Fire Works!

1. What are the four chemical ingredients of a firework?
2. Which of the ingredients is responsible for the colors of light you see?
3. Which of the ingredients is responsible for supplying energy to make the color ingredient give off light?
4. During which step of the firework’s explosion is light given off?
5. What is the difference between luminescence and incandescence? Which of the two is most often responsible for the colors of light you see?

6. How does luminescence work? (What ingredients provide the energy? Which ingredients make the colors of visible light? What is happening to the electrons in the metal?)

7. Why do the colors of light vary depending upon the metal used? (include discussion about electrons and the structure of an atom in your answer.)

8. If you wanted to design a firework that produces green, purple, and yellow light, what ingredients would you use?

9. How hot do fireworks burn?