

Nova: Secrets of the Sun – Video Guide

Name: _____ Date: _____ Period: _____

1. The explosion on the Sun is made up of 'a one-two punch.' The first punch is a solar flare made up of x-rays that reach Earth in minutes. What is the second punch and how long does it take to get to Earth?

2. What could CME waves do to Earth?

3. What could happen today if we had an electromagnetic storm like the one that happened 150 years ago?

4. What technology could be affected by the Sun?

5. What are the ripples on the Sun?

6. How are sound wave generated in the sun?

7. How many different frequencies does the Sun have?

8. What new science has been created?

9. What does the core provide us with?

10. What is the Sun's core made up and what is the closes thing on Earth that we have of it?

11. What two factors caused the hydrogen atom to break apart?

12. Under extreme pressure protons are fused together in a process known as nuclear fusion, what do two protons begin fused together create?

13. Why doesn't the Sun blow its self apart?

14. How does a photon cross the radioactive zone and how long does it take it?

15. Explain how convection happens in the convection zone in the Sun.

16. What is the most important feature of SDO?

17. What to factors creates the Sun's magnetic field?

18. Field lines form a loop, which has a positive and a negative pole. Churning plasma twist the loops and puts energy into them. If the negative and positive ends cross creating an explosion with a lot of energy, energy released heats the plasma resulting in what?

19. What is the best way to predict solar storms?

20. What two things determine how damaging a solar storm will be?

21. As the CME wave come toward Earth, which would be better for us: the CME's wave magnetic poles matching ours (so positive and positive are on top and negative and negative on the bottom) or the CME's wave magnetic poles being opposite to us (so negative and positive on top and a negative and positive on the bottom)?

22. But is unpredictability personality means there will always be uncertainty when living with a _____.

After Video Questions:

23. What did you find interesting about this video?

24. What other questions do you have?

25. Where does the Sun's power come from?