
7. (7:38) What does the blacksmith mean when he says, "It's not that I can't do anything else, but I can't do anything else (with emphasis)? _____
8. Is the blacksmith making a print first? _____
9. What do you think reverse engineer means? Take an old sword and figure out how to make it
10. What needs to be added to iron (Fe) to turn it into steel? _____
11. What else can weaken the iron or steel? _____
12. What was the old-fashioned way to remove slag? _____
13. What did the Professor Williams discover? _____

14. What is the name of the high-carbon steel discovered? _____
15. What property did the Ulfberht sword have that was good for the style of fighting?

16. What does carbon do to iron? _____
17. What else does the blacksmith add? _____
18. Why? _____
19. Why is the crucible sealed? _____
20. How hot does the oven need to get? _____
21. Why does it need to get to that temperature? _____
22. What other steel used crucible steel? _____
23. How could the Vikings travel to Iran? _____

24. Where was the oven discovered that the blacksmith used? _____

25. What is the name for the metal that came out of the crucible?

26. How long will the blacksmiths need to hammer the ingot into a bar? _____
27. What force did the test put on the tested steels? _____
28. What does the microscope show? _____
29. How many hours did they hammer the steel? _____
30. What changed about the shape of the Ulfberht sword. _____
31. Why did the old blacksmith put the name Ulfberht on the swords?

32. What is the indentation down the center of the blade? _____
33. **T** F The fuller allows for longer blades which are lighter in weight.
34. What is the riskiest part of the sword making? _____
35. What does the blacksmith quench the blade in? _____
36. What did the other professor find? _____
37. How long does it take to polish a sword? _____