

12. The reaction uses the reactants and makes a product. Once the reactants that mixed to start the fire are used up, the reaction will stop. Even though matter is not created or destroyed, the reaction cannot continue without a supply of the reactants that produced the reaction and the fire that resulted from the combination.

13. Even though the reactants are unknown, the fire went out because the reaction was an oxidation reaction; it required oxygen to continue burning.

14.

PH Range	Color	Substance	Color	Acid	Base	Neutral
2	Red	One	Red	X		
4	Purple	Two	Blue-Green		X	
6	Violet	Three	Violet	X		
8	Blue	Four	Purple	X		
10	Blue-Green	Five	Greenish-Yellow		X	
12	Greenish-Yellow	Six	Violet-Blue			X

15.

Reactant A	Reactant B	Results
One	Two	Yes
One	Three	No
Two	Three	Yes
Two	Four	Yes
Five	Six	?

16. Substance six is an acid. Acids and bases react and with substance five being a base, the reaction indicates the presence of acid (substance six).

17. Densest: Iron
Least Dense: Water

18. Water

19. Based on this table, the relationship is an indirect one. When one increases, the other decreases. For example, water, which is the least dense substance, has a specific heat of 4.19, which is the highest. In contrast, lead is the most dense substance but has a specific heat of 0.13, which is the least.

20. electromagnet - electrical conductivity
electrolysis - solubility; electrical conductivity
magnetism - electrical conductivity

21. Solute — salt, sugar or another substance that will dissolve; solvent — water; solution — salt or sugar water. The solute should be completely dissolved and the diagram should have each part labeled including the specific names of each component