

**How the Universe Works: Extreme Stars**  
**Video questions**

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Block: \_\_\_\_\_

1. There are more stars in the universe than there are specks of \_\_\_\_\_ on Earth.
2. How many Earths could fit inside the sun?
3. If our Sun was the size of Betelgeuse it would reach out as far as the planet \_\_\_\_\_.
4. All stars begin as \_\_\_\_\_.
5. \_\_\_\_\_ of new stars are born from one nebula.
6. \_\_\_\_\_ parts of nebulas contain the most matter.
7. In 2004 the Spitzer Telescope was launched. It is an infrared telescope, which means it measures the \_\_\_\_\_ that passes through nebulas.
8. Fill in the blanks for the equations:  
  
\_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = **stars**  
  
More pressure = more \_\_\_\_\_
9. At 15 million degrees, \_\_\_\_\_ begin to fuse together, and a star is born.
10. Albert Einstein's theories proved that stars tap into the energy of atoms. Complete his famous equation:  
  
**E = \_\_\_\_\_**
12. Atoms release energy by \_\_\_\_\_ when they smash together.
13. Hydrogen atoms crash together creating \_\_\_\_\_ and \_\_\_\_\_.
14. Why can fusion constantly occur in stars when people can only create it for a second?

15. Why don't stars blow apart?

16. How long does it take light from the Sun to reach Earth?

17. \_\_\_\_\_ can damage satellites, space ships and even astronauts.

18. Every star will eventually die because its \_\_\_\_\_ runs out.

19. In about \_\_\_\_\_ billion years, our Sun's hydrogen will run out.

20. Gases in the sun will expand and it will turn into a \_\_\_\_\_.

21. The core of the sun then becomes unstable and the stars outer layers get blown away.

Slowly it disintegrates and becomes a \_\_\_\_\_.

22. Giant crystals of \_\_\_\_\_ are at the center of a white dwarf.

23. Giant stars create the building blocks of the universe when they die. What element do these massive stars make right before they die?

24. When these massive stars explode it's called a \_\_\_\_\_ and it is the most violent event in the universe. New elements are blasted far into space.

25. \_\_\_\_\_ are left after a super nova. They are only about 20 miles across but very dense.

26. What are five common elements in star dust?

H \_\_\_\_\_, C \_\_\_\_\_, O \_\_\_\_\_,

S \_\_\_\_\_, and I \_\_\_\_\_

27. What becomes of this star dust?

28. According to the video, what will eventually happen to the universe?

