

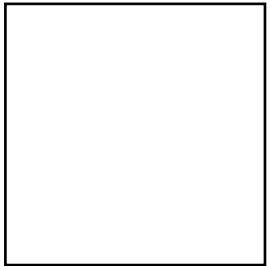
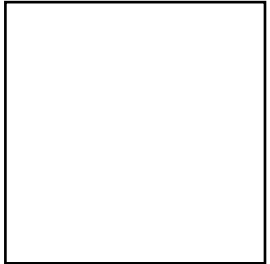
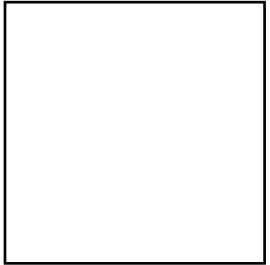
EXTENSION: PLASMA

Directions: Go to dixiemiddlescience.weebly.com and click on "8.1 Matter" Scroll to today's date. Watch the playlist of videos on plasma and answer the questions for each video. You will also need to draw a colored picture of the 3 forms of naturally occurring plasma as well as the 3 forms of man-made plasma. There are two stations to complete. Your teacher will call you up by table to complete the stations.

Draw & Color 3 forms of naturally occurring plasma

Video #1: What is Plasma- FuseSchool

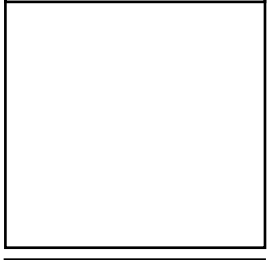
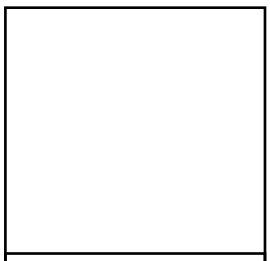
1. What is the fourth state of matter? _____
2. A liquid still has a fixed volume, but _____ their container.
3. What is the change of state that occurs when water is heated to 100 degrees C? _____
4. These substances go from a state of gas to a state called _____.
5. When heat is sufficiently strong the electrons are _____ from their respective atoms.
6. Plasma is _____ overall.
7. Substances in plasma form can _____.
8. What separates gas from plasma? _____
9. What are 2 forms of naturally occurring plasma ON EARTH?
a. _____ b. _____
10. Stars are really just hot balls of _____.
11. Plasma can be found in: a. _____ b. _____
12. What gas is heated in a fluorescent light bulb? _____
13. What kind of technology is made possible by plasma? _____



Video #2: Plasma- The 4th State of Matter

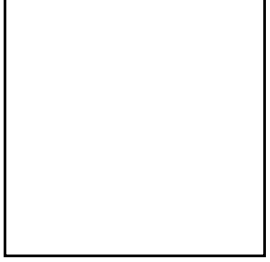
14. What spectacular phenomena is plasma the basis for in nature?
a. _____ b. _____ c. _____
15. Give 3 examples of man-made plasma.
a. _____ b. _____ c. _____
16. A gas has a _____ core with the _____ electrons orbiting the core.
17. What is a plasma? _____
18. The distinct glow of a plasma is created by the occasional recombination of _____ and _____ charges.
19. What is the color of the plasma purely determined by? _____
20. List the colors of plasma of the following gasses:
Argon: _____ Nitrogen: _____ Fluorocarbon: _____
21. Plasma processing proved essential to the rapid miniaturization and increased performance of _____.

Draw & Color 3 forms of man-made plasma



Video #3: The fourth state of matter- PLASMA

22. Plasma makes up _____ % of the universe.
23. Plasma requires a very high _____.
24. The Sun as well as other stars are made of _____.
25. A plasma sphere is actually a _____ sphere which contains _____ at a very low _____.
26. When a current of very _____ passes through it (plasma sphere), it _____ and gives the effect of _____.



27. What is the difference between Neon GAS and Neon PLASMA?

Neon Gas: _____ Neon Plasma: _____

28. How hot are the plasmas that scientists are experimenting with to produce energy as the sun does? _____

Video #4: What is Plasma?- Monkey See

29. What does plasma consist of? _____

30. Plasma has neither a specific _____ nor a consistent _____.

31. In plasma electrons are released from their _____ around a nucleus, creating a _____ of free electrons and nuclei.

32. Because these charged particles are loose, plasma easily:

a. _____ b. _____

33. When is plasma created?

a. _____ b. _____

34. What is plasma sometimes called? _____

35. Chemists also classify _____ as a plasma.

Video #5: The Science of Lightning- National Geographic

36. _____ is one of the most incredible natural phenomenons.

37. Worldwide, lightning occurs _____ times a second.

38. Lighter particles moving toward the top of clouds and become _____.

39. Heavier particles heading toward the bottom become _____.

40. The path (of lightning) reaches temperatures of around _____ degrees Fahrenheit.

41. If caught in the open what should you avoid? a. _____ b. _____

Video #6: All About Auroras: Aurora Borealis (Northern Lights) and Aurora Australis for Kids - FreeSchool

42. What is an aurora? (also known as a polar light) _____

43. What is an aurora around the North Pole called? _____ or _____

44. What is an aurora around the South Pole called? _____ or _____

45. This stream of particles (from the Sun) is called the _____.

46. As these _____ charged particles strike the atmosphere, they excite the _____ and _____ atoms causing them to light up in beautiful _____ of an _____.

47. They are a _____ reminder of the connection our _____ has to the sun.

Plasma Stations: Your teacher will send your table to each of the following stations. Instructions are at the station. After completing the activity, answer the following questions:

Station 1: Plasma Ball

48. Describe what happens when you bring the light bulb near the plasma ball? Why do you think this happens?

49. What happens to the light bulb when someone puts their hand on the plasma ball? Why do you think this happens?

Station 2: Making Plasma from Grapes in the Microwave

50. Describe what you saw happen to the grape in the microwave.
