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**Physical States of Matter and the Combustion Process Quiz**

1. The vapor density of air is which of the following?
2. 0.1
3. 0.001
4. 1.0
5. 0.01
6. Vapor densities presume that the gas and the air are at the same temperature.

That temperature is specified to be what?

1. 68 degrees Fahrenheit
2. 100 degrees Fahrenheit
3. 68 degrees Celsius
4. 100 degrees Celsius
5. A) All vapors/gases mix with air, but those with a vapor density greater than (>) 1

have a tendency to rise and dissipate unless in a confined space.

B) Those vapors/gases that have a vapor density less than (<) 1 have a tendency

to seek low spaces and accumulate. This characteristic can result in health and

fire hazards.

1. Only statement A is correct.
2. Only statement B is correct.
3. Both statements are correct.
4. Neither statement is correct.
5. A) Water and most flammable and combustible liquids mix with each other

(immiscible).

B) This can be hazardous because flammable or combustible fuels will sink below

the water where they could ignite or burn.

1. Only statement A is correct.
2. Only Statement B is correct.
3. Both statements are correct.
4. Neither statement is correct.
5. Increasing the surface-to-mass ratio of a fuel increases its what?
6. Flammability
7. Ignitability
8. Specific gravity
9. All of the above
10. Increasing the surface area of a solid fuel makes it more susceptible to which of

the following?

* 1. Vaporization
  2. Sublimation
  3. Pyrolysis
  4. Oxidation

1. The orientation of a fuel can increase or decrease its surface-to-mass ratio.

B) Heat Release Rate (HRR) depends on fuel type, fuel quantity, and the

orientation of the fuel.

1. Only statement A is correct.
2. Only statement B is correct.
3. Both statements are correct.
4. Neither statement is correct.
5. The most common product of combustion is which of the following?
   1. HCN – hydrogen cyanide
   2. CO – carbon monoxide
   3. Solid particulates
   4. CO2 – carbon dioxide
6. This by-product of combustion acts as a respiratory stimulant by increasing the

respiratory rate of its victim.

1. HCN
2. CO
3. Smoke
4. CO2
5. For practical purposes, firefighters should recognize all smoke as toxic and a

hazard to human life.

1. True
2. False