

## Fill-In-The\_Blank: Plasma!

You have been told that all matter is composed of  
\_\_(1)\_\_\_\_\_, but it's actually more complicated!

In the typical picture of an \_\_(1)\_\_\_\_\_: the positively charged particles called \_\_(2)\_\_\_\_\_ and neutrally charged particles called \_\_(3)\_\_\_\_\_ are compressed in the center in a structure called the \_\_(4)\_\_\_\_\_. Around the  
\_\_(4)\_\_\_\_\_ are negative charged particles called  
\_\_(5)\_\_\_\_\_s.

A \_\_(2)\_\_\_\_\_ has \_\_(6)\_\_\_\_\_ as a  
\_\_(3)\_\_\_\_\_, but an \_\_(5)\_\_\_\_\_ has  
\_\_(7)\_\_\_\_\_ the mass of a \_\_(2)\_\_\_\_\_ or  
\_\_(3)\_\_\_\_\_.

Matter can take 4 states, solid, liquid, gas, and  
\_\_(8)\_\_\_\_\_.

A \_\_(8)\_\_\_\_\_ is formed when the matter becomes very,  
very \_\_(9)\_\_\_\_\_, meaning the atoms are moving very  
quickly, and/or <sup>are</sup> very, very \_\_(10)\_\_\_\_\_.

In a solid, liquid, or gas, the atoms are organized in their typical form, but a \_\_ (8) \_\_\_\_\_ is very different.

In a \_\_ (8) \_\_\_\_\_, the \_\_ (5) \_\_\_\_\_ are no longer connected to the (4) \_\_\_\_\_. In fact, you can barely even describe the matter in a (8) \_\_\_\_\_ as being composed of \_\_ (1) \_\_\_\_\_ s! Instead, the matter is in a sort of a \_\_ (5) \_\_\_\_\_ - (4) \_\_\_\_\_ soup!

The process of a gas transforming into a plasma is called (11) \_\_\_\_\_ and the process of turning back into a gas is called (12) \_\_\_\_\_. This makes sense because, in chemistry, the word \_\_ (11) \_\_\_\_\_ can refer to \_\_ (5) \_\_\_\_\_ s leaving an \_\_ (1) \_\_\_\_\_.

One example of a \_\_ (8) \_\_\_\_\_ is a very hot fire. It needs to be very hot for \_\_ (11) \_\_\_\_\_ to occur, a cooler fire is probably more of a gas than a \_\_ (8) \_\_\_\_\_. Another very classic example of a \_\_ (8) \_\_\_\_\_ is a \_\_ (13) \_\_\_\_\_.

But the most important example of a \_\_ (8) \_\_\_\_\_ is the core of a \_\_ (14) \_\_\_\_\_! There, many hot

\_\_(2)\_\_\_\_\_ s, disconnected from \_\_(5)\_\_\_\_\_ s

are able merge, which causes a star to emit masses of energy.

### **Answer Choices**

1.

- wisps
- bloops
- atom
- neutrinos

2.

- neutrinos
- quarks
- positrons
- protons

3.

- neutrons
- tiny thingies
- baubles
- mass-pointers

4.

- Nucleus
- Core
- Quark-center
- Hamburger

5.

- Neutron
- Baryon
- Positron
- Electron

6.

- About half
- About the same
- About one 100th
- About one tenth

7.

- About one tenth
- About the same
- About half
- About one 1000th

8.

- Astromia
- Eukrasia
- Plasma
- Eureka

9.

- Bouncy
- Swell
- Cold
- Hot

10.

- Expanded
- Static
- Electric
- Compressed

11.

- Evaporation
- Composition
- Melting
- Ionization

12.

- Freezing
- Deionization
- Decomposition
- Condensation

13.

- A hot cup of tea
- Lava
- A beating heart
- A lightning bolt

14.

- apple
- atom
- star
- person