**The Universe -Supernovas**

As you watch the each of the videos, answer the following questions:

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| **The Universe - Supernovas** |
| Questions | Notes |
| What is a supernova, and what is its significance in our universe? | 1. 1:45 How much more energy does a supernova produce than our Sun?
2. 3:00 What are the dual personalities of a supernova?
3. 4:20 How often does a supernova occur?
4. 5:40 What are the two stars near us that are ready to blow?
5. 7:00 What are cosmic rays and what can they do?
6. 9:20 What is cosmic debris called?
7. 10:25 Name 3 telescopes used to see radiation from supernovas.
8. 11:05 What can be told from the spectrum of a supernova?
9. 12:15 What are the 2 main types of stars?
10. 13:20 When was the first supernova recorded by man and where was it viewed?
11. 14:10 When did Tycho Brahe see a supernova? What did he think of it at first?
12. 15:30 What are Type 1 supernovas?
13. 17:15 Why do some white dwarfs explode?
14. 19:20 Does a supernova start in the center of a star?
15. 19:40 How fast does a flame bubble spread?
16. 20:30 How hot does a supernova get?
17. 20:45 How long is the burning phase of a supernova?
18. 21:30 What are Type 2 supernovas?
19. 23:45 What is formed from the collapse of an iron core?
20. 25:10 How long does it take for a star to collapse?
21. 25:40 What are neutrinos?
22. 28:00 What happened in 1987?
23. 31:15 How big was SK69202 (the star that caused SN1987A)?
24. 32:45 Where were neutrinos captured?
25. 35:20 What was the brightest supernova ever recorded?
26. 37:00 What are gamma rays?
27. 38:00 What telescope detects gamma rays?
28. 40:30 Which type of supernova is best to judge distances in the universe?
29. 41:00 Using one of the types of supernovas to judge distance is called what?
30. 42:15 Is the universe accelerating or decelerating?
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| Summary (What is the **BIG** idea presented in the video): |